



VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA



Document Prepared by Earthood Services Private Limited

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Prepared by	Earthood Services Private Limited

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Summary:

Earthood Services Private Limited (Earthood) has been contracted by ReNew Wind Energy (Shivpur) Private Limited to conduct joint validation and verification of the renewable energy project titled VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA with VCS ID- 1404 with regards to the relevant requirements of VCS program guidelines and standard (VCS Standard Version 4.7 and VCS program guide Version 4.4). For joint validation and verification, relevant UNFCCC requirements for CDM project activities, as well as criteria for consistent project operations, monitoring, and reporting, were used.

The project activity involves installation and operation of a wind power plant of 49.5 MW (cumulative capacity), with 33 number of WTGs each with a capacity of 1.5 MW. The project activity is implementation and operation of new grid-connected wind power project in Sangli district of Maharashtra, India and supplying electricity to the Indian grid. As a result, the project activity reduces GHG emissions that would have been generated by carbon intensive fossil fuel-dominated power grid.

The project activity was commissioned in a phase wise manner and started operation from 03/04/2013 which is the earliest date commissioning of few WTGs. The monitoring period covers under this verification is from 01-January-2023 to 02-April -2023 (First and last date included) which falls under the first crediting period which is from 03-April-2013 to 02-April-2023 and the validation of the second crediting period which is from 03-April-2023 to 02-April-2033.

The joint validation and verification is based on the VCS PD, proof of title, proof of right, additional documents related to baseline and monitoring methodology, as well as the subsequent background investigation, follow-up interviews, and supporting documents provided by the project proponent to the verification team.

During the verification process, a total of 4 findings were raised, which includes 2 Corrective Action Requests (CARs), 2 Clarification Requests (CLs) and 0 Forward Action Requests (FARs) and all were successfully closed. The PD-MR, emissions reduction calculations, and accompanying documents provided are all in compliance with VCS criteria. The joint validation and verification were completed with a reasonable level of assurance and no uncertainties were found related with the project activity revalidation and verification.

The review of the project description, monitoring period, and additional documents related to baseline and monitoring methodology; the subsequent background investigation and onsite interviews have provided Earthood with sufficient evidence to validate the fulfillment of the stated criteria. Earthood Services Private Limited (hereafter referred to as Earthood) certifies that the project meets the requirements of the VCS Standard, v4.7 and is in line with all relevant VCS requirements. The monitoring is transparent, adequate, and in accordance with the ACM0002, Consolidated baseline methodology for grid-connected electricity generation from renewable sources version 21.0/07/ for the renewal of crediting period and ACM0002, version 13.0 for the verification of last monitoring period of the first crediting period. The project implementation in accordance with the registered PD /09/. In summary, it is Earthood's opinion that the project activity "VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA" as described in the joint PD-MR Version 1.3/01/ dated 11/12/2024 meets all the relevant baseline and monitoring methodology. The monitoring plan adequately provides for the ex-post monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is Earthood's opinion that ReNew Wind Energy (Shivpur) Private Limited shall be able to implement the monitoring plan and requirements of VCS standard/03/.

Therefore, Earthood requests the registration of the project as a VCS project activity and issuance of VCUs which is distributed under the sixth monitoring period of first crediting period.

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1 INTRODUCTION

1.1 Objective

Earthood Services Private Limited (VVB) has been contracted by ReNew Wind Energy (Shivpur) Private Limited (PP) for the VCS project “VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA” (project ID VCS 1404) undertaken, which is located in Sangli district of Maharashtra state in India to jointly carry out the validation of renewal of crediting period 1 and verification of last monitoring period of the first crediting period of the project against the requirement of VCS Program.

The objective of the joint validation-verification assessment is to determine the

- Project conformance to VCS rules.
- Project conformance to the applied methodology, including the procedure for the demonstration of additionality specified in the methodology; and
- Likelihood that methods and procedures set out in the project description will generate verifiable GHG data and information when implemented.

To fulfil the above objectives, the validation/verification body (VVB) assigned the task of assessment to the validation team that is collectively qualified as per Earthood’s Quality Management System (QMS) manual and other internal requirements.

The validation/verification is an independent assessment of the project by a VVB that determines whether the project complies with the VCS rules and meets a satisfactory standard.

1.2 Scope and Criteria

The joint validation and verification scope of this assignment is defined as an independent and objective review of the VCS Project Description & Monitoring Report (VCS PDMR)/01/ and supporting annexures, which is reviewed by the assessment team against the relevant criteria and decisions by the VCS Board, including but not limited to, the approved baseline and monitoring methodology, applicable tools, standards (CDM and VCS) and guidance. The assessment team has, based on the recommendations prescribed in the latest version of VCS Validation and Verification Manual/04/ employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of VCUs.

The scope of this assignment is to:

- Jointly conduct validation of renewal of crediting period 1 and verification of last monitoring period of the first crediting period in accordance with Earthood’s own Quality

management system that is based on the VCS VVM along with the guidance provided by the VCS board to determine if the project meets all applicable VCS requirements, including those specified in the VCS standard, relevant methodologies, tools, and guidelines and processing the same with the VCS Program Guide.

- Assess the accuracy, conservativeness, relevance, completeness, consistency, and transparency of the information provided by the project proponent.
- Determine whether information provided by the project proponent is reliable and credible.
- Present information in the form of a validation & verification report in a factual, neutral, coherent manner and referencing the sources and assumptions, plus other forms of validation mean employed.
- Report the findings and conclusions in an objective manner and conduct all validation & verification in accordance with VCS rules and procedures.
- Apply consistent validation and verification criteria in providing expert judgments to the requirements of applicable approved methodologies, tools, and also cross check the same.
- Safeguard the confidentiality of all information obtained during validation and verification; and
- Adhere to the principles of independence, ethical conduct, fair presentation, and due professional care in the assessment process.

1.3 Reasonableness of Assumptions and Level of Assurance

☐ Limited level of assurance

☒ Reasonable level of assurance

A draft joint validation and verification report that is prepared by the assessment team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood are duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable VCS requirements/02/03/04/ as appropriate. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of the technical review team are independent of the validation and verification team. The report approved by the Technical Manager and thereafter endorsed by the Managing Director, who is overall responsible to ensure quality, before final release. The further details of applicable procedures and responsibilities about Earthood's Quality Management System (QMS) are available on its website (www.earthood.in).

Earthood's validation approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. The validation and verification are planned and performed by obtaining evidence, additional information and explanations that the assessment team considers necessary to give reasonable assurance that the reported estimated GHG emission reductions are fairly stated and are in compliance with the standards and guidelines of Verra. A reasonable level of confidence is achieved after conducting a site visit, utilizing reputable and dependable methods for joint validation and verification, as elaborated in detail in section 2.4 below. All documentary evidences were checked, and an onsite visit was conducted accompanied by interviews of PP representatives, site personnel, other involved parties and local stakeholders to arrive at a validation conclusion by the assessment team.

In our opinion the estimated GHG emissions reductions were calculated correctly based on the approved methodology ACM0002 version 21.0 /07/ for validation and actual GHG emissions reductions were calculated correctly based on the approved methodology ACM0002 version 13.0/08/ for verification. The assessment result has a reasonable level of assurance in validation & verification that GHG assertions are free of material errors, omissions and misrepresentations. The documents reviewed are included under Appendix 4 of this report.

1.4 Summary Description of the Project

A summary description of the project activity has been illustrated in section 1.1 of Joint PDMR/01/ appropriately. As per the given details in registered PD/09/, information was assessed onsite and found to be consistent. The project activity entails the installation of 33 wind turbine generators (WTGs) of ReGen Powertech make, each with a capacity of 1.5 MW, totalling the generation capacity to be 49.5 MW in Shedyal, Salekeri and Valsang villages of Sangli district, Maharashtra, India. The project activity's objective is to generate clean electricity in the region by using wind power and displacing an equal amount of electricity that would have been generated through existing carbon intensive fossil-fuel based power plant or by addition of new units in the future.

The start date of the project is 03/04/2013, which is the earliest date on which few of the WTGs of the project activity were commissioned. The commissioning dates of the WTGs are verified against the commissioning certificates/23/. The wind turbine works on the lift and drag principle to produce a positive turning force on the shaft, which results in the rotation moment of the shaft. The mechanical power produced by the rotary moment is converted to electricity by using a generator and a gearbox. The WTGs can only convert wind energy into electrical energy and hence, do not use any other type of fuel for the same. The scenario is well described and consistent with the data that was verified during the onsite visit conducted on 21/05/2024 to the project site/22/. The electricity generated by this project is sold and distributed to the Indian grid, which is part of India's Northern, Eastern, Western, and North- Eastern regional grid [NEWNE] of India. A long-term Power Purchase Agreement (PPA)/25/ exists between the Project Participant and MSEDCL.

The location of the project was verified using the GPS coordinates/32/ and found consistent with the data provided in the registered PD/09/. The details of the geographic coordinates are given in appendix 7.

The average annual GHG emission reduction from the project is expected to be 84,105 tCO₂e and emission reductions of 841,051 tCO₂e over the second crediting period from 03/04/2023 to 02/04/2033, which is found to be consistent with the Ex-ante ER calculation sheet/16/. The monitoring period identified for the last verification period of first crediting period is from 01/01/2023 to 02/04/2023, and the achieved emission reductions during this monitoring period are 10,999 tCO₂e, which is found to be consistent with the Ex-Post ER sheet/17/.

The project is based on the methodology ACM0002, version 21.0/07/ for the validation of second crediting period and ACM0002, version 13.0/08/ for the verification and the Joint Project Description & monitoring report/01/ and all the equipment installed on site were confirmed by the verification team. The project activity is currently undergoing the sixth(last) verification of the first crediting period, and the project activity description has also been validated during earlier verifications and the revalidation of baseline scenario for the second crediting period. The evaluation team can affirm that the project activity is fully functioning and implemented as defined in the registered PD/09/ & PD-MR/01/ after reviewing the documents.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation of the renewal of crediting period 1 and verification of last monitoring period of first crediting period is conducted as per internal Earthood internal quality management system and in accordance with criteria laid down by ISO 14064-2 & VCS. It includes the following steps:

- contract with PP for the scope and appointment of validation team and technical review team.
- completeness check of VCS-PDMR/01/
- desk review of VCS-PDMR/01/ and estimated GHG emission reduction calculation/16/ and the actual ER sheet for verification /17/
- onsite inspection and interviews by validation cum verification team/22/
- follow up interviews with Project proponent

- reporting and closure of findings (CARs/CLs/FARs) and preparation of draft joint validation & verification report.
- independent technical review: The project documentation is reviewed by internal technical reviewer in order to independently confirm whether the applicable GHG program requirements were objectively met or not, in addition to whether internal procedures were followed while arriving at the validation and verification opinion. The resolved findings may be opened at this stage, or new findings may be identified that are required to be addressed by assessment team and/or project proponents, as appropriate. The technical reviewer may accept or reject the validation and verification opinion prepared by the assessment team and give the reasons.
- issuance of the final validation/verification report to the PP.

