

VERIFICATION REPORT OF VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA



BUREAU VERITAS CERTIFICATION HOLDING SAS
67/71 BOULEVARD DU CHATEAU, 92200 NEUILLY SUR SEINE CDX - FRANCE

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Prepared By	Bureau Veritas Certification Holding SAS
Contact	67/71 Boulevard du Château, 92200 Neuilly sur Seine, France Tél. : +33 (0)1 55 24 70 00 Fax : +33 (0)1 55 24 70 climatechange.ops@uk.bureauveritas.com www.bureauveritas.com
Approved By	Mr. Sanjay Patankar
Work Carried Out By	Pramod Kamble –Team Leader Bhavesh Prajapati – Internal Technical Reviewer

Summary:

Bureau Veritas Certification has made the Gap validation and verification of the “Vaspet-II and Vaspet-III Wind Power Project, Maharashtra” project of ReNew Wind Energy (Shivpur) Private Limited located across Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra, India on the basis of Verified Carbon Standard Version 3, 8 October 2013, v3.4 as well as criteria given to provide for consistent project operations, monitoring and reporting.

The verification scope is defined as a periodic independent review and ex-post determination by the Designated Operational Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases:

- i) desk review of the project design and the baseline and monitoring plan;
- ii) follow-up interviews with project stakeholders;
- iii) Resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The project activity is to generate power (electrical energy) from renewable energy (wind energy), which displaces power generation from fossil fuel that would have been the scenario in absence of the project activity, thus achieve GHG emission reduction due to utilization of renewable energy.

The verification is based on the documents like Monitoring Report, Project description (PD), Emission Reduction calculations and other supporting documents provided to the verification team. This verification is carried out in accordance with VCS Standard Version 3 dated 8 October 2013 v3.4 and VCS Program Guide Version3, dated 8 October 2013 v3.5.

During the current verification, the verification team raised findings in the form of corrective action requests (CARs) and Clarification requests (CLs).

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in validated VCS-Project Description, registered CDM-PDD under CDM (UNFCCC no. 9614). Installed equipment being essential for generating and monitoring emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project contributes towards GHG emission reductions. The GHG emission reduction is calculated without material mis-statements.

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Abbreviations:

VER	Verified Emission Reduction
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit
BMS	Bureau Veritas Certification's Management System
CAR	Corrective Action Request
CL	Clarification Request
FAR	Forward Action Request
CO ₂	Carbon Dioxide
DOE	Designated Operational Entity
DR	Document Review
GHG	Green House Gases
I	Interview
MV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
PD	Project Description
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
CDM	Clean Development Mechanism
MU	Million Units
KW	Kilowatt
KWh	Kilowatt-hour
MW	Megawatt
MWh	Megawatt-hour
EF	Emission factor
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSETCL	Maharashtra State Electricity Transmission Company Limited
PPA	Power Purchase agreement
JMR	Joint Meter Reading
CEA	Central Electricity Authority
PP	Project Participant
WTG	Wind Turbine Generator
WEG	Wind Energy Generator
NEWNE Grid	North East West North East Grid

1 INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex-post determination by the verifier, of the monitored reductions in GHG emissions during defined verification period. The objective of the verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project has generated verifiable emission reductions. This is the first verification of the project activity under VCS for the vintage from date on which actual emission reduction started i.e. 03/04/2013 (earliest date of commissioning of first WTG in the project activity) to 03/08/2014 (the dates prior to the start date of the CDM crediting period). These emission reductions are verified as per the guidance provided by VCS standards version 3 dated 8 October 2012 v3.4.

The verification shall consider both qualitative and quantitative information on emission reductions. Quantitative data comprises the monitoring report and emission reduction calculations submitted to the verifier by the project participant and qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emission reduction reports, review and internal audit of calculations/data transfers.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of monitoring report, revised VCS PD for supplementary validation of the project as the project activity is already registered under CDM with UNFCCC, the project's baseline study including the monitored data and other relevant documents made available to verifier and information collected through performing interviews with Project participant during on-site assessment of the project activity. The verification follows VCS Standard version 3 dated 8 October 2013 v3.4.

The verification is not meant to provide any consulting toward the client. However, stated request for forward actions and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The verification team was provided with a monitoring report, covering the period 03/04/2013 to 04/08/2014. Based on this documentation, a document review, on-site assessment of implementation of the project activity and interview with the project participant was conducted. The Monitoring Report, version 02, dated 14/03/2015 was modified and covers the period from 03/04/2013 to 03/08/2014 (inclusive of both the days) serves as the basis for the assessment presented herewith.

The verification report is based on the documents made available to verification team and information provided during interviews. Based on the process and procedures conducted, it can be concluded that the GHG assertion.

1. Is materially correct and is a fair representation of GHG data and information, and
2. Has been prepared in accordance with VCS Standard Version 3 dated 8 October 2013 v3.4.

The data used for the calculation of emission reductions were taken from CEA (Central Electricity Authority), Monthly Credit Note issued by MSEDCL for net electricity exported to the grid by project activity. As per the validated VCS PD, revised VCS MR and the registered CDM-PDD with the UNFCCC (project ref. no. 9416), the calibration for the meters will be done annually by MSETCL. In this view, all the meters involved in the project activity were calibrated in the frequency of one year. There were also instances when the meters have been changed and calibration schedule was not followed. Details of calibration and meter change are discussed in section 4.1 of this report.

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. Based on the process and procedure conducted, it can be concluded that the GHG assertion is materially correct and is a fair representation of GHG data and information which has been prepared in accordance with the VCS Standard 3 v3.4 for the current verification period.

The verification team considers the assurance level as 'reasonable' since some of the data used (E.g. Emission factor) are from the publicly available databases such as CEA database for emission factor of the grid, for which detailed testing of GHG assertion is beyond the domain of project proponent, stake holder and the verification team. In accordance with the VCS Standard 3 Version 3.4, the materiality threshold applied was one percent. The accrued emission reductions for the current monitoring period from the project activity are 102,835 tCO₂e.

1.4 Summary Description of the Project

The project activity is owned by M/s ReNew Wind Energy (Shivpur) Private Limited. It involves the installation of ReGen Powertech Private Limited make 33 numbers Wind Turbine Generator's (WTG) of capacity 1.5 MW each located in Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra in India. The total capacity of the project activity is 49.5 MW and the entire power generated by the project activity will be exported to the NEWNE grid with a firm power purchase agreement with MSEDCL.

The project is registered with the UNFCCC on 31/12/2012 (UNFCCC ref no 9416) and can be viewed from the web link in the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/H8ZL9NPDCF0B76JQM5XVTGK11YU4AO/view). The project activity is included as CPA on 04/08/2014 in above registered PoA. (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view). The project activity generates electricity using wind energy, which does not result in any greenhouse gas (GHG) emissions. Thus, this project activity leads to a reduction in GHG emissions that would otherwise have occurred when using electricity generated from conventional fossil fuel based sources in the NEWNE grid.