2.2 Document Review

This joint validation & verification of the project is performed primarily as a document review of the VCS Joint PDMR /01/ and associated documents as stated in detail in appendix 2 of this document. The assessment is performed by a validation & verification team using dedicated protocols. The assessment team cross checks the information provided in documents including the VCS Joint PDMR, and available information from sources other than those based on the team's sectoral or local expertise, and also conducts independent background investigations. Earthood conducted a desk review as follows:

- a) A review of the data and information presented to verify their completeness.
- b) A review of the monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
- c) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A list of documents reviewed during this verification are annexed as Appendix 4 in this report.

2.3 Interviews

As the project activity is at crediting period renewal stage, an onsite visit has been conducted by the VVB. The VVB conducted an onsite visit on 21/05/2024. In accordance with paras 4.1.11 and 4.1.12 of the VCS Standard v4.7/03/, which states that *'a site visit to facilities and/or project areas shall be conducted at validation, project crediting period renewal validation, the first verification of the project after validation, verifications that include project baseline*

reassessments; and verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario’.

During the onsite visit the following points were discussed as part of the interviews of project representatives:

- a) The introduction, scope, and objective of the work, along with the roles and responsibilities of the audit team, necessary resources, and the onsite audit plan, were addressed. Any concerns expressed by the Project Proponent (PP) were considered and incorporated into the planning process.
- b) A comprehensive validation of all details pertaining to the project activity including technical specifications, metering details and the monitoring arrangements, as outlined in the Joint PD/01/, was conducted through in-depth discussions with the PP. This approach ensured high quality in cross-verifying project information.
- c) A thorough evaluation was conducted to verify the compliance of monitoring procedures at the project site with the registered PD/09/ and monitoring methodology. This review aimed at assessing accuracy and traceability in the monitoring process.

The assessment team also interviewed local stakeholders of nearby villages of the project activity site. And all the details of interviews conducted during the onsite visit have been provided below.

No.	Interviewee			Date	Topics Covered	Team member
	Last name	First Name	Affiliation			
1.	Singh	Gaurav	ReNew Solar Power Private Limited, Assistant manager	21/05/2024	Operation and Maintenance of Facility, Monitoring Practices, Data collection, Logbooks, QA/QC procedures, calibration procedures and details, Grievance Mechanism, major	Jinesh Amlani & Nikhitha Chinthala
2.	Wackr	Mangish	ReNew Wind Energy (Shivpur) Private Limited, Sr. Engineer	21/05/2024		
3.	Kuteku	Santosh	ReNew Wind Energy	21/05/2024		

			(Shivpur) Private Limited, Asset Manager		shutdown in plants, data recording and management, training imparted	
4.	Varekar	Santosh	ReNew Wind Energy (Shivpur) Private Limited, Asset Manager	21/05/2024		
5.	Wagh	Deepak	ReNew Wind Energy (Shivpur) Private Limited, Assistant Manager	21/05/2024		
6.	More	Girish	ReNew Wind Energy (Shivpur) Private Limited, Site Incharge	21/05/2024		
07.	Jadhav	Mukund	Local Stakeholder	21/05/2024	Local Stakeholders Consultation process, Employment generation, Positive /negative aspects of project (if any), Environmental and social impacts, ongoing consultation and grievance mechanism.	
08.	Nivrutti Pawar	Maruti	Local Stakeholder	21/05/2024		

2.4 Site Visits

During the joint validation of renewal of crediting period and verification an onsite visit was conducted on 21/05/2024, in accordance with paras 4.1.11 and 4.1.12 of the VCS Standard v4.7/03/. The approach was in accordance with para 4.1.2 of the VCS standard V4.7/03/ *'The validation/verification body shall gather evidence to validate a project to determine conformance with the VCS Program rules and evaluate the reasonableness of assumptions, limitations, and methods that support a statement about the outcome of future activities.'* The representatives of the PA were interviewed during the onsite visit to confirm the implementation, operation and maintenance, monitoring procedure, grievance mechanism, calibration procedure and details, and trainings imparted. Details of interviews conducted are included in section 2.3 of this report.

VVB Sampling Approach:

There are a total of 33 WTGs in in Shedyal, Salekeri and Valsang villages of Sangli district, Maharashtra in the project activity. VVB has applied 90/30 confidence and precision to derive a minimum sample size of 07 samples then VVB has selected the 7 samples randomly from the list of WTGs provided by the PP and the sample covers turbines in all the three villages. So, VVB has visited 7 samples (WTGs) given below physically. To achieve a reasonable level of assurance, the assessment team has followed the alternative means by checking the details of all the 33 WTGs through SCADA at the project site office during the onsite visit/22/ and confirmed the operating conditions of all the WTGs included in the project activity.

S.No.	Location No.	Village
2	VASP-15	Shedyal
4	VASP-142	Shedyal
5	VASP-29	Shedyal
17	VASP-21	Valsang
18	VAPS III 397	Shedyal
26	VAPS III 689	Valsang
29	VAPS III 108	Salekiri

2.5 Resolution of Findings

The validation and verification protocols used for the assessment are designed in accordance with the latest version of VCS Program Documents, VCS standard and relevant CDM Standards. The objective of

this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on a desk review and onsite assessment. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and nonconformities.

As an outcome of the joint validation and verification process, the assessment team can raise different types of findings. Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS/CDM requirements have been met. Where a non-conformance arises the validator/verifier raised a Corrective Action Request (CAR).

More specifically, a CAR is issued where either:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.
- The CDM/VCS requirements have not been met.
- There is a risk that emission reductions cannot be monitored or calculated.

A Forward Action Request (FAR) is raised during validation/verification to highlight issues related to project implementation that require review during the next verification of the project activity.

Irrespective of the nature of the findings, all of these are given to PP in a separate findings document. In the document, the project proponent(s) is/are given the opportunity to respond to the findings. Based on the responses by the PP along with relevant supporting documents/evidence, the validation team determines whether the findings are resolved or not. The findings may also be raised at later stages e.g., during the internal technical review process and these are also communicated/dealt in the same manner as described above. The draft joint validation & verification report is also prepared during this period reflecting the status of the findings, if any, as appropriate.

A total of 2 CAR, 2 CLs & 0 FARs were raised in the current joint validation and verification. All the findings that are raised and communicated to project participant during the assessment are included under Appendix 5. The section also includes the responses, if provided, by the project participants and an assessment by the assessment team if it was closed out or otherwise. All CARs and CLs raised by the assessment team during verification shall be resolved prior to submitting a request for issuance.

In summary, the type and total number of findings that were raised are indicated below.

Type of Finding	CL	CAR	FAR
Total Findings	02	02	00

2.5.1 Forward Action Requests

This is the validation of the renewal of crediting period 1 and verification of last monitoring period of first crediting period of the project activity and no FAR was raised from initial validation/09/ or previous verification (5th)/33/.

3 VALIDATION FINDINGS

3.1 Project Details

The project “VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA” is appropriately selected in the VCS PDMR/01/, and the project category and type are correctly indicated in the VCS PDMR/01/. Therefore, VVB confirms that the information provided in the PDMR is complete and accurate.

Item	Evidence gathering activities, evidence checked, and assessment conclusion				
Audit history	Audit type	Period	Program	Validation/verification body name	Number of years
	Validation	31-December-2012	CDM	Perry Johnson Registrars Carbon Emissions Services Inc	1
		03-April-2013 to 02-April-2023	VCS	Bureau Veritas Certification Holding SAS	10 Years
	Re-Validation (CP 2)	03/04/2023 to 02/04/2033	VCS	Earthood Services Private Limited	10
	Verification	03-April-2013 – 03-August-2014	VCS	Bureau Veritas Certification Holding SAS	1 year 4 months

	Verifica tion	04- August -2014 – 02- April- 2020	VCS	KBS Certification Services Pvt. Ltd.	5 years 8 mont hs
	Verifica tion	03- April- 2020 to 31- Decem ber- 2021	VCS	RINA Services S.p.A (RINA)	1 year 8 mont hs 29 days
	Verifica tion	01- Januar y-2022 – 30- June- 2022	VCS	LGA Technological Center S. A. (Applus+ Certification)	6mon ths
	Verifica tion	01- July- 2022 – 31- Decem ber 2022	VCS	Earthood Services Private Limited	6 mont hs
	Verifica tion	01- Januar y-2023 – 02- April- 2023	VCS	Earthood Services Private Limited	3 mont hs 2 days
	Total	03- April- 2013 – 02- April- 2023	-	-	10 years

The audit history of the project activity has been verified from the verra project page/20/ and found to be appropriate.

Sectoral scope	01 Energy Industries (Renewable - / Non-renewable sources)
AFOLU project category, if applicable	Not applicable
Project activity type	Renewable type (Wind power plant)
General eligibility of the project to participate in the VCS Program	The project activity is a not a Grid-connected electricity generation activities using wind power plants as Grid-connected means >50% of <i>total</i> generation is exported to a national or regional grid according to table 1 of section 2.1 of the VCS standard. Therefore, the project activity is not excluded as per the section 2.1 of the VCS standard version 4.7/03/ Currently the project is undergoing the revalidation of second crediting period. Therefore, it is confirmed from the registered PD/09/ that the pipeline listing was done. The applied methodology ACM0002 version 21.0 is eligible under the VCS program. Furthermore, As per VCS Standard, ver 4.7, Appendix 3 (effective dates Updated 9 Mar 2020 for Project Activities registered under VCS Version 3 ‘Registered VCS projects and projects that request registration with the VCS Program on or before 31 December 2019 remain eligible under the VCS Program for the entirety of their crediting periods’. The project has applied for registration with the VCS Program before 31 December 2019. Bureau Veritas Certification has conducted the Gap validation and verification of the “Vaspet-II and Vaspet III Wind Power Project, Maharashtra” in 2015. Which is verified from the registered VCS PDD/09/ from the project webpage/20/ The project activity has been under continuous verification in VCS program for the entire crediting period and issued credits under Verra which is verified from the issuance records on the project webpage/20/. Therefore, the project activity is eligible under VCS program for the entirety of their crediting period.
AFOLU project eligibility, if applicable	Not Applicable
Transfer project eligibility, if applicable	Not Applicable