The net electricity supplied to the grid is calculated by MSEDCL on the basis of main meter readings. The meters are installed on 4 feeders to which the project activity's 33 WTGs are connected at the MSEDCL substation. The meter reading is issued and certified by MSEDCL in the form of credit notes which are recorded jointly in presence of Project participant's representative every month.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, beginning from the Contract Review to Verification report & opinion, was conducted using Bureau Veritas Certification internal procedures.

The project is already registered and included as CPA in registered PoA 9416 on 04/08/2014 and can be viewed from the web link in the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view). The verification criteria followed by the project participant is based on the VCS standards Version 3. This is the first verification of the project activity under VCS for the vintage from date on which actual emission reduction started (03/04/2013, earliest date of commissioning of WTG in the project activity) till 03/08/2014 (one day prior to the start date of crediting period of CDM project activity). The verification process consists of following activities:

- i) Desk review of the registered project document including the baseline and the monitoring plan: This process consists of the review of the current and previously approved documents related to the project activity including validation report under CDM, registered CDM PDD and revised VCS PD. The current documents include the Monitoring report for the current verification period, emission reduction spreadsheet and other supporting documents (Commissioning certificates and Credit notes issued by MSEDCL, invoices raised by the Project participant, etc.) pertaining to the current verification period. Refer to Appendix II for the list of documents.
- ii) Interviews with project stakeholders and Document Review: The second step involves the Interviews and discussion with the Project Participants and as well as review of documents mentioned under Appendix II to ensure the implementation and operation of the project activity in line with the registered CDM PDD under UNFCCC;
- iii) Resolution of outstanding issues and the issuance of the final verification report including verification opinion: The third step involves the resolution of the CAR/CL raised. Verification process also includes raising the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification before conclusion on the GHG emission reduction calculation.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix I. The supplementary validation and verification of the Project resulted in 05 Corrective Action Requests and 03 Clarification Requests.

All the CARs and CLs were closed based on adequate responses from the Project Participant(s) which meets the applicable requirements. They have been reassessed before their formal acceptance and closure. The closure of all the CARs and CLs are discussed under Appendix I of the verification report.

The project activity involves 100% monitoring of data related to emission reduction calculation. No sampling plan has been envisaged.

2.2 Document Review

The verification team has assessed the accuracy of the project description including monitoring plan through a combination of steps consisting of site visit inspection, review of contract related to the project activity, Scrutiny of technical specification and interview of the project participant and their representatives. Following supporting documents were reviewed for the current verification period:

- UNFCCC Registered CDM-PDD, CDM-Validation Report, Emission reduction spreadsheet submitted under CDM and revised VCS PD of the project activity;
- Monitoring report and emission reduction spreadsheet for the current verification period.
- Commissioning Certificates and Energy Generation System for each WTG, monthly Invoices raised by the Project participant for the current verification period.

2.3 Interviews

On 14/01/2015, during site visit, one member team from Bureau Veritas Certification performed interviews with the representative of the project participant and O & M Service provider to confirm selected information and to resolve issues identified in the document review. Verification team noted that the project was listed on VCS pipeline on 13/01/2015. It is confirmed from following VCS [web link](https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Pipeline&a=3&i=1404&lat=17%2E020735&lon=75%2E349014&bp=1)

As per VCS Standard clause 5.2.3, the project validation and verification was undertaken post project listing in VCS pipeline i.e. project validation started with site visit undertaken on 14/01/2015.

Representatives of ReNew Wind Energy (Shivpur) Private Limited and ReGen Powertech Pvt Limited and their O&M Service providers were interviewed. The main topics of the interviews are summarized in Table below:

Interviewed organization	Interview topics
ReNew Wind Energy (Shivpur) Pvt Ltd (Project Participant)	• Project implementation and changes; if any • Monitoring Plan • Monitored Data • Data recording and archiving • GHG calculation procedures • Resolution of CAR(s) and CL(s) • Change to the registered monitoring plan (if any)
ReGen Powertech Private Limited & O&M Team	• Metering System at the site, • Technical Equipment and operation • Monitoring • Data Recording and archiving • Calibration of measuring equipment • Data uncertainty and residual risks

2.4 Site Inspections

This is first verification of the project activity under VCS for the monitoring period starting from 03/04/2013 to 03/08/2014. The physical site visit for the verification period carried out by one team member on 14/01/2015.

The verification team reviewed all the records of the sold electricity and the JMR reports (issued by the state electricity utility which is a government entity) for the current verification period and confirms that there is no change in the project design with respect to the registered PDD under CDM.

2.5 Resolution of Findings

The project is included as CPA in registered PoA 9416 with the UNFCCC on 04/08/2014 under the project title "Vaspet-II and Vaspet-III wind power project, Maharashtra". Bureau Veritas Certification has reviewed the UNFCCC registered CDM-PDD and Validation report to confirm that all the outstanding issues regarding the project activity were resolved successfully during validation under CDM. The verification team confirms that there are no remaining issues or any material discrepancy in the registered documents on UNFCCC website and supporting documents mentioned under Appendix II of this report. However, during current verification period there were 05 Corrective Action Requests and 03 Clarification Requests raised and were subsequently closed by the verification team on the basis of correct and appropriate response by the Project participant. The closure of CAR(s) and CL are discussed under Appendix I of the verification report.

2.5.1 Forward Action Requests

There was no forward action request raised during the CDM validation stage. During current verification period, there was no outstanding discrepancy observed by the verification team. Hence no Forward Action Request was raised.

2.6 Eligibility for Validation Activities

Bureau Veritas Certification holds accreditation for validation of sectoral scope under which the current project activity falls.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is included as CPA in registered PoA 9416 with the UNFCCC on 04/08/2014. The UNFCCC registered PDD was used during the course of supplementary validation and the technology used is validated at site as described in UNFCCC registered PDD.

The crediting period for the Certified Emission Reductions (CER) under CDM is from 04/08/2014 to 03/08/2021 as indicated on the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view). The crediting period for the VCS has been considered from 03/04/2013 to 03/08/2014; the start date of current monitoring period is from the date of commissioning of first WTG in the project activity till one day prior to the start of crediting period of CDM project activity. The project participant has provided a declaration that the project shall not claim credits for the same GHG emission reduction under the VCS and the CDM. Hence the project crediting period is acceptable to the VCS validation team.

The validation team validated the following points under the project design:

- A) Project scope, type, technologies and measures implemented, and eligibility of the project** – The project activity is applicable to 'Scope Number 1, Sectoral Scope – Energy industries (renewable/non-renewable sources). This project activity involves generation of energy (electricity) using wind energy (renewable source) conversion systems, and hence conforms to category no. 1. The project has applied approved methodology ACM0002 Version 13 and the project activity is eligible to apply this methodology. The validation team has validated the correctness of these by reviewing the registered PDD, validation report, document review such as commissioning certificates and power purchase agreement as well as interview with the project participant.
- B) Project participant** - The project participants for the project activity concerned ReNew Wind Energy (Shivpur) Private Limited. The validation has reviewed the Host Country Approval to confirm this.
- C) Project Start Date** - The project start date for the project activity concerned is the earliest date of commissioning amongst the WTGs i.e. 03/04/2013. The validation team has reviewed the commissioning certificate of all the WTGs to confirm this.
- D) Project crediting period** – The project crediting period for the project activity concerned is from the earliest date of commissioning of the WTGs till one day prior to the start date of crediting period of CDM project activity. Therefore, the crediting period for the project activity is from 03/04/2013 to 03/08/2014. The validation team has reviewed the commissioning certificate of all the WTGs and date of registration from the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view) to confirm this. Also the project participant has provided a declaration that the project shall not claim credits for the same GHG emission reduction under the VCS and the CDM. Hence the project crediting period is acceptable to the VCS validation team.

- E) Project scale and estimated GHG emission reductions or removals** - The project activity is a large scale project activity and the estimated annual GHG emission reduction is 85,680 tCO₂e annually which is less than 300,000 tCO₂e per year which is in line with paragraph 3.9.1 of the VCS standard Version 3 dated 8 October 2013 v.3.4. The validation team has validated the correctness of these by reviewing the registered PDD, validation report and emission reduction calculation sheet from the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view)
- F) Project activities-** In line with paragraph 3.11.9 of the Verified Carbon Standard Version 3 dated 8 October 2013 v.3.4; only a supplementary validation is to be carried out for sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of VCS - PD for all projects registered under CDM. The project description was in these sections. So further validation of the same was not been carried out by the verification team.
- G) Project location** - The project activity involves the installation of ReGen Powertech Private Ltd make 33 numbers Wind Turbine Generator's (WTG) of capacity 1.5 MW each in villages in Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra. The validation team has validated the accuracy of the project location from registered PDD, validation report, document review such as commissioning certificates, power purchase agreement as well as interview with the project participant and site visit conducted by competent Validator on 14/01/2015.
- **Project compliance with applicable laws, statutes and other regulatory frameworks** - In line with paragraph 3.11.9 of the Verified Carbon Standard Version 3 dated 8 October 2013 v.3.4; only a supplementary validation is to be carried out for sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of VCS PD for all projects registered under CDM. The Project compliance with applicable laws, statutes and other regulatory frameworks not included under these clauses.
- H) Ownership and other programs**
- 1) Right of use** - The validation team has reviewed the documents like power purchase agreement, commissioning certificate, Credit notes approved and issued by MSEDCL and Calibration certificates issued by MSETCL (which substantiate the right of use for the concerned project activity).
 - 2) Emissions trading programs and other binding limits** - India is non-Annex-I country as recognised by the Kyoto Protocol. It can be confirmed from the UNFCCC website (http://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php). Hence, there are no GHG emission reduction targets or commitments for India and it does not fall under the purview of any compliance driven Emission Trading Programs. Furthermore, there are also no such voluntary emission trading programs similar to the VCS exist in India.
 - 3) Participation under other GHG programs-** The WTGs under the project activity has applied for CDM registration and got registered on 04/08/2014 as a CPA under UNFCCC CDM EB with registered PoA project reference number –9416 which can be confirmed from the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view).
 - 4) Other forms of environmental credit sought or received-** The WTGs under the project activity has applied for CDM registration and got registered on 04/08/2014 as a CPA under UNFCCC CDM EB with registered PoA project reference number –9416 which can be confirmed from the UNFCCC website (http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view).

- 5) Rejection by other GHG programs-** The project activity has applied for CDM registration as a CPA and was included in registered PoA (9416) on 04/08/2014 under UNFCCC CDM-EB. Other than CDM, the project activity has not being applied under other GHG programs like Gold Standard which can be confirmed from the website <http://www.cdmgoldstandard.org/our-projects/project-registry> and hence the project activity is not rejected under other GHG programs.
- I) Additional information relevant to the project**
- 1) Eligibility criteria for grouped projects-** The project activity is not a grouped projects which can be confirmed from registered PDD, validation report, HCA and interview with the project participant.
 - 2) Leakage management for AFOLU projects-** The concerned project is a wind project activity and hence is not an AFOLU project.
 - 3) Commercially sensitive information-** There is no commercially sensitive information that has been excluded which the validation team confirms from the document review and interview with the project participant.
 - 4) Any further information-** There is no additional information that may have a bearing on the eligibility of the project, the net GHG emission reductions or removals, or the quantification of project's site specific net GHG emission reductions or removals which the validation team confirms from the document review and interview with the project participant.
- J) Validation Conclusion -** The project activity meets criteria of CDM under UNFCCC for achieving estimated emission reductions. CDM is one of the approved programs under Verified Carbon Standard (VCS). However, a supplementary validation of the sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 was carried out in line with paragraph 3.11.9 of the Verified Carbon Standard Version 3 dated 8 October 2013 v.3.4 to confirm that project is likely to achieve estimated emission reduction, which would not have been reduced in absence of the project activity.

Thus, Bureau Veritas was able to conclude based on all the above criteria that the project activity is eligible to participate under the VCS Program.

3.2 Methodology Deviations

The verification team confirmed that the monitoring plan described in the CDM registered PDD and the VCS-MR is in line and implemented at the site. As per methodology ACM0002 ver. 13 applied in registered PDD, monitoring parameter $EG_{\text{facility},y}$ is taken for calculation of Emission reductions. This is derived as a calculation from parameters of $EG_{\text{export},y}$ and $EG_{\text{import},y}$ which are specified in credit note issued by MSETCL. Also apportioning procedure as defined in registered PDD is followed by PP for apportioning of emission reductions (for 3 days) during month of Aug-2014. The detail generation report of all WTGs for 3 days is provided to validation team for review and verification.

Bureau Veritas Certification hereby confirms that there are no deviations from methodology and as per registered CDM PDD. The monitoring plan implemented at site is as per registered plan in CDM-PDD and as described in VCS-MR.

3.3 Project Description Deviations

Not Applicable.

3.4 Grouped Project

Not applicable as this is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity comprises of 33 nos of WTG's, each of capacity 1.5 MW, therefore totalling a project capacity of 49.5 MW, located in Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra. All these WTGs were commissioned in period between 03/04/2013 – 30/08/2013.

During the site visit and document review of the CDM registered PDD and monitoring report, the verification team observed that the entire electricity generated from all these Wind Turbine Generator's is supplied to the grid, which is in line with the CDM registered PDD. The following table provides the details of implementation in detail.