Project design	The project is the installation of wind power plant with a total capacity of 49.50 MW which has 33 WTGs with the capacity 1.5 MW each and VVB confirms that it is a single project activity as all the WTGs under this project activity were commissioned in 2013 at same location and under same owner, which is verified against the commissioning certificates/23/. Hence, the project is a single project activity not a grouped project activity.
Project ownership	ReNew Wind Energy (Shivpur) Private Limited is the project proponent. The project ownership is with the PP. VVB has checked the commissioning certificates /23/of all the 33 WTGs installed under this project activity and the power purchase agreement/25/ and confirms that the project ownership is with the PP.
Project start date	The start date of the project activity is 03-April-2013 which is the commissioning date of the first WTG under the project activity which has been verified by the commissioning certificates/23/.
Project crediting period	The start and end date of the first crediting period is from 03/04/2013 to 02/04/2023 and can be renewable twice as per the VCS standard v3.4/14/ which was available at the time of registration. The project activity is currently undergoing the validation of second crediting period and the start and end date of the second crediting period are 03/04/2023 to 02/04/2033.
Project scale	Project, as the estimated emission reductions are 84,105 tCO ₂ e/year which is less than 3,00,000 tCO ₂ e/year threshold. Therefore, the project activity comes under project as per the VCS Standard v4.7/03/.
Likelihood of achieving estimated GHG emission reduction or removals	High probability that methods and procedures set out in the project description will generate verifiable GHG data and information when implemented.
Technologies and measures implemented by the project activity	The project activity is the installation of 49.5 MW wind power plant, which consists of 33 WTGs of 1.5 MW each manufactured by ReGen Powertech Private Limited and the electricity being generated from the power plant is being sold to MSEDCL which is connected to Indian grid. VVB has verified

	the technical specifications of WTGs/29/ and during onsite visit/22/ and confirms that the details provided in section 4.1 are found to be appropriate. As per the technical specifications of WTGs/29/ it is clear that the life of the WTGs is 20 years. All the WTGs under the project activity are commissioned in 2013. Therefore, the remaining life of the WTGs will be till 2033 which covers the entire second monitoring period.
Implementation schedule of the project activity or activities	All the WTGs under the project activity commissioned in 2013 and details of the commissioning dates are provided in appendix 6 of this report and confirms that the commissioning dates are correct which has been checked from the commissioning certificates/23/ and the electricity is being supplied to the MSEDCL and the values of energy generated are being reported through JMRs/18/.
Project location	The project activity is located in villages Shedyal, Salekiri and Valsang in Sangli district of Maharashtra state, India. VVB has verified the project location from the google earth/32/ and from the onsite visit to the site/22/ and the geo-coordinates of all the WTGs are provided in appendix 7 of the report.
Conditions prior to project initiation	Electricity was generated by fossil fuel-based power plants which was confirmed from the registered PD/09/.
Project compliance with applicable laws, statutes and other regulatory frameworks	Project activity has complied with all statutory requirements as per State regulations & received commissioning certificate form state regulatory authorities.
Double counting and participation under other GHG programs	PP has declared in the joint PDMR/01/ that the project activity has neither received nor seeking credit for reductions and removals from the project activity under another GHG program. VVB has checked the other GHG programs and verified that the PA has not been registered under any other GHG program. PP has also provided the declaration on no double counting/05/. The VCS project activity has been registered with UNFCCC under Clean Development Mechanism (CDM) with reference number 9416 on 31/12/2012. (PoA). The details are provided below: Unique Reference No. of PoA : 9416

	Name of the PoA : Promotion of renewable energy generation in India-Programme of Activities Date of Registration : 31-December-2012 Name of the project : Vaspert-II and Vaspert III Wind Power Project, Maharashtra Unique Reference No. of CPA : 9416-0003 Date of Inclusion : 04-August-2014, However, the project has no issuances under CDM which has been checked from the CDM project page/37/. Therefore, it is confirmed that the project does not have double counting issuances.										
No double claiming with emissions trading programs or binding emission limits	Project emissions reductions and removals or project activities are not included in any emissions trading program or binding emission limit.										
No double claiming with other forms of environmental credit	Project activity has not sought, received, nor is planning to receive credit from another GHG-related environmental credit system.										
Supply chain (Scope 3) emissions double claiming	The project activity is not affecting the emission footprint of any product(s) that are part of supply chain.										
Sustainable development contributions	The assessment team has reviewed the Sustainable Development Criteria set out in the Joint PD& MR/01/. The project activity will contribute to SDGs 7, 8 and 13. <table><tr><th>SDG Target</th><th>SDG Indicator</th><th>Net Impact</th><th>Current project contribution</th><th>Contribution over project lifetime</th></tr><tr><td>7.2</td><td>7.2.1: Renewable energy share in the total final energy consumption</td><td>Implemented activities to increase</td><td>About 11,544.62 2 MWh renewable electricity has been supplied to Indian grid during the reported period that helps to</td><td>Over the lifetime of the project activity for the two crediting periods 1,715,687.04 MWh estimated renewable</td></tr></table>	SDG Target	SDG Indicator	Net Impact	Current project contribution	Contribution over project lifetime	7.2	7.2.1: Renewable energy share in the total final energy consumption	Implemented activities to increase	About 11,544.62 2 MWh renewable electricity has been supplied to Indian grid during the reported period that helps to	Over the lifetime of the project activity for the two crediting periods 1,715,687.04 MWh estimated renewable
SDG Target	SDG Indicator	Net Impact	Current project contribution	Contribution over project lifetime							
7.2	7.2.1: Renewable energy share in the total final energy consumption	Implemented activities to increase	About 11,544.62 2 MWh renewable electricity has been supplied to Indian grid during the reported period that helps to	Over the lifetime of the project activity for the two crediting periods 1,715,687.04 MWh estimated renewable							

				increase the renewable energy share in the energy mix. VVB assessment – VVB has confirmed that the 11,544.62 2 MWh of electricity has been supplied to the Indian grid during the monitoring period from the the JMRs shared by the PP/18/ and deemed accurate.	electricity will be supplied VVB assessment –The project is expected to supply 1,715,687. 04 MWh for the two crediting periods and the value is verified from the ex-ante ER sheet/16/ and ex-post ER sheet/17/ and deemed appropriate.
	8.5	8.5.1 Average hourly earnings of female and male employees , by occupation , age, and persons with disabilities	Implement ed activities to increase	Number of additional Employmen t Opportuniti es created: 9 VVB assessment – VVB has verified the employmen t records/06	The project leads to overall 09 employmen t opportunitie s for the life time of the project. VVB assessment VVB has verified the employmen t

				/ and confirmed that there are 9 employees under this project activity. Therefore, the value is deemed appropriate .	records/06 / and confirmed that there are 9 employees under this project activity. Therefore, the value is deemed appropriate.
	13.2	13.2.2 Total greenhouse gas emissions per year	Implemented activities to increase	By supplying 11,544.62 2 MWh of clean electricity (generated through wind energy based.) to Indian grid, the project avoided release of 10,999 tCO2e in to the atmosphere during the reporting period. VVB assessment The calculation of the above mentioned parameters	Over the lifetime of the project activity for the two crediting periods, 1,697,851 tCO2e is estimated to be prevented from entering the atmosphere during the entire second crediting period. VVB assessment The calculation of the above mentioned parameters has been demonstrated

				has been demonstrated accurately in the ER sheet/16,17/ and deemed appropriate by the VVB.	accurately in the ER sheet/16,17/ and deemed appropriate by the VVB.
Additional information relevant to the project	Not applicable				

3.2 Project Activity Instances in Grouped Projects

The Project activity is not a grouped project. Therefore, not applicable.

3.3 Safeguards

3.3.1 Stakeholder Engagement and Consultation

3.3.1.1 Stakeholder Identification

The project activity is currently undergoing the validation of second crediting period and the PP has confirmed that none of the stakeholders have been changed since first validation and all the identified stakeholders were involved and no new group of stakeholders are to be included for this ongoing verification and the validation of RCP. And as per the section 3.9.8 of the VCS standard version 4.7/03/, there is no requirement for the identification of local stakeholders for the renewal of crediting period. However, VVB has interviewed the local stakeholders of nearby areas during the onsite visit/22/ and confirmed that there are no grievances on the project activity and they are well known about the ongoing grievance mechanism.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	Not Applicable
Legal or customary tenure/access rights	Not Applicable

Stakeholder diversity and changes over time	Not Applicable
Expected changes in well-being	Not Applicable
Location of stakeholders	Not Applicable
Location of resources	Not Applicable

3.3.1.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder engagement process	The stakeholder was conducted on 19/12/2013 by inviting the stakeholders like the local people, employees and elected representatives of nearby villages through a newspaper ad and few individual invitations in local languages and there was no stakeholder meeting before the second crediting period. It was confirmed by the assessment team from the registered CPA DD/38/.
Consultation outcome	No stakeholder meeting was conducted before the start of renewal of crediting period. However, initial local stakeholder consultation was conducted on 19/12/2013 where objectives of project, its benefits and role in reducing GHG emissions. He also discussed the issue of global warming and role of CDM of the Kyoto Protocol. The meeting Chairman discussed benefits of project to the local communities.
Ongoing communication	VVB has interviewed the local stakeholders of nearby areas during the onsite visit/22/ and confirmed that there are no grievances from the project activity, and they are aware about the reporting grievance mechanism and said that the PP representatives are in continuous communication with the stakeholders. VVB also checked the grievance register placed at the site office with few minor grievances registered along with the details of actions taken by the PP representatives. However, they are not registered in the current monitoring period.
Stakeholder input	Not Applicable.

3.3.1.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Obtaining consent	It has been confirmed through the interviews with the PP's representatives and local stakeholders/22/ and grievance register/27/ that there are no conflict and grievances of the Indigenous peoples (IPs), Local communities (LCs) and NGOs. The continuous operation of the WTGs has been verified through the JMRs shared by the PP. Under the VCS program, continuous monitoring and evaluation has been conducted by the PP, which has been verified through the VCS Project Webpage/20/.
Outcome of FPIC discussion	The Free, Prior, and Informed Consent (FPIC) process for the project resulted in a positive outcome. Transparent agreements were reached with Indigenous Peoples (IPs), Local Communities (LCs), and NGOs. The information disclosed included project details, potential impacts, and benefits, ensuring stakeholders' understanding. Assurance is provided that the project adheres to ethical standards - no encroachment on existing land occurred, and no forced physical or economic displacement took place. The project utilized unused, greenfield land, and the absence of relocation signifies the commitment to responsible and sustainable development practices.