LOCATION NO.	AGG. CAPACITY (MW)	DISTRICT	STATE	COMMISSIONING DATE
VASP-35 VASP-49 VASP-64 VASP-09 VASP-510 VASP-564 VASP-637 VASP-29 VASP-72 VASP-142 VASP-15	16.50	Sangli	Maharashtra	03-April-2013
VASP III-388	1.50			19-April-2013
VASP-696	1.50			24-June-2013
VASP III-384v VASP III-397 VASP III-440 VASP III-26 VASP III-698 VASP-237 VASP-450 VASP-394	12.00			26-June-2013
VASP III-387 VASP III-58	3.00			01-August-2013
VASP III-700 VASP III-424 VASP III-108 VASP III-424 VASP III-525 VASP III-689	9.00			21-August-2013
VASP III-105 VASP III-355	3.00			29-August-2013
VASP-92 VASP-21	3.00			30-August-2013

All these WTGs are connected on 4 different feeders in MSEDCL Valsang substation. There is pair of main and check meter on each feeder. All these meters are of bi-directional tri-vector type with an accuracy class of 0.2s.

The main meter readings are recorded monthly by representatives of the MSEDCL and the Project Participant at the individual feeders where Project participant WTGs are also connected along with investors WTGs in the wind farm. Based on this monthly recording, the MSEDCL issues the 'Credit note' based on which the Project Participant raises an invoice for payments.

The inadequacies of Monitoring Report and ER calculation sheet were reported in the CAR 3,4 and 5 in the protocol in Annexure I. The Project Participant responded with the revised monitoring report (Version 02, dated 14/03/2015) addressing the findings of the Verification Team along with the relevant supporting documents. The verification team verified the responses and closed CAR and CL raised in verification protocol. The revised Monitoring Report and ER sheet addresses the issues satisfactorily and is in line with the applicable guidelines.

The verification team confirms that no information about the project activity provided in the final monitoring report is different from that stated in the CDM registered PDD other than exclusion of some of the monitored parameters as described above, and which could have caused or is likely to cause any increase in the estimates of emission reductions during the future monitoring periods.

Compliance of Monitoring with the Monitoring Plan

The monitoring plan is in accordance with the approved methodology applied by the registered CDM project activity viz; ACM 0002, version 13.

The primary monitoring in the project activity is that of the net electricity supplied to the state electricity grid. The verification team hereby confirms that the monitoring plan is in accordance with the approved methodology applied by the registered CDM project activity. Corresponding to the Section 4 of VCS version 03, v3.4, Bureau Veritas Certification can confirm that the monitoring plan is in accordance with the approved methodology including applicable tool(s) applied by the Project.

Thus the verification team confirms that the actual operation of the project activity is in line with the description in the CDM registered PDD. There was no other data or information provided in the monitoring report that was different from the description stated in the CDM registered PDD and having caused or likely to cause any increase in the estimates of emission reductions in the future monitoring periods.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

Monitoring of the project activity parameters has been carried out in accordance with the monitoring plan, contained in the CDM registered PDD.

The parameters required by the monitoring plan and the manner in which the verification team

has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters) including the values in the monitoring reports are described below:

- (a) Net electricity supplied to the grid ($EG_{\text{facility},y}$) – This parameter is a calculated parameter, and is deduced as the difference between Electricity exported (EG_{yexport}) and electricity imported (EG_{yimport}) by the project activity. The verification team verified the net electricity supplied by all the 33 WTG's of the project activity to the grid from the monthly Credit note issued by the MSEDCL on a monthly basis. The verification team noted that the monthly energy statement also indicates the values of the electricity export and electricity import.

$$EG_{\text{BL}, y} = EG_{\text{yexport}} - EG_{\text{yimport}}$$

Based on this statement, the Project Participant raises an invoice on MSEDCL for payment, subsequent to which payments are made. The verification team cross-checked the values of the net electricity supplied values indicated in the energy statement with the invoices raised by the Project Participant. The verification team confirms that all the values of net electricity supplied to the grid are sourced from the monthly Credit Notes and are correct. This monitoring parameter ($EG_{\text{facility},y}$) is calculated value as the difference between Electricity exported (EG_{yexport}) and electricity imported (EG_{yimport}) by the project activity. Hence verification team also verified these two parameters to arrive at ($EG_{\text{facility},y}$). The credit note provides values for both the parameters.

- (b) Electricity exported to the state electricity board by the project activity (EG_{yexport}) – Electricity exported to the grid is recorded by the energy meters at 04 different feeders in the Valsang substations where the all 33 WTGs are connected. The meter readings are taken by the representatives of the State Electricity Utility viz; MSEDCL and Project participant on a monthly basis. This value was verified from the Monthly Credit Note issued by the MSEDCL to the Project participant. This was further crosschecked with the invoices raised by the Project participant on MSEDCL and was found to be correct.
- (c) Electricity imported from the southern grid (EG_{yimport}) - The electricity imported by the project activity from the grid is recorded by the energy meters at 04 feeders in the Valsang substation where all the 33 WTGs are connected, which also monitors the electricity export. The meter readings are taken by the representatives of the State Electricity Utility viz; MSEDCL and Project participant on a monthly basis. This value was verified from the Monthly Credit Notes issued by the MSEDCL to the Project Participant. The invoices raised by Project participant has been used by the verification team as a cross-check against the primary data viz; the monthly credit notes and were found to be correct.

Parameters determined ex-ante: $EF_{\text{grid}, \text{CM}, y}$, emission factor for NEWNE grid - The emission factor for the entire crediting period of the Project activity has been determined ex-ante in the CDM registered PDD. The emission factor value of 0.9528 tCO₂e/MWh used in the monitoring report has been verified against the CDM registered PDD and found to be consistent. The value is referred from CEA database. CEA is the sole authority for the publication of such data in India. It is a part of the Ministry of Power of the Government of India and therefore, is a source of authentic and credible data for the purpose of the determination of the grid emission factor.

All records like monthly energy statements, Invoice raised by the Project participant, commissioning certificates, etc. related to the project activity operations are also well maintained by the Project Participant. The data was found to be recorded diligently.

As per the methodology ACM0002 Version 13 and the CDM registered PDD, the emission reductions for the Project are calculated as the baseline emissions minus the project emissions and leakage. Hence the emission reduction is determined by the following formula:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y = Emission reductions

BE_y = Baseline emissions

PE_y = Project emissions

LE_y = Leakage Emissions

Baseline Emissions

It is calculated as the product of Net electricity supplied to the grid multiplied with Grid Emission Factor and is determined using the following formula:

$$BE_y = EF_y * EG_y$$

$$= 107,922 * 0.9528 = 102,835 \text{ tCO}_2\text{e}$$

Where,

EF_y = GHG emission factor of the NEWNE Grid, calculated ex-ante in the registered PDD as 0.9528 tCO₂e/MWh

EG_y = Net electricity supplied to the grid (MWh)

Project Emissions

Project emission is considered to be nil which is in line with the applied methodology ACM 0002 version 13.

Leakage Emissions

No leakage needs to be considered according to ACM0002 Version 13

Emission reductions

The emission reductions during the monitoring period from 03/04/2013 to 03/08/2014 are calculated as:

$$ERy = BEy - PEy - LEy$$

$$= 102,835 - 0 - 0$$

$$= 102,835 \text{ tCO}_2\text{e.}$$

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The validation team confirms that all parameters stated in the registered monitoring plan were monitored throughout the current verification period and data on the same was available.

The following actions were taken to ensure that the most conservative assumption theoretically possible has been made:

1. Ensured that the data that directly affect emission reductions are from official sources.
2. The values of net electricity exported to the grid as indicated in the Credit Notes were also cross-checked with the invoices raised by the Project participant on MSEDCL. All the values in the Credit Notes, invoice corresponds with each other well. The registered monitoring plan indicates the frequency of accuracy testing/ calibration of the main and check meters as once a year. The energy meters of project activity are calibrated and sealed by testing division of MSETCL and Project participant has no role to play in the same. Following are the detail of the calibration of meters that took place during the current monitoring period.

FEEDER#	STATUS	S. No.	ACCURACY CLASS	DOC	VALIDITY	DOC	VALIDITY	DOC	VALIDITY
				2012		2013		2014	
01	Main	13813563	0.2s	09-April-2012	08-April-2013				
	REPLACED BY								
	Main	13769363	0.2s			29-January-2013	28-January-2014	15-January-2014	14-January-2015
	Check	13813547	0.2s	28-November-2012	27-November-2013	-	-	15-January-2014	14-January-2015
02	Main	13813570	0.2s	28-March-2012	27-March-2013	-	-	15-January-2014	14-January-2015
	Check	13813568	0.2s	09-April-2012	08-April-2013	-	-	-	-
	REPLACED BY								
	Check	05269309	0.2s			09-August-2013	08-August-2014	14-February-2014	13-February-2015
06	Main	13813551	0.2s	-	-	12-November-2013	11-November-2013	-	-
	Check	15687853	0.2s	-	-	12-November-2013	11-November-2013	-	-
07	Main	15687854	0.2s	-	-	12-November-2013	11-November-2013	-	-
	Check	14953662	0.2s	-	-	12-November-2013	11-November-2013	-	-

As per above table it is clear that calibration frequency was not followed on annual basis, the corresponding meter accuracy correction factor of 0.2% is conservatively applied to export and import readings. ER sheet "Generation" tab provides the net generation figures for all WTGs for all months in verification period. Export readings are reduced by applying -0.2% meter error and import readings are increased by applying +0.2% meter error which give conservative net generations values for all WTGs during monitoring period. The error was applied from Apr-13 till Jan-14. Verification team has checked all the calibration certificates and details of calibration provided as above are found correct.

In line with paragraph 3.6.2 of VCS Standard version 3, v3.4, verification team confirms that the deviation is appropriately described and the delay in calibration of meters is considered in lines with the requirement as stipulated in paragraph 04(a) of CDM-EB 52 Annex 60 "Guidelines for assessing compliance with the calibration frequency" Version 01 to readings of electricity exported and imported for the duration of delay. The verification team confirms that by application of error as per this guidelines leads to lower the baseline emissions and thus provides the conservative quantity of Emission Reductions. Hence verification team was able to conclude that although there was a deviation observed during the current verification period, the project remains in compliance with the VCS rules.

REQUIREMENTS

During the current verification period, it was observed that there were meter changes and it is evident in the table presented above. The earlier meters were of 0.2s accuracy class bidirectional tri-vector meters whereas the new meters are also ABT meters with 0.2s accuracy class. All the meters are in jurisdiction of MSEDCL and hence there is no effect on meter readings recorded in terms of amount of accuracy.

Verification team further observed that there have been no case of meter failure or meter change apart from the meters described above during the current verification period and hence confirms there have been no instances of data uncertainty in the current verification period. There were no major shutdown and/or emergencies situations during the current verification period. The verification team observed that there is no FAR raised during the validation of the project activity.

All the data was available and monitored in accordance with the registered monitoring plan. There is no instance of data not being available during the current verification period. The action taken to ensure that the most conservative assumption theoretically possible has been made by the project participant was to ensure that the data that directly affect emission reductions are taken from official sources.

Appropriate methods and formulae for calculating baseline emissions, have been followed. There are no project emissions to be considered as per the applied methodology and also since there is no transfer of equipment involved, leakage also do not apply. Hence the verification team confirms that the emission reductions claimed during the current monitoring period are conservative and reliable.

4.4 Non-Permanence Risk Analysis

Not Applicable.

5 VERIFICATION CONCLUSION

The verification scope is an independent and objective review of the VCS Project description, the project's baseline study and monitoring plan and other relevant documents. The review is to verify the implementation of monitoring plan as defined in validated VCS PD. The period for verification is from 03/04/2013 to 03/08/2014 (inclusive of both the days).

The verification of the monitored data indicates the emission reductions and the amount for emission reductions for the monitoring period are provided below

Monitoring Period		Total Emission Reductions Achieved (tCO ₂ e)
From	To	
03/04/2013	31/12/2013	46,851.06
01/01/2014	03/08/2014	55,985.65
Total (Round Down)		102,835

The calculations of emission reductions are found to be correct. The baseline for the NEWNE regional grid has been taken for arriving at baseline emissions. The grid emission factor of 0.9528t CO₂e/MWh for NEWNE regional grid was found to be correct.

Appropriate procedures for maintaining the confidentiality and safe custody of the validation or verification documentation and for retaining them for a period sufficient to meet the needs of the client, the responsible parties, the GHG programmes to which they subscribe, and in accordance with legal and professional requirements of record retention have been established.

The verification team confirms that the project is implemented as planned and described in the Registered PDD with UNFCCC under CDM and validated VCS PD. The monitoring mechanism is effective and reliable. The reported data are accurate and correct based on all the records provided to the verification team during the verification as provided in annexure-II. The installed equipment being essential for generating the emission reductions run reliably and the measuring equipment/instruments are well within the frequency of calibration.

Verification period: From *03 April 2013* to *03 August 2014*

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)

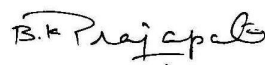
2013	46,851.06	0	0	46,851.06
2014	55,984.65	0	0	55,984.65
Total	102,835	0.00	0.00	102,835



Mr. Pramod Kamble

(Team Leader)

14/03/2015



Mr. Bhavesh Prajapati

(Internal Technical Review)

14/03/2015

APPENDIX 1: Validation and Verification Protocol & Details of corrective actions and clarification requested

Table 1 Verification requirements based on the Verified Carbon Standard Version 3 (dated 08/10/2013, v3.4) and VCS Program Guide, Version 3.5 dated 08/10/2013.