3.3.1.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Development process	PP maintains the grievance register at the plant site where the stakeholders can share their experiences and grievances on a continuous basis. . Site office address, email address, and contact numbers were provided to stakeholders. The assessment team has reviewed the grievance registers during the onsite visit/22/ with few minor grievances registered along with the details of actions taken by the PP representatives. However, they are not registered in the current monitoring period. Moreover, during the onsite visit/22/, the assessment team has interviewed some of the local stakeholders and confirmed that they are aware of the grievance mechanism.
Grievance redress procedure	PP has established a mechanism to address grievances and resolve potential conflicts between the project proponent and local

	stakeholders and is found to be in line with the VCS program requirements. The project proponent's contact information, including email address and phone number, has been shared with stakeholders, allowing them to express their ideas and concerns. No grievances had been received during the current monitoring period. However, in case of any grievances, the nature of probable resolution is discussed with the plant head office and implemented by the site in-charge which is confirmed by the VVB from the interviews during the onsite visit/22/.
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3.3.1.5 Public Comments

The Public comment period had been completed before the first crediting period. No comments were received in the commenting period.

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable	Not Applicable

3.3.2 Risks to Local Stakeholders and the Environment

3.3.2.1 Management Experience

Few of the employees from the project site were interviewed by the VVB during the onsite visit/22/ conducted on 21/05/2024 and confirmed the expertise of the management in renewable energy etc.

3.3.2.2 Risk Assessment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Natural and human-induced risks to stakeholders' wellbeing	No risk related to stakeholder well-being has been anticipated.
Risks to stakeholder participation	No risk to stakeholder participation has been anticipated.
Working conditions	No risks related to working conditions have been identified. Comprehensive safety training has been provided to the workers/employees. VVB has confirmed the same from the employees during the onsite interviews/22/ and observed the team working on site was wearing the safety equipment and through PP's HSE training module/15/ provided by the PP.

Safety of women and girls	No risks related to the safety of women and girls have been identified. During the on-site visit/22/, VVB has observed the women employees working on the site by following the safety rules and wearing safety equipment.
Safety of minority and marginalized groups, including children	No threats to the safety of minority and marginalized groups, including children have been identified.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials, and chemical pesticides and fertilizers)	No threats/ risks due to the generation of pollutants due to the project activity. The project rather improves air quality by preventing fossil fuel burns and mitigates climate change by producing electricity from a clean source of energy, i.e. wind energy. Shadow flickering and noise effects from the project activity do not affect the residential areas as no residential area falls under the vicinity of the project activity which is verified by the assessment team from the on-site visit/22/ and the interviews conducted with the local stakeholders who lives in the nearby villages. Also, the waste is collected and stored in appropriate bins/ storage with cover lid, separate by type of waste before contacting the contracted agencies authorized by the government to pick up for further disposal. Assessment team has checked the Agreement Hazardous Waste Disposal_Plus Lubricants/39/ between Renew Power Private Limited and Plus Lubricants, where it is mentioned that the scrap buyer is responsible for collecting the hazardous waste from the wind power plant.

3.3.3 Respect for Human Rights and Equity

3.3.3.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination	No risk has been identified and PP mentioned that PP shall oblige to create a workplace free of sexual harassment and no discrimination as per local law and found to be acceptable by the VVB as interviews were conducted during the onsite visit/22/ and checked the PP's equal opportunity and anti-discrimination policy/13/ was checked and confirmed that there are no such
Sexual harassment	

	cases. Assessment team also checked the grievance register placed on site/27/ and no complaints related to sexual harassment were found.
Equal pay for equal work	No risk has been identified and VVB has checked the employment records/06/ and interviews conducted with the employees/22/ of the PP and found the PP is giving the equal pay and equal employment opportunities to male and female.
Gender equity in labor and work	No risk has been identified
Forced labor	No forced labor has been identified by the VVB during the onsite visit/22/ and interviews with the employees and stakeholders of nearby villages.
Child labor	No child labor has been identified by the VVB during the onsite visit/22/ and interviews with the employees and stakeholders of nearby villages.
Human trafficking,	No human trafficking labor has been identified by the VVB during the onsite visit/22/ and interviews with the employees and stakeholders of nearby villages.

3.3.3.2 Human Rights

PP has confirmed during the interviews/22/ conducted by the VVB that the project activity has obtained the FPIC from the local stakeholders including the IPs, LCs and customary right holders, ensuring their unforced consent before the project operation, respecting their right to make decisions. The project is installation of a wind power plant in Maharashtra by safeguarding the rights of IPs, LCs, and customary rights holders to be free from discrimination which is confirmed by the employees during the interviews conducted/22/ by VVB on 21/05/2024.

VVB has checked the employment records/06/ and interviewed few of the employees on 21/05/2024 during the onsite visit/22/ and confirms that the project has obtained consent from the local stakeholders and providing employment to the Ips, LCs and customary right holders by providing them the required trainings which is checked from the training records/15/. It has been confirmed through the interviews with the PP's representatives/22/ and grievance register/27/ that there is no conflict and grievances of the Indigenous peoples (IPs), Local communities (LCs) and NGOs.

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

3.3.3.3 Indigenous Peoples and Cultural Heritage

The project activity does not impact the tangible or intangible cultural heritage or the indigenous people nearby. It has been confirmed through the onsite interviews/ 22/ that there is no cultural heritage site nearby and there are no conflicts with the indigenous peoples nearby the project site, as confirmed through the grievance register/27/.

Risk identified	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

3.3.3.4 Property Rights

It has been confirmed through the interviews/22/ with the PP's representatives that the land/property for the project activity belongs to the PP which is also confirmed from registered PD/09/. Additionally, there is no grievance regarding the property rights in the grievance register/27/. It has been confirmed during the onsite visit/22/ that there are no conflicts regarding the property rights of the project activity.

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

3.3.3.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Process used to design the benefit sharing plan	Since the above section 3.3.4 is not applicable, hence this section is also not applicable.
Summary of the benefit sharing plan	N/A
Approval and dissemination of benefit sharing plan	N/A

Benefit sharing during the monitoring period	N/A
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3.3.4 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	No risk identified
Soil degradation and soil erosion	No risk identified
Water consumption and stress	No risk identified

3.3.4.1 Rare, Threatened, and Endangered species

Risk identified	Evidence gathering activities, evidence checked, and assessment conclusion
Species and habitat	The project activity is situated in a location that is neither known to be within nor adjacent to habitats inhabited by rare, threatened, or endangered species which is confirmed by the assessment team from the onsite visit/22/ and the interviews conducted with the local stakeholders/22/. Consequently, this section is deemed not applicable to the project
Areas needed for habitat connectivity	The project has not adversely impacted areas needed for habitat connectivity during the monitoring period.

3.3.4.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

Evidence gathering activities, evidence checked, and assessment conclusion	
Invasive species	Not Applicable

3.3.4.3 Ecosystem conversion

Risks Identified	Evidence gathering activities and evidence checked
Ecosystem conversion	Not Applicable, Since the project activity is neither ARR,ALM,WRC nor ACoGS.

3.4 Application of Methodology

3.4.1 Title and Reference

The applied methodologies for the project activity are given in table below with their versions. Assessment team has verified the versions of the applied methodologies through the CDM Methodologies/07/08/ and the applicability of the methodologies and Tools has been explained in section 3.4.2.

Type	Reference ID	Title	Version
Methodology	ACM0002	Grid-connected electricity generation from renewable sources 'Consolidated baseline methodology for grid-connected electricity generation from renewable sources'	21.0
Tool	Tool 07	Tool to calculate the emission factor for an electricity system	7.0

Tool	Tool 01	Tool for the demonstration and assessment of additionality	7.0
Tool	Tool 11	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	3.0.1

3.4.2 Applicability

Methodology ID	Applicability condition	Assessment and conclusion
ACM0002	1. This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or Involve a replacement of (an) existing plant(s)/unit(s)	The project activity is the installation of a new grid connected wind power plant, where there was no other power plant before the project activity. Therefore, VVB confirms that according to para 20 of the applied methodology ACM0002 version 21.0 /07/, the project activity is a green field power plant. Hence, the criterion a) is applicable.
	2. In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to	The project activity involves installation of wind technology to generate electricity and supply it to the Indian grid and there is no integration of BESS which was confirmed by the verification team with the interviews/22/ made with the PP representatives during the onsite visit conducted to the project site as the plant was not operational during the onsite visit.

	(an) existing solar photovoltaic¹ or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s).	Therefore, the criterion is not applicable
	3. The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been	The project activity is the installation of a new grid connected (wind) power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements which was confirmed by the verification team during the on-site visit/22/. Therefore, this criterion under point (b) is not applicable. The project activity is the installation of a new grid connected (wind) power plant/ unit without integration of a BESS, which was confirmed by the verification team with the interviews/22/ made with the PP representatives during the onsite visit conducted to the project site as the plant was not operational during the onsite visit.

	undertaken between the start of this minimum historical reference period and the implementation of the project activity.	
	4. In case of hydro power plants, one of the following conditions shall apply:¹ (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m²; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m², all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m²;	The condition is not applicable as project activity is the installation of a new grid connected (Wind) power plant and not a hydro power plant. Therefore, this condition is not applicable.

¹ Project participants wishing to undertake a hydroelectric project activity that result in a new reservoir or an increase in the volume of an existing reservoir, in particular where reservoirs have no significant vegetative biomass in the catchments area, may request a revision to the approved consolidated methodology.

	(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: a) Lower than or equal to 15 MW; and b) Less than 10 per cent of the total installed capacity of integrated hydro power project.	
	5. In the case of integrated hydro power projects, project proponent shall: a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under VCS project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of	The condition is not applicable as project activity is an installation of a new grid connected (wind) power plant and not a hydro power plant. Therefore, this condition is not applicable.

	water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of VCS project activity.	
	6. The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	The project activity is installation of a new grid connected (wind) power project/ unit and does not involve switching from fossil fuel to renewable energy, therefore criterion described in point (a) is not relevant to the project activity. This is a (wind) power plant/ unit and not a biomass fired plant, therefore criterion described in point (b) is not applicable to the project activity.
	7. In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, that is to use the power generation equipment that was already in use	The project does not involve any capacity additions, retrofits or replacements, which was confirmed by the verification team during the onsite visit/22/. Therefore, this criterion is not applicable.

	prior to the implementation of the project activity and undertaking business as usual maintenance”.	
Tool 07	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects). Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 2: be met. Namely, the total capacity of off-grid Procedures related to off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to	The project activity is the installation of a new grid connected (wind) power project and supplying electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid. Therefore, the condition is applicable, and PP has estimated OM, BM and CM using the tool. The project activity is the installation of new grid connected (wind) power project and supplying electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid. Therefore, the condition is applicable. The details regarding the emission factor have been discussed in section 3.4.6 of this report.

	constraints in generation and not to other aspects such as transmission capacity.	
	In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project activity is located in India, a non-Annex I country. Therefore, this criterion is not applicable for the project activity
	Under this tool, the value applied to the CO2 emission factor of biofuels is zero.	The project activity is a grid connected (wind) power project/ unit and does not involve emission from biofuels. Therefore, this criterion is not applicable.