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
1 Project Participation Under Other GHG Programs and Validation of applicable section of VCS-PD			
a Is the proposed project activity already registered under other VCS approved GHG program or non-approved GHG program?	The project activity is already registered in CDM which is approved GHG program by VCS. The project activity is CPA-003 included in the registered PoA having UNFCCC reference number 9416. The CPA-003 title mentioned on the UNFCCC website as “Vaspet-II and Vaspet-III Wind Power Project, Maharashtra”	OK	Ok
b If yes, has the project activity issued with the GHG emission reduction credits? Is it checked that the project proponent is not claiming the credit for the same GHG emission reductions under VCS program and another GHG program?	Project activity has not been issued with any GHG emission reduction credits under CDM program as on this final validation and verification report date which is confirmed by verification team from the CDM website. http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view	OK	OK
c For non-AFOLU project, is the validation started and completed within 2 years of project start date as per VCS criteria?	The project start date as per VCS criteria is the date on which project activity starts reducing GHG emission reductions. The initial 11 WTGs among total 33 WTGs included in the project activity was commissioned on 03/04/2013. Verification team has checked the commissioning letter from Maharashtra State Electricity Distribution Co. Ltd, circle office –Sangli, dated 26/04/2013 and confirms the earliest commission date of the project activity to be 03/04/2013. Hence the project start date is confirmed as 03/04/2013.	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
d In case project is claiming GHG credits under both VCS program and the CDM, then provide the details as follows.	Yes. Project activity is registered under CDM program and applying to claim credits in VCS program for pre-registration period of CDM.	OK	OK
i) Is the sectoral scope of the project activity indicated along with the type of project under section 1.2 of VCS PD?	Yes. Sectoral scope of the project activity is indicated as 1 "Energy industries (renewable/ non renewable sources)". However, in section 1.2, It is not indicated whether project activity is a grouped project or not.	CAR-1	OK
ii) Is the contact details of project proponent provided in section 1.3 of VCS PD along with the roles and responsibilities of the PP?	Yes. The contact details of the project proponent is provided in VCS PD section 1.3, however, roles and responsibility of other entities involved in the project is not provided in standard tabular format as per VCS-PD in section 1.4.	CAR-2	OK
iii) Is the project start date is indicated as per VCS requirement specifying the day, month and year in section 1.5 of VCS PD?	The project start date is indicated as 03 rd April 2013. Please refer 1-c above for details.	OK	OK
iv) Is the project crediting period indicated as per VCS requirement specifying the start and end day, month and year in section 1.6 of VCS PD? Also is the total number of years for crediting period is provided in section 1.6 of VCS PD?	Pls respond to following issues, 1) Monitoring period end date is incorrectly mentioned as 31/08/2014 in section 1.1 and in ER calculation spreadsheet. 2) The project crediting period is indicated as 3 rd April 2013 to 4 th August 2014. However, from the review of CDM webpage, it is seen that this CPA inclusion date in the registered CDM PoA (9416) is 04 th Aug 2014. Hence crediting period end date considered in VCS-PD is overlapping with that of crediting period start date in the CDM.	CAR-3	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	3) Also in section 1.7, total number of crediting years is stated as 7, which is not correct considering crediting period is only considered from date of commissioning of earliest WTG in project activity up to registration date.		
v) Does section 1.7 of VCS PD provides the scale of the project activity and estimated annual GHG emission reductions for the project crediting period?	Since the annual average emission reduction from the project activity are estimated to be 85,680 tCO ₂ -e (less than 300,000 tCO ₂ -e), the project falls under “Project” category. PP has ticked the “Project” scale for the project activity in section 1.7 of VCS PD.	OK	OK
vi) Is the project location indicated in section 1.9 of VCS PD and if applicable, geographic boundaries are defined? The location requires to be specified as per geodetic co-ordinates of project site.	The project activity location is indicated in form of geodetic co-ordinates. VCS-PD and VCS-MR both provides the Latitude and Longitudes of all 33 WTGs in tabular format. Verification team also confirmed the same independently from the google maps software and cross checked it from registered CDM-PDD for the project activity.	OK	OK
vii) Are the conditions existing prior to project initiation described in section 1.10 of VCS PD? Does it also demonstrate that the project has not been implemented to generate GHG emissions for the purpose of their subsequent reductions, removal or destruction.	Conditions prior to project initiation is not clearly stated in section 1.10	CAR-4	OK
viii) Is the evidence of right of use or evidence towards the ownership of the project activity provided in section 1.12.1 of VCS PD?	Section 1.12.1 of VCS-PD has provided evidence of right of use through actual work orders/agreement copies with supplier of WTGs i.e. Regen Powertech Pvt Ltd. Also commissioning certificates issued by Maharashtra State Electricity Distribution Company Ltd confirms that the ownership of 33 WTGs lies with	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	ReNew Wind Energy (Shivpuri) Private Ltd.		
ix) Does the section 1.12.2 of VCS PD, demonstrate that net GHG emission reductions or removals generated by the project will not be used for compliance with an emission trading program or to meet binding limits on GHG emissions?	Section 1.12.2 of the VCS PD does not specify whether project activity is included in other GHG program that may reduce the GHG emissions in those programs and will be double counted here. Please provide the undertaking that confirms that PP will not claim for GHG emission reductions credits for the crediting period from 03/04/2013 to 31/08/2014 under any other emission trading program.	CL-1	OK
x) Does the section 1.12.3 of VCS PD, indicates if project activity is registered under any other GHG program if yes then provide the registration number and the details?	Section 1.12.3 of VCS PD has not confirmed whether it has received any other form of environmental credits under any other mechanism. Pls provide the undertaking for the same	CL-2	OK
xi) Does the section 1.12.4 of VCS PD, demonstrate that the project activity neither has nor intends to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program, or that any such credit has been or will be cancelled from the relevant program.	The details of CDM registration of the project activity is provided in section 1.12.4 of VCS-PD.	OK	OK
xii) Is further additional information relevant to project activity is provided in section 1.13 of VCS PD regarding the eligibility criteria, Leakage management, commercially sensitive information and any other further information?	VCS PD section 1.13 provides the further additional information. PP has chosen not to exclude any commercially sensitive information and all the information will be made available in the public version of project report.	OK	OK
2 Project implementation in accordance with the registered project document			
a Are all physical features of the proposed VCS project proposed in the CDM registered PDD and VCS Monitoring report are in place?	All the physical features of the registered CDM project (Project ID 9416) are in place at the site and in operation. Project activity involves the installation and operation of 33 WTGs of 1.5 MW	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	each in Vaspet, taluka Jat, Sangli district of Maharashtra state.		
b Have the project participants operated the proposed VCS project as per the registered CDM PDD and as mentioned in VCS Monitoring report?	Yes, during site visit it was observed that project participant have operated the proposed project as per the description provided in registered CDM PDD and monitoring plan contains therein.	OK	OK
c Was an on-site visit conducted?	Onsite visit was conducted on 14 th January 2015.	OK	OK
d If not, justify the rationale of the decision.	Not applicable	-	-
e Does the implementation or operation of VCS project conform with the description contained in the registered CDM PDD and VCS MR?	Yes. The project implementation and operation conform to the description contained in the registered VCS-PD.	OK	OK
f If not, which are the potential impacts due to these changes?	Not Applicable	OK	OK
3 Compliance of the monitoring plan with the monitoring methodology			
a Is the validated monitoring plan in accordance with the approved methodology applied by the proposed VCS project?	The validated monitoring plan is in accordance with the approved applied methodology ACM0002 version 13.	OK	OK
b Are there any monitoring aspects of the project that are not specified in the methodology (e.g. additional monitoring parameters, monitoring frequency and calibration frequency)?	There are no further monitoring aspects identified which are required to be specified in the monitoring plan of the project activity.	OK	OK
4 Compliance of monitoring with the monitoring plan			
a Have the monitoring plan and the applied methodology been properly implemented and followed by the project participants?	The monitoring plan and the applied methodology has been properly implemented and followed by the project participants.	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
b Have all parameters stated in the monitoring plan, the applied methodology been sufficiently monitored and updated as applicable, including:			
i Project emission parameters?	There are no Project emissions considered by PP considering it is wind power project.	OK	OK
ii Baseline emission parameters?	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y ($EG_{\text{facility},y}$) is taken as monitoring parameter as per CDM registered PDD.	OK	OK
iii Leakage parameters?	Leakage emissions are not applicable for the project activity	OK	OK
iv Management and operational system: the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan?	It was identified during site visit that the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan of the VCS MR which is in line with registered CDM-PDD.	OK	OK
c Are equipment controlled and calibrated in accordance with the monitoring plan?	Calibration details of energy meters is not provided in VCS-MR. Further the Authentic Calibration Certificates for the main and check meters issued by the MSEDCL covering the current monitoring period to be provided.	CL-3	OK
d Are monitoring results consistently recorded as per approved frequency?	Project activity involves the monitoring of electricity export and import from the grid from 49.5 MW hydropower project activity. The parameter $EG_{\text{facility},y}$ i.e. net electricity export to the grid is calculated from $EG_{\text{exp},y}$ and $EG_{\text{imp},y}$ which are monitored continuously by main and check meter and recorded monthly in form of JMRS. The actual net electricity export to the grid is calculated and reflected in Invoices raised by PP to Maharashtra State Electricity Distribution Company Limited.	OK	OK
e Have quality assurance and quality control procedures been applied in accordance with the monitoring plan?	Refer CL-2 above. The calibration details are not provided by PP in VCS-MR.	(CL-2)	OK
5 Assessment of data and calculation of greenhouse gas emission reductions			

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
a Is a complete set of data for the specified monitoring period available? (If no, i.e., only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the validator shall make the most conservative assumption theoretically possible in finalizing the verification report).	The complete set of data is available with the Project participant for monitoring period under consideration. During review of JMRs and Invoices following observation were noted. Pls respond to following issues. 1) In "Generation" tab of ER calculation sheet, the export and import readings are not matching with that given in JMRs, Monthly credit note and invoices raised for the month of April 2013. 2) For Aug-13, as per credit note, the export and import values are not considered in ER sheet. 3) For Sep-13, in cell E54 export units and cell G49 import units are not taken as per monthly credit note. 4) For Nov-13, Cell E83, the import export values are not in line with monthly credit note for the month. 5) For Feb-14, cell E134 the import export values are not in line with monthly credit note for the month. 6) For Mar-14, cell G151 the import export values are not in line with monthly credit note for the month. 7) Provide the JMR and credit note scan copy for Apr-14, May-14 and Jun-14 which is clearly legible and readable. 8) For July-14, cell E224 and cell E232 value is not in line with monthly credit note for the month. 9) Data considered for Aug-14 is outside the crediting period considered for this VCS pre-validation project.	CAR-5	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
b Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	PP along with MSEDCL takes common joint meter readings every month. Based on that MSEDCL prepares the credit note and submit it to PP. It contains the power import and export from the WTG by the grid. Based on the information PP provides the invoice for net sell of power units to MSEDCL. Verification team has checked main and check meter readings at the plant site and hourly monitoring in log book. The readings of electricity import and export provided in JMRs are matching with the invoices raised by PP to the MSEDCL. Hence same is accepted by verification team.	OK	OK
c Have calculations of baseline emissions, proposed project emissions and leakage, as appropriate, been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document?	Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in monitoring plan and applied methodology ACM0002 version 13.	OK	OK
d Have any assumptions used in emission calculations been justified?	Yes. The assumptions used in emission reduction calculations have been justified.	OK	OK
e Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	PP has estimated emission factor ex-ante at validation stage itself in CDM program. Hence emission factor calculated in registered PDD i.e. 0.9528 tCO ₂ /MWh is taken for emission reduction calculations.	OK	OK

Table 2 Resolution of Corrective Action / Forward Action / Clarification Requests.

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
CL-1 Section 1.12.2 of the VCS PD does not specify whether project activity is included in other GHG program that may reduce the GHG emissions in those programs and will be double counted here. Please provide the undertaking that confirms that PP will not claim for GHG emission reductions credits for the crediting period from 03/04/2013 to 03/08/2014 under any other emission trading program.	1-ix	PP Response: Section 1.12.2 of the VCS PD has now been revised. PP has now submitted an undertaking along with the present response that the company shall not claim for GHG emission reduction credits for the given period (03-April-2013 to 03-August-2014) under any other emission trading program.	Comment 1: VCS-PD is now updated by PP in section 1.12.2 to state that project activity will not claim emission reductions for the reporting period under any other GHG program which may lead to double counting. However the undertaking letter is still awaited to close clarification request. Comment 2: Validation team has received the undertaking letter from project participant dated 18/02/2015 wherein PP has declared that this project will not claim GHG emissions reductions for the crediting period from 03/04/2013 to 03/08/2014 under any other GHG program and hence there will not be double counting. Hence CL raised is closed.
CL-2 Section 1.12.3 of VCS PD has not confirmed whether it has received any other form of environmental credits under any other mechanism. Pls provide the undertaking for the	1-x	PP Response: Section 1.12.3 of VCS PD has now been revised. Please refer the same. Further, PP has now submitted the undertaking that the company shall not claim for GHG emission reduction credits for the given period (03-April-	Comment 1: Validation team is awaiting the undertaking letter as stated in the response. Comment 2: Validation team has received the undertaking letter from project participant dated 18/02/2015 wherein PP

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
same		2013 to 03-August-2014) under any other emission trading program.	has declared that this project will not claim GHG emissions reductions for the crediting period from 03/04/2013 to 03/08/2014 under any other GHG program. Hence CL raised is closed .
CL-3 Calibration details of energy meters is not provided in VCS-MR. Further the Authentic Calibration Certificates for the main and check meters issued by the MSEDCL covering the current monitoring period is to be provided.	4-c	<u>PP Response:</u> Calibration details have now been added in section 3.3 of revised VCS MR, v02.0. Please refer the same. Further, the supportive documents are submitted with the present response.	Comment 1: VCS-MR version 2.0 is checked which has now included the details of calibration of energy meters for all four feeders on which project WTGs are connected. However pls provide the calibration records for review and closure of clarification request. Comment 2: From the review of calibration records following observation were noted. 1) For Feeder 2 (F2), Main meter calibration from period 03/04/2013 up to 14/01/2014 is not evident. 2) For Feeder 6 and 7, the Main meter calibration from period 03/04/2013 up to 11/11/2013 is not evident. Hence PP has applied the maximum permissible error of +/-0.2% to export and import readings from Apr 2013 to Feb 2014. Post this date all energy meters on Feeder