3.4.3 Project Boundary

As per para 22 of the applied methodology ACM0002 version 21.0/7/ "The spatial extent of the project boundary includes the project power plant/unit and all power plants/units connected physically to the electricity system that the CDM project power plant is connected to".

As the project activity is the installation of wind power plant in India, the project boundary includes the wind power project activity, grid and all power plants connected to grid as the project activity evacuates the power to Indian grid.

Source	Gas	Included?	Justification/Explanation
Baseline	CO ₂	Yes	Main emission source
	CH ₄	No	Minor emission source
	N ₂ O	No	Minor emission source
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Project	CO ₂	No	Wind energy projects do not emit GHGs and need not consider project emissions
	CH ₄	No	The project activity is a wind energy project and does not emit

Source	Gas	Included?	Justification/Explanation
			methane (CH ₄) hence no project emission considered
	N ₂ O	No	The project activity is a wind energy project and does not emit nitrous oxide (N ₂ O) hence no project emission considered

It has been confirmed that the PP has included all the appropriate GHG emission sources that were required by the methodology in the final PD-MR/01/. It was assessed that no emission sources related to project activity will cause any deviation from the applicability of the methodology or accuracy of the emission reductions.

A relevant flow diagram has been used in section 3.3 of the PD-MR to clearly depict the project boundary and it has been duly verified by the assessment team via PPA/25/ and found to be appropriate. Therefore, the assessment team confirms that the project boundary considered is appropriate.

3.4.4 Baseline Scenario

As per the para 15 of the applied methodology, “ACM0002: Grid-connected electricity generation from renewable sources” /07/, the baseline scenario for the renewal of crediting period has been discussed as per Tool 11 “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” /35/.

The tool stipulates the following steps to be carried out.

Step 1: Assess the validity of the current baseline for the next crediting period

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or Sectoral policies

The baseline scenario remains unchanged which is grid connected electricity generation plants and is in compliance with all the relevant mandatory national and/or Sectoral policies.

Step 1.2: Assess the impact of circumstances

The baseline scenario identified at the validation of the project activity was the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources into the grid. Thus, this project activity was a voluntary investment which intends to replace equivalent amount of electricity at grid from renewable source. PP was not bound to incur this investment; hence absence of project activity (i.e. the investment) does not lead to any continued baseline practice

for PP within their scope whereas the continued operation of the project activity would continue to replace equivalent amount of electricity at grid. Hence, the same baseline as identified in the previous crediting period is still valid for the project. Therefore, the assessment of the changes in market characteristics is not required for the renewal of the project's crediting period under VCS.

Nevertheless, there is an impressive growth attained by the Indian Power Sector within the recent years, the installed capacity has grown from mere 1,713 MW in 1950 to 416,059. MW as on 31-March-2023. Sector-wise de-tails of installed capacity are shown in Table 1 of the PD-MR which is taken from the CEA database of installed capacity. However, it is evident from Table 12 that the installed capacity is predominantly coal based and therefore, is a major source of carbon dioxide emissions in India. Hence, there exists scope for reducing the CO₂ emissions in the country by increased use of renewable energy sources.

Furthermore, project participant has considered the latest available CO₂ Baseline Database (CEA database, version 19) at the time of requesting renewal of the crediting period for establishing the baseline emission factor, which itself considered all the new circumstances. Hence, the new circumstances do not have an impact on the baseline emission. As per below table, the fossil fuel based thermal power generation is dominant over the renewable based power generation, thus baseline scenario remains same as original.

The EF of the grid has been updated by the PP in conformity with the latest version of the CO₂ Baseline Database (CEA database. This has been stated in section 3.4 of the VCS PD-MR/01/. This was found to be acceptable with the validation team.

Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

As explained in step 1.2, the baseline scenario was the electricity import/generation from the power plants connected to the electricity grid. The project activity in green field project and there is no any baseline equipment or investment involved in project activity. Therefore, this condition is not applicable to the project activity.

Step 1.4: Assessment of the validity of the data and parameters

This step stipulates that “Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity.”

In the context of the present project activity the emission factor has been updated along with the approach used to calculate the emission factor.

The EF of the grid has been updated by the PP in conformity with the latest version of the CO₂ Baseline Database (CEA database). This has been stated in section 3.4 of the VCS PD-MR/01/. This was found to be acceptable with the validation team.

Step 2: Update the current baseline and the data and parameters

² https://cea.nic.in/wp-content/uploads/tpe_cc/2022/02/User_Guide_ver_17_2021.pdf

As evident from the explanation provided above the baseline scenario remains unchanged. Only the approach used to calculate the baseline emission factor is updated as per the latest version of CEA database available at the time of PDD submission for renewal.

In line with the VCS standard version 4.7, section 3.9.8, the impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant EB guidance with regard to renewal of the crediting period at the time of requesting renewal of crediting period; and the correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The validation team confirms that:

- (a) All the assumptions and data used by the PP are listed in the VCS Joint PD and MR/01/, including their references and sources.
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the Joint PD and MR /01/.
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the Joint PD and MR/01/.
- (e) The approved baseline methodology/07/ has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed project activity.

The baseline scenario identified by the PP was found to be in accordance with applied methodology and the registered PD/09/. Therefore, PP's decision to not make changes in the current baseline was found to be acceptable by the validation team.

3.4.5 Additionality

As per the section 3.9.8 of the VCS standard v4.7/03/, a full reassessment of additionality is not required when renewing the project crediting period unless otherwise specified in the methodology. However, regulatory surplus shall be demonstrated in accordance with the requirements set out in the VCS Program rules and the project description shall be updated accordingly.

The project activity is currently undergoing the validation of renewal of crediting period 1, therefore, the full reassessment of additionality is not required. However, PP has demonstrated the regulatory surplus by confirming that the implementation of the project activity is a voluntary initiative as taken by the project proponent and is not mandatory or a legal requirement;

- The Electricity Act, 2003/36/, does not restrict or allow any authority to restrict the fuel choice for power generation; and
- The applicable Environmental Regulations do not restrict the use of wind energy and there is no legal requirement on the selection of a particular technology and hence VVB confirms that the project activity is not mandated by any law, statute, or any other regulatory framework as the project activity is located in non-annex 1 country.

3.4.6 Quantification of GHG Emission Reductions and Carbon Dioxide Removals

As per para 47 of the applied methodology/07/, Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

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

Where:

BE_y = Baseline emissions in year y (t CO₂/yr)

EG_{PJ,y} = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

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 7.0” (t CO₂/MWh)

As per the para 49 of ACM0002, v21.0/07/

If the project activity is the installation of a Greenfield power plant, then:

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

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

Determination of Grid emission factor (EF_{Grid,CM,y}) :

The baseline grid emission factor is calculated in accordance with the “Tool to calculate the emission factor of an electricity system”, (version 07.0.0)/10/ which is the latest version of the tool. The grid specific values have been obtained from the data published by Central electricity Authority (CEA) version 19, which is a government body. PP has applied CEA database version 19.0 which was released on December 2023 /28/ which is the available latest version.

“A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the ‘Tool to calculate the emission factor for an electricity system’.”

It is verified that the latest available version for “Tool to calculate the emission factor for an electricity system” is version 07.0 /10/ and the PP has correctly referred to the same in the section 5.1 of the PD MR /01/ to determine the baseline grid emission factor.

Step1: Identify the relevant electricity systems:

Historically, the Indian power system was divided into five independent regional grids, namely Northern, Eastern, Western, Southern, and North-Eastern. Each grid covered several states. As of 31 December 2013, all regional grids had been integrated and were operating in synchronous mode, i.e. at same frequency, hence forming one unified Indian Grid³. Hence, unified Indian Grid is the relevant electricity system for the purpose of estimating Grid Emission Factor.

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)

Option 1 is chosen and only grid connected power plants are included in the calculation.

Step-3: Select a method to determine the operating margin (OM)

The PP has chosen the ex-ante option for simple operating margin calculation method to determine the operating margin (OM). VVB has verified from the data published at CEA website /28/ that the percentage of total grid generation by low-cost/ must-run plants for the Indian grid is less than 50% of the total generation.

Therefore, it is satisfied the condition stipulated under Para 40 (a) of Methodological Tool 07, Version 07, hence the simple OM method (Option a in paragraph 38) has been used as low cost/must run resources constitute less than 50% of total grid generation.

As per Tool para 40 -42; The PP has chosen ex-ante option (option a of Para 42 of Methodological Tool 07, version 07) for calculation of Simple OM emission factor using a 3-year generation-weighted average/10/, based on the most recent data available at the time of submission of the PD to the validation team.

Step 4: Calculate the operating margin emission factor ($EF_{grid, OM_{Simple,y}}$) according to the selected method

Simple operating margin has been calculated as per Option B as stipulated under Para 47 (b) of Methodological Tool 07, version 07. The PP has considered an average of the latest available three years i.e 2020-2021, 2021-2022 and 2022-2023 for calculation of simple OM emission factor. The value for weighted average operating margin has been validated and used as 0.9580 tCO₂/MWh /28/.

Step 5: Calculate the build margin (BM) emission factor ($EF_{grid,BM,Y}$)

Build margin for the Indian grid is considered as 0.8670 tCO₂/MWh for 2022-2023 as per “Tool to calculate the emission factor for an electricity system” (Version 07.0, EB 100, Annex 4) para 72 (i.e., as per the provision of the section 6.5 of the tool) where the Option 1 is chosen to calculate the build margin emission

³ <https://powermin.gov.in/en/content/creation-national-grid>

factor for the project activity. BM is calculated ex-ante based on the most recent information/data from CEA website and is fixed for the entire crediting period.

Step 6: Calculate the combined margin (CM) emission factor ($EF_{grid,CM,y}$)

The combined margin (CM) emission factor is calculated based on option (a) i.e., weighted average CM as accordance to Tool. The weighted average combined margin has been calculated by the PP, considering the 75% weighted for operating margin and 25% for build margin; this is in accordance with the tool which states that for “Wind and solar power generation project activities: WOM = 0.75 and WBM = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods”.

The combined margin emissions factor is calculated as follows:

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

The combined margin emission factor for the project activity arrives as 0.9352 tCO₂/MWh. The PP has provided the detailed calculation for the same in the ER calculation sheet. The baseline emission factor for the electricity system has been calculated on ex-ante basis and will remain fixed for the entire crediting period.

In consistency with the applied tool/10/, the weights for OM and BM used in PSF for calculating combined margin are 0.75 and 0.25.

$$\begin{aligned} \text{Therefore, } EF_{grid,CM,y} &= 0.9580 * 0.75 + 0.8670 * 0.25 \\ &= 0.9352 \text{ tCO}_2/\text{MWh} \end{aligned}$$

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

Where:

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

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

$$EG_{PJ,y} = 89,932 \text{ MWh}$$

$$EF_{grid,CM,y} = 0.9352 \text{ tCO}_2/\text{MWh}$$

Thus,

$$BE_y = 84,105 \text{ tCO}_2$$

Project Emissions:

As per paragraph 35 of applied methodology, “For most renewable energy project activities, project emissions are equal to zero”. The ERs will be calculated based on net electricity generation which already adjust imports and fed to the grid. Thus, no project emissions have been considered which is found to be acceptable.

Hence, $PE_y = 0$.

Leakage Emissions:

As per the para 61 of the applied methodology “No other leakage emissions are considered. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport etc.) are neglected.” Therefore, GCC verifier confirms that there are no leakage emissions to be considered.

Therefore, $ER_y = BE_y = 84,105 \text{ tCO}_2$

The emission reduction calculation was assessed by the VVB against the requirements of the applied methodology/07/ and found to be in compliance with the same.

The ex-ante estimates given in the PD-MR/01/ are appropriate and all input parameters have been separately validated.

3.4.7 Methodology Deviations

There has not been any methodology deviation during the aforesaid monitoring period (01-January-2023 to 02-April-2023).

Project activity was registered in VCS standard v3.4 and as per VCS standard crediting period must be 10 years which is renewable twice. However, VCS PD mentioned as "Project Crediting Period: 03-April-2013 – 02-April-2020, Number of years: 7 years". There was a typo error while mentioning the crediting period. Thus, the deviation during the VCS verification period 03-April-2020 to 31-December-2021 to change the crediting period as 10 years which is renewable twice had been taken by the PP which was approved.

3.4.8 Monitoring Plan

The project activity has correctly applied the approved methodology ACM0002, version 21.0 /07/. The monitoring plan provides detailed information related to the collection and archiving all the relevant data needed to estimate the net electricity supplied by the project activity to the grid.

Parameter	Description	Monitoring frequency	Monitoring methods to be applied
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EG _{facility, y}	Quantity of net electricity generation supplied by theproject plant/unit to the grid in year y	Continuous measuring, monthly recording	PP has mentioned that the electricity generated by the project activity will be monitored using the electricity meters, 33 WTGs in the PA are connected to 4 feeders with the meters given below:																																
			<table><thead><tr><th>FEEDER #</th><th>STATUS</th><th>S. NO.</th><th>ACCURACY CLASS</th></tr></thead><tbody><tr><td rowspan="2">01</td><td>Main</td><td>13769363</td><td>0.2s</td></tr><tr><td>Check</td><td>02797655</td><td>0.2s</td></tr><tr><td rowspan="2">02</td><td>Main</td><td>13813570</td><td>0.2s</td></tr><tr><td>Check</td><td>13813547</td><td>0.2s</td></tr><tr><td rowspan="2">06</td><td>Main</td><td>13813551</td><td>0.2s</td></tr><tr><td>Check</td><td>X1350784</td><td>0.2s</td></tr><tr><td rowspan="2">07</td><td>Main</td><td>15687854</td><td>0.2s</td></tr><tr><td>Check</td><td>14953662</td><td>0.2s</td></tr></tbody></table>	FEEDER #	STATUS	S. NO.	ACCURACY CLASS	01	Main	13769363	0.2s	Check	02797655	0.2s	02	Main	13813570	0.2s	Check	13813547	0.2s	06	Main	13813551	0.2s	Check	X1350784	0.2s	07	Main	15687854	0.2s	Check	14953662	0.2s
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	Check	X1350784	0.2s																																
07	Main	15687854	0.2s																																
	Check	14953662	0.2s																																
	As the project is undergoing revalidation, VVB confirms that the monitoring plan/09/ identified by the PP is found to be acceptable which is being followed from the first crediting period. During the onsite visit, VVB has checked the meters placed on site and four (2 main and 2 check meters) of the energy meters were changed on 12/03/2024, which is after the current monitoring and VVB has checked the meter replacement certificates/26/ and found them on the site during site visit/22/. The details of the new meters has been provided below:																																		

FEEDER #	STATUS	Old meter S.No	New meter S. NO.	Accuracy Class
01	Main	13769363	Q0788361	0.2S
	Check	02797655	02797655	0.2S
02	Main	13813570	13813570	0.2S
	Check	13813547	Q0793603	0.2S
06	Main	13813551	Q0788360	0.2S
	Check	X1350784	X1350784	0.2S
07	Main	15687854	15687854	0.2S
	Check	14953662	Q0828036	0.2S

	The calibration frequency of the meter is one year. The monitored values of the parameter can be verified Meter readings are taken jointly at the appointed date by PP’s representative, Regen Powertech Pvt. Ltd. official and Maharashtra State Electricity Distribution Company Limited (MSEDCL) official. The same is reported as Joint Meter Reports
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			(JMR). The same is reported to the O&M team and the complied reports will be generated in the form of Credit Notes. Net electricity supplied by the project activity to the grid is cross-checked with records for sold electricity by invoices raised.
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3.5 Non-Permanence Risk Analysis

This is not applicable for the proposed VCS project as it is a Non AFOLU project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is the installation of 49.5 MW wind power plant by installing 33 WTGs of 1.5 MW capacity of each in sangli district of Maharashtra.

Implementation Status	Assessment steps, evidence checked, & conclusion:
Project implementation	The project activity is the installation of 49.5 MW wind power plant by installing 33 WTGs of 1.5 MW capacity of each in Sangli district of Maharashtra. VVB has checked the commissioning certificates/23/ of all the 33 WTGs and confirms that the project started its operation in 2013. During the onsite visit/22/ to the project site on 21/05/2024, VVB observed that all the WTGs are operational and generating electricity which is being sold to the Maharashtra State Electricity Distribution Company Limited.

Monitoring plan	As detailed in section 3.4.8, the Project Proponent (PP) has actively executed the monitoring plan. The Validation and Verification Body (VVB) has thoroughly verified, through on-site visits and interviews/22/, that the JMRs taken jointly at the appointed date by PP's representative, Regen Powertech Pvt. Ltd. official and Maharashtra State Electricity Distribution Company Limited (MSEDCL) official. The same is reported to the O&M team and the complied reports will be generated in the form of Credit Notes. Net electricity supplied by the project activity to the grid is cross-checked with records for sold electricity by invoices raised for the payment purpose.
AFOLU-specific project implementation	Not Applicable

4.2 Accuracy of Reduction and Removal Calculations

The project monitoring has been carried out in accordance with the registered PD/09/ and the PD-MR/01/. The monitoring plan laid on the registered PD/09/ was being followed at the site. The verification team has assessed the information flow (from data generation, aggregation, to recording, calculation and reporting for these including the values) in the PD-MR/01/ as per VCS standard/03/. The joint meter reading is taken by the representative of the DISCOM in the presence of the PP in the form of JMR's/18/ and the monthly invoices/19/ are being issued by the PP provides the value of parameters that is used directly for the emission reduction calculations. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.

The calculation of the emission reduction is found to be correct. The details of the reported and the verified values for all the parameters are mentioned in section 4.5 of this report. The formulae and method used to calculate the baseline emissions, project emissions and leakage emissions are appropriate and in line with the approved methodology ACM0002/07/.

The parameters are directly sourced from monthly JMR's/18/ issued by the DISCOM and the electricity invoices/19/ issued by the PP. The PP has provided complete set of data for all the monitored parameters in the ER Sheet/17/. This data has been verified as described in section 4.5 of this report. The formulae and method used to calculate the baseline emissions, project emissions and leakage emissions are appropriate and in line with the approved methodology ACM0002/07/.

The ex-ante parameters have been calculated at validation stage and remains fixed throughout the crediting period, in accordance with the tool to calculate emission factor for an electricity system/10/ and are in-line with reported value in registered PD/09/.

As per ER sheet/17/ submitted by the PP, the net GHG emission reductions achieved during the current verification period which is also the last verification of the project activity i.e. 01/01/2023 to 02/04/2023, which were verified to be as 10,999 tCO_{2e}.

The calculation method and formulae used for calculating the baseline emission, project emission and leakage emission are found to be in compliance with the applied methodology ACM0002 v13/08/. The findings raised during the verification process were satisfactorily resolved, the details of which can be found in appendix 5.

4.3 Quality of Evidence to Determine Reductions and Removals

The ER's generated for the project activity is based on the electricity generation from the wind power plant. The PP has shared all the relevant evidence to substantiate the data related to the monitored parameter. The list of all the documents that were reviewed for the current verification has been listed down in appendix 4 of this report. The values of the parameter, electricity imported and exported has been listed down in the appendix 4 of this report. The values of the parameter, electricity imported and exported has been checked by the verification team through the monthly JMR's/18/ and electricity invoices/19/ to verify the values reported in the ER Sheet/17/ and were found to be appropriate. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach is conservative after assessment and was found to be appropriate.

The monitoring of the project activity is found to be in accordance with the monitoring plan set out in the VCS PD/09/ and the approved methodology ACM0002, v13.0/08/. The verification of monitored parameter has been discussed below:

The assessment of monitored parameter has been carried out as per the method described in below table:

Parameter	$EG_{facility, y}$ Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in line with the monitoring plan as set out in VCS PD/09/ and monitoring methodology/08/.
	Monitoring equipment	The energy meters are of accuracy class 0.2s and The serial Nos. of the energy meters for all the WTGs: FEEDER STATUS S. NO.

		<table><tr><th>#</th><th></th><th></th></tr><tr><td rowspan="2">01</td><td>Main</td><td>13769363</td></tr><tr><td>Check</td><td>02797655</td></tr><tr><td rowspan="2">02</td><td>Main</td><td>13813570</td></tr><tr><td>Check</td><td>13813547</td></tr><tr><td rowspan="2">06</td><td>Main</td><td>13813551</td></tr><tr><td>Check</td><td>X1350784</td></tr><tr><td rowspan="2">07</td><td>Main</td><td>15687854</td></tr><tr><td>Check</td><td>14953662</td></tr></table>	#			01	Main	13769363	Check	02797655	02	Main	13813570	Check	13813547	06	Main	13813551	Check	X1350784	07	Main	15687854	Check	14953662	
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	All the energy meter used are of same accuracy level and same make. There is no delay in calibration of meters for all the sites which was checked with the calibration certificates/21/ in the current monitoring period. However, two of the energy meters were changed in 12/03/2024, which is after the current monitoring and VVB has checked the meter replacement certificates/26/ and found them on the site during the site visit/22/.																									
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?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/09/. This has been verified from the calibration certificates/21/ provided by the PP.																									
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the accuracy level is valid for entire monitoring period/21/.																									
Calibration frequency /interval:	As per the VCS PD/09/, the calibration frequency is annual which is in line with the details provided in the PD-MR/01/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/09/.																									

		During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/21/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	The calibration interval is found to be in line with the frequency set out by the PP in the monitoring plan/09/. Hence, it is found to be appropriate.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/25/ and calibration certificates/21/ shared by the PP.
	How were the values in the monitoring report verified?	The value of the parameter for the entire monitoring period are reported in the PD-MR/01/ as 11,544.622 MWh and the monthly values are reported in the ER calculation sheet/17/. This value is checked from the monthly JMR's/18/ and energy invoices/19/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.
Findings	CAR#02 was raised and resolved successfully.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/09/ (as per measurement methods and procedures to be applied) and applied methodology/07/08/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

5 VALIDATION AND VERIFICATION OPINION

5.1 Validation and Verification Summary

Earthood Services Private Limited (Earthood) performed the joint validation and verification (Validation of second crediting period and verification of last monitoring period of the first crediting period) of the emission reductions for the VCS project activity "VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA" (VCS ID- 1404) for the renewal of crediting period 03/04/2023 to 02/04/2033 and monitoring period 01/01/2023 to 02/04/2023. ReNew Wind Energy (Shivpur) Private Limited is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. It is our responsibility as VVB to express an independent validation and verification statement on the reported GHG emission reductions from the project activity.

Earthood commenced the joint validation and verification based on the baseline and monitoring methodologies ACM0002 version 21.0 /07/ for the renewal of crediting period 1 and ACM0002 version 13.0 /08/ for the monitoring period which falls under the first crediting period. The monitoring plan contained in the Joint PD and MR Version 1.3 /01/and VCS Program Guidelines version 4.4/02/ as per the process described under Section 2 of this report.

The VVB has carried out this joint validation and verification with a reasonable level of assurance as stated in section 1.3 above. Further, the verification of the GHG statement was conducted in accordance with ISO 14064-3.

Overall, upon completing our review as VVB, we confirm that:

- The project activity aligns with all relevant host country criteria and adheres to VCS rules and requirements. Likewise, it complies comprehensively with all conditions outlined in the latest version of the specific applied methodologies.
- The monitoring plan stands out for its robust structure, ensuring a comprehensive mechanism for overseeing project progress. All detailed information presented in the VCS PDMR/01/ has been consistently applied so far, attesting to the project's commitment to quality.
- The implementation of the project aligns with the description outlined in the VCS PDMR/01/, underscoring the project's commitment to fulfilling its proposed objectives.

5.2 Validation Conclusion

Earthood has performed the validation of second crediting period by obtaining evidence, conducting a comprehensive site visit, and requesting additional information. The Project Proponent (PP) has undertaken a detailed calculation of estimated emission reductions in accordance with the applied methodology ACM0002 version 21.0/07/. The provided explanations by the PP are deemed necessary by Earthood to give a strong level of assurance that the projected GHG emissions reductions are not only attainable but will, in fact, be achieved. This is exemplified by the commitments to high standards of accuracy and integrity shown throughout the validation process.

Crediting Period: From 03-April-2023 to 02-April-2033

Validated estimated GHG emission reductions and carbon dioxide removals for the project crediting period:

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated reduction VCU (tCO ₂ e)	Estimated removal VCU (tCO ₂ e)	Estimated total VCUs (tCO ₂ e)
03-Apr-2023 to 31-Dec-2023	62,906	0	0	62,906	0	62,906
01-Jan-2024 to 31-Dec-2024	84,105	0	0	84,105	0	84,105
01-Jan-2025 to 31-Dec-2025	84,105	0	0	84,105	0	84,105

01-Jan-2026 to 31-Dec-2026	84,105	0	0	84,105	0	84,105
01-Jan-2027 to 31-Dec-2027	84,105	0	0	84,105	0	84,105
01-Jan-2028 to 31-Dec-2028	84,105	0	0	84,105	0	84,105
01-Jan-2029 to 31-Dec-2029	84,105	0	0	84,105	0	84,105
01-Jan-2030 to 31-Dec-2030	84,105	0	0	84,105	0	84,105
01-Jan-2031 to 31-Dec-2031	84,105	0	0	84,105	0	84,105
01-Jan-2032 to 31-Dec-2032	84,105	0	0	84,105	0	84,105
01-Jan-2033 to 02-Apr-2033	21,199	0	0	21,199	0	21,199
Total	841,051	0	0	841,051	0	841,051

5.3 Verification conclusion

Earthood has executed the verification process involving obtaining evidence, conducting a comprehensive site visit, and collating additional information to establish a robust assessment.

The estimated emissions reductions for the specified monitoring period stand at 21,596 tCO₂e. Notably, this figure surpasses the achieved emission reductions of 10,999 tCO₂e, as verified from the Emission Reduction (ER) sheet documented in /17/. This discrepancy, where emission

reductions are lower than estimated, eliminates the need for further assessment, and reflects a sufficient level of accuracy in the initial projections.

Verification Period: From 01-January-2023 to 02-April-2023

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Jan-2023 to 02-Apr-2023	10,999	-	-	10,999	-	10,999
Total	10,999	-	-	10,999	-	10,999

5.4 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Jan-2023 to 02-Apr-2023	21,596	10,999	-49.07%	The project activity is a wind power plant, and the generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant.
Total	21,596	10,999	-49.07%	

Approved by



Dr. Kaviraj Singh

Managing Director

Earthood Services Private Limited

Date: 13-12-2024

Place: Gurugram, Haryana

APPENDIX 1: COMMERCIALY SENSITIVE INFORMATION

Section	Information	Justification	Assessment method conclusion
<u>NA</u>	NA	NA	NA

There is no commercially sensitive information.

APPENDIX 2: LIST OF DOCUMENTS REFERRED

S.N o.	Title of Document	Version	Date
1.	VCS PDMR	1.3	11/12/2024
2.	VCS Program guide	4.4	29-08-2023
3.	VCS Standard	4.7	16/04/2024
4.	VCS VVB Manual	3.2	19-10-2016
5.	No double counting declaration	-	03/06/2024
6.	Employee Records	-	-
7.	ACM0002: Grid-connected electricity generation from renewable sources (for validation)	21.0	02/11/2022
8.	ACM0002: Grid-connected electricity generation from renewable sources (for verification)	13.0	11/05/2012
9.	Registered PD	2.0	14/03/2015
10.	Tool 07 : Tool to calculate the emission factor for an electricity system	7.0	
11.	Tool 01: Tool for the demonstration and assessment of additionality	7.0	
12.	Renew CSR policy	-	-
13.	Renew Equal opportunity and anti-discrimination policy	-	-
14.	VCS Standard	3.4	-
15.	Renew HSE Induction module	-	2023
16.	Ex-ante Emission Reduction calculation sheet	-	-
17.	Ex-post Emission Reduction calculation sheet	-	-
18.	JMRs for the Current MP	1	17-01-2020
19.	Invoices for the current MP	-	-

20.	Project webpage https://registry.terra.org/app/projectDetail/VCS/1404	-	-
21.	Meter calibration certificates	-	2022 - 23
22.	Onsite visit documents	-	21-04-2024
23.	Commissioning certificates of 33 WTGs	-	03-04-2013 to 30-08-2013
24.	Ownership Rights	-	-
25.	Power purchase agreement	-	-
26.	Meter replacement data	-	12-03-2024
27.	Grievance register	-	01-01-2023 to 02-04-2023
28.	CO ₂ Baseline Database (CEA database, version 19)	19.0	December 2023
29.	Technical specifications of the WTGs	-	-
30.	Single line diagrams	-	-
31.	VCS Joint PD-MR Template	4.4	
32.	GPS Coordinates app	-	-
33.	Final verification report for MP 5	02	22/03/2023
34.	Renew POSH policy	-	-
35.	Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	3.0.1	-
36.	Electricity Act, 2003	-	-
37.	CDM Project page	-	-
38.	Registered CPA-DD	3.0	25/07/2014
39.	Agreement Hazardous Waste Disposal_Plus Lubricants between Renew Power Private Limited and Plus Lubricants	-	01/03/2023

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon dioxide
CM	Combined Margin
CP	Crediting Period
DR	Desk Review
EB	Executive Board
EF	Emission Factor
ER	External Resource
EIA	Environmental Impact Assessment
Earthood	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GP	Grouped Project Activity
IRR	Internal Rate of Return
MoU	Memorandum of Understanding
MWh	Mega Watt Hour
MR	Monitoring Report
PDMR	Project Description & Monitoring Report
PP	Project Proponent
tCO ₂ e	Tonnes of Carbon dioxide equivalent

TA	Technical Area
UNFCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit
VVB	Validation and Verification Body
MSEDCL	Maharashtra State Electricity Distribution Company Limited
DISCOM	Distribution Company
JMR	Joint Meter Reading
OM	Operating Margin

APPENDIX 4: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Competence Statement	
Name	Jinesh Amlani
Education	M.Sc. Energy Systems B.Sc. Physics
Experience	8+ years
Field	Climate Change & Environment
Approved Roles	
Team Leader	YES (VM Only)
Validator	YES (VM Only)
Verifier	YES (VM Only)
Local expert	YES (India)

Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (X.X)	YES (TA.1.2, TA 3.1)		
Reviewed by	Shifali Guleria (Quality Manager)	Date	16/05/2024
Approved by	Deepika Mahala (Technical Manager)	Date	16/05/2024

Competence Statement			
Name	Nikhitha Chinthala		
Education	M.Tech (Renewable Energy) B.Tech (Electrical and Electronics Engineering)		
Experience	8 months		
Field	Renewable Energy		
Approved Roles			
Team Leader	NO		
Validator	YES		
Verifier	YES		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Reviewed by	Shifali Guleria (Quality Manager)	Date	29/02/2024
Approved by	Deepika Mahala (Technical Manager)	Date	29/02/2024

Competence Statement (ISO 14065)			
Name	Divij Varshney		
Education	M. Tech. Renewable energy systems B.Tech. Electrical Engineering		
Experience	3.5 years		
Field	Climate Change & Environment / Industry		
Approved Roles			
Team Leader	Yes (VM)		
Validator	Yes (VM)		
Verifier	Yes (VM)		
Local expert	Yes (India)		
Financial Expert	NO		
Technical Reviewer	Yes		
TA Expert (X.X)	Yes (1.2 & 3.1)		
Reviewed by	Shifali Guleria, Quality Manager	Date	04/04/2024
Approved by	Deepika Mahala, Technical Manager	Date	04/04/2024

APPENDIX 5: LIST OF FINDINGS

Table 1. FAR from the previous verification

FAR ID	XX	Section No.		Date : DD/MM/YYYY
Description of FAR				
Project participant response				Date : DD/MM/YYYY
Documentation provided by project participant				

VVB assessment		Date: DD/MM/YYYY

There are no FAR raised from the previous verification.

Table 2. CL from this joint validation & verification

CL ID	01	Section no.	3.4.6	Date : 14/05/2024
Description of CL				
1. In baseline emission calculations for the current monitoring period, PP has used the emission factor as 0.9352 tCO ₂ /MWh which is calculated for the renewal of crediting period which is calculated using CEA Database Ver 19. PP shall clarify how the emission factor of renewal of crediting period is applicable for the calculation of emission reductions of a monitoring period which lies in first crediting period and refers to CEA Database Ver 07.				
Project participant response				Date : 31/05/2024
1. The emission factor used in the baseline emission calculation has been corrected and updated according to the CEA Database Ver 7, which is 0.9528.				
Documentation provided by project participant				
MRV1.1				
VVB assessment				Date: 14/06/2024
1. VVB confirms that the PP has now used the emission factor 0.9528 tCO ₂ /MWh as per the registered PD as the verification of the monitoring period is under the first crediting period. Hence, the finding stands closed.				

CL ID	02	Section no.	1.4	Date : 14/06/2024
Description of CL				
As per the PPAs provided by the PP for the WTGs, the PPA is applicable only for 13 years from the date of commissioning. The DOC of all the WTGs under this project activity is between 03/04/2013 and 30/08/2013. Therefore, the PPA is applicable only till 2026 however, the crediting period 2(03/04/2023 to 02/04/2033) is beyond 2026. Therefore, PP is requested to clarify how it is made sure that the electricity that will be generating after 13 years of commissioning will be sold to the Indian grid.				
Project participant response				Date : 19/06/2024
As mentioned in the PPAs in Article 4, Section 4.02, "Prior to the expiration of the term then in effect, the term may be renewed or extended only by mutual written agreement of the parties hereto on terms and conditions mutual agreeable to the parties" Hence, PPA will be renewed after 2026 and applicable till the end of the crediting period 2.				
Documentation provided by project participant				

VVB assessment	Date: 01/07/2024
The PPA is applicable only for 13 years from the date of commissioning with a clause “Prior to the expiration of the term then in effect, the term may be renewed or extended only by mutual written agreement of the parties hereto on terms and conditions mutual agreeable to the parties”. PP has confirmed that the PPA will be renewed after 2026 and will be applicable for the entire crediting period which is found to be acceptable by the VVB. Therefore, the finding stands closed.	

Table 3. CAR from this joint validation & verification

CAR ID	01	Section no.	3.4.2	Date : 14/05/2024
Description of CAR				
1. In section 3.2 of the PD-MR, under applicability of methodology, Para 5 of the applicability conditions of applied methodology ACM0002 ver21.0 has not been discussed. PP shall include it in the applicability conditions and provide justification.				
Project participant response				Date : 31/05/2024
1. The section 3.2 of the PD-MR, under applicability of methodology, Para 5 of the applicability conditions of applied methodology ACM0002 ver21.0 has been updated and justified				
Documentation provided by project participant				
MRV1.1				
VVB assessment				Date: 14/06/2024
1. VVB confirms that the PP has now discussed para 05 of the applicability conditions of applied methodology ACM0002 ver21.0. Therefore, the finding stands closed.				

CAR ID	02	Section no.	ER Sheet	Date : 14/05/2024
Description of CAR				
1. In the ER sheet for the current monitoring period, for WTG VASP III 108, the value of net electricity generated (in kWh) as per invoice for the month of January 2023 is found to be inconsistent with the invoice provided as evidence. PP is requested to make it consistent. 2. In the ER sheet for the current monitoring period, for WTG VASP III 388, the value of net electricity generated (in kWh) as per invoice for the month of January 2023 is found to be inconsistent with the invoice provided as evidence. PP is requested to make it consistent. 3. For all the WTGs, in the cell H8 (Invoice kWh) for the month of April, PP shall mention the electricity generation for 2 days by using apportioning as it is done for the net electricity export.				
Project Participant response				Date : 31/05/2024
1. For WTG VASP III 108, the value of net electricity generated (in kWh) has been updated in the ER and is now consistent with the invoice for the month of January 2023. 2. For WTG VASP III 388, the value of net electricity generated (in kWh) has been updated in the ER and is now consistent with the invoice for the month of January 2023. 3. For the month of April, all the values in cell H8 have been corrected and updated for 2 days by using apportioning as it is done for the net electricity export.				
Documentation provided by project participant				

Updated ER sheet	
VVB assessment	Date: 14/06/2024
1. VVB confirms that the PP has now corrected the value of net electricity generated (in kWh) as per invoice for the month of January 2023 for WTG VASP III 108. Hence, the finding stands closed. 2. VVB confirms that the PP has now corrected the value of net electricity generated (in kWh) as per invoice for the month of January 2023 for WTG VASP III 388. Hence, the finding stands closed. 3. VVB confirms that the PP has mentioned all the values of net electricity export for two days in the month of April by using apportioning. Therefore, the finding stands closed.	

Table 4. FAR from this joint validation & verification

FAR ID	XX	Section No.	Date : DD/MM/YYYY
Description of FAR			
Project Participant response			Date : DD/MM/YYYY
Documentation provided by project participant			
VVB assessment			Date: DD/MM/YYYY

There is no FAR from the current validator or verification

APPENDIX 6: COMMISSIONING DETAILS OF THE WTGS

Sr. No.	Location No	Village	Date of Commissioning
1	VASP-15	Shedyal	03/04/2013
2	VASP-72	Shedyal	
3	VASP-142	Shedyal	
4	VASP-29	Shedyal	
5	VASP-64	Salekiri	
6	VASP-35	Salekiri	
7	VASP-09	Salekiri	
8	VASP-49	Salekiri	
9	VASP-237	Shedyal	

10	VASP-450	Shedyal	26/06/2013
11	VAPS III 698	Valsang	
12	VASP-394	Salekiri	
13	VAPS III 26	Valsang	
14	VASP-564	Valsang	03/04/2013
15	VASP-510	Valsang	
16	VASP-637	Valsang	
17	VASP-696	Valsang	
18	VASP-92	Shedyal	24/06/2013
19	VASP-21	Valsang	30/08/2013
20	VAPS III 397	Shedyal	26/06/2013
21	VAPS III 384V	Valsang	
22	VAPS III 440	Valsang	
23	VAPS III 58	Salekiri	
24	VAPS III 525	Valsang	01/08/2013
25	VAPS III 387	Valsang	21/08/2013
26	VAPS III 388	Valsang	01/08/2013
27	VAPS III 689	Valsang	19/07/2013
28	VAPS III 424	Shedyal	21/08/2013
29	VAPS III 108	Salekiri	
30	VAPS III 700/1	Valsang	
31	VAPS III 463	Valsang	
32	VAPS III 105	Shedyal	29/08/2013
33	VAPS III 355	Shedyal	

APPENDIX 7: GEO-COORDINATES OF THE WTGS

Sr. No.	Location No	Village	Geographical Coordinates	
			Longitude	Latitude
1	VASP-237	Shedyal	75° 20' 56.4514" E	17° 01' 14.6452" N
2	VASP-15	Shedyal	75° 19' 31.3348" E	17° 02' 53.5497" N
3	VASP-72	Shedyal	75° 20' 8.6334" E	17° 03' 3.2863" N
4	VASP-142	Shedyal	75° 20' 4.2664" E	17° 02' 27.6631" N
5	VASP-29	Shedyal	75° 19' 8.0164" E	17° 02' 48.5783" N
6	VASP-64	Salekiri	75° 18' 35.0024" E	17° 02' 11.8565" N
7	VASP-35	Salekiri	75° 18' 39.8914" E	17° 02' 41.1351" N
8	VASP-394	Salekiri	75° 18' 18.6328" E	17° 03' 7.5916" N
9	VASP-09	Salekiri	75° 18' 44.8077" E	17° 03' 2.2838" N
10	VASP-49	Salekiri	75° 18' 11.8762" E	17° 02' 29.9222" N
11	VASP-450	Shedyal	75° 18' 54.6680" E	17° 02' 25.2324" N
12	VASP-564	Valsang	75° 20' 7.6447" E	17° 04' 7.0070" N

13	VASP-510	Valsang	75° 20' 15.7471" E	17° 03' 26.2202" N
14	VASP-637	Valsang	75° 20' 58.5114" E	17° 03' 43.2971" N
15	VASP-696	Valsang	75° 20' 46.8109" E	17° 03' 30.5873" N
16	VASP-92	Shedyal	75° 21' 41.3580" E	17° 03' 0.8830" N
17	VASP-21	Valsang	75° 18' 26.6254" E	17° 03' 31.1435" N
18	VAPS III 397	Shedyal	75° 18' 51.7841" E	17° 01' 44.2053" N
19	VAPS III 26	Valsang	75° 18' 23.3569" E	17° 03' 19.9168" N
20	VAPS III 58	Salekiri	75° 18' 16.6827" E	17° 02' 17.7754" N
21	VAPS III 525	Valsang	75° 20' 19.5374" E	17° 03' 58.2660" N
22	VAPS III 384V	Valsang	75° 19' 3.7317" E	17° 04' 24.4203" N
23	VAPS III 387	Valsang	75° 19' 5.1874" E	17° 04' 38.9978" N
24	VAPS III 388	Valsang	75° 19' 10.1862" E	17° 05' 2.7420" N
25	VAPS III 700/1	Valsang	75° 20' 37.6648" E	17° 03' 15.9618" N
26	VAPS III 689	Valsang	75° 21' 18.2867" E	17° 03' 37.0143" N
27	VAPS III 355	Shedyal	75° 19' 44.8206" E	17° 01' 0.4797" N
28	VAPS III 698	Valsang	75° 21' 0.9283" E	17° 03' 19.7314" N
29	VAPS III 108	Salekiri	75° 18' 14.7601" E	17° 01' 42.7977" N
30	VAPS III 440	Valsang	75° 19' 6.7255" E	17° 03' 46.8951" N
31	VAPS III 463	Valsang	75° 19' 16.5582" E	17° 03' 36.3689" N
32	VAPS III 105	Shedyal	75° 21' 22.1594" E	17° 02' 47.0197" N
33	VAPS III 424	Shedyal	75° 18' 45.6317" E	17° 01' 28.2339" N