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
			1,2, 6 and 7 are calibrated till the end of verification period i.e. 03/08/14 and within the error limits. Verification team has reviewed the ER calculation sheet wherein net generation is calculated as a difference of corrected export and import values. The export values are reduced by 0.2% and import values are increased by 0.2% of meter error which is conservative. Hence CL-3 raised is closed .
CAR-1 Sectoral scope of the project activity is indicated as 1 “Energy industries (renewable/ non-renewable sources)”. However, in section 1.2 It is not indicated whether project activity is a grouped project or not.	1-d-i	<u>PP Response:</u> Section 1.2 of VCS PD has now been revised to include the information. Please refer the same.	PP has now updated section 1.2 of VCS-PD to indicate that the project is not a grouped project. Hence CAR-1 is closed .
CAR-2 The contact details of the project proponent is provided in VCS PD section 1.3, however, roles and responsibility of other entities involved in the project is not provided in standard tabular format as per VCS-PD in section 1.4	1-d-ii	<u>PP Response:</u> Section 1.4 of revised VCS PD has now been revised to include the information. Please refer the same.	PP has now updated section 1.4. VALUE NETWORK VENTURE Advisory Services LLP is project developer and it is updated in section 1.4 of VCS-PD Hence CAR-2 is closed .

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
CAR-3 Pls respond to following issues, 1) Monitoring period end date is incorrectly mentioned as 31/08/2014 in section 1.1 and in ER calculation spreadsheet. 2) The project crediting period is indicated as 3rd April 2013 to 4th August 2014. However, from the review of CDM webpage, it is seen that this CPA inclusion date in the registered CDM PoA (9416) is 04th Aug 2014. Hence crediting period end date considered in VCS-PD is overlapping with that of crediting period start date in the CDM. 3) Also in section 1.7, total number of crediting years is stated as 7, which is not correct considering crediting period is only considered from date of commissioning of earliest WTG in project activity up to registration date.	1-d-iv	PP Response: 1. The monitoring period end date has now been corrected throughout the Monitoring report and ER spreadsheet. Please refer to revised VCS MR and ER spreadsheet. 2. The project crediting period has now been revised throughout the VCS MR, v02.0. Please refer the same. 3. PP now specifically mentioned the crediting period in section 1.7 of revised VCS PD. To be in-line with the VCS Project Description Template, PP retained the table mentioned in section 1.7 of VCS PD. Further, PP also reviewed section 3.8 of VCS Standard, v3.4 and found that the section is in-line with the requirement of §3.8.3 of VCS Standard, v3.4.	Comment 1: 1. The revised documentation have updated with correct date of end date of the monitoring period i.e. 03/08/2014. Hence this point is closed. 2. The project crediting period is now revised as 03-April-2013 to 03-August-2014 in all documentation by PP. Hence this point is closed. 3. PP has updated section 1.6 and section 1.7 wherein the crediting period is updated from 2014 to 2020. Also current verification period i.e. 03/04/2013 to 03/08/2014 is specifically mentioned in section 1.6. As per clause 3.8.1 of VCS standard version 3.4 the crediting period can be defined as maximum of 10 years which may be renewed twice. Hence 7 year crediting period selected by project participant is found acceptable. Hence CAR raised is closed.
CAR-4 Conditions prior to project initiation is not clearly stated in section 1.10	1-d-vii	PP Response: PP now revised section 1.10 of VCS PD to clearly include the conditions prior to the project initiation. Please refer the revised VCS	The pre-project scenario is now clearly described in section 1.10 of revised VCS-PD. Hence CAR-4 is closed.

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
		PD.	
CAR-5 Pls respond to following issues. 1) In “Generation” tab of ER calculation sheet, the export and import readings are not matching with that given in JMRS, Monthly credit note and invoices raised for the month of April 2013. 2) For Aug-13, as per credit note, the export and import values are not considered in ER sheet. 3) For Sep-13, in cell E54 export units and cell G49 import units are not taken as per monthly credit note. 4) For Nov-13, Cell E83, the import export values are not in line with monthly credit note for the month. 5) For Feb-14, cell E134 the import export values are not in line with monthly credit note for the month. 6) For Mar-14, cell G151 the import export values are not in line with monthly credit note for the	5-a	PP Response: 1. PP now revised the export and import readings for the month of April 2013, in-line with the monthly credit note, JMR and invoice. Please refer the revised ER spreadsheet. 2. The correction has now been incorporated in the revised ER spreadsheet. Please refer to the revised ER spreadsheet. 3. The corrections have now been incorporated in the revised ER spreadsheet. Please refer the same. 4. The correction has now been incorporated in the revised ER spreadsheet. Please refer the same. 5. The correction has now been incorporated in the revised ER spreadsheet. Please refer the same. 6. The correction has now been incorporated in the revised ER spreadsheet. Please refer the same. 7. Clear scanned copies of JMR and credit note for the month of Apr-14, May-14 and Jun-14 has been submitted with the present response.	Comment 1: The clear readable copies of JMRS for the month of Mar-14, Apr-14, May-14, June-14 and July-14 are awaited for the verification of import and export values as per revised ER sheet. Also clarify how apportioning process is in line with the monitoring plan for the month of Aug-14, as defined in registered CDM PDD, and provide the reference source of the values used from LCS for apportioning. Comment 2: Verification team has received the JMR copies for the above months. The corresponding import and export figures of power exported and imported are cross checked with ER sheet and found correct. Following information for corrections in ER sheet is verified from monthly credit note and revised ER sheet. For 2) Aug-13, the exported units are corrected to 3,98,202.21kWh and import is corrected to 12.39 kWh. 3) For Sep-13, cell E54 export units are corrected to 300,500.10 units and cell G49

Draft report clarifications and corrective action requests by verification team	Reference to checklist question Checklist	Summary of project owner response	Verification team conclusion
month. 7) Provide the JMR and credit note scan copy for Apr-14, May-14 and Jun-14 which is clearly legible and readable. 8) For July-14, cell E224 and cell E232 value is not in line with monthly credit note for the month. 9) Data considered for Aug-14 is outside the crediting period considered for this VCS pre-validation project.		8. All the corrections have now been incorporated in the revised ER spreadsheet. Please refer the same. 9. Data for the month of August-2014 has now been considered till the VCS pre-validation monitoring period, i.e. 03-August-2014.	is corrected to 187.95 kWh as per monthly credit note. 4) For Nov-13, Cell E83, the value is now corrected to 103,009.68 units. 5) For Feb-14, cell E134 is now corrected to 131,970.98 as per monthly credit note. 6) For Mar-14, cell G151 is now corrected to 162.27 units as per monthly credit note. For point 8, July-14, cell E224 is now corrected to 620,664 units, cell E232 is corrected to 726,087.20 and cell E239 is corrected to 750,559.05 which is verified from monthly credit note. The apportioning procedure is explained in CDM-PDD and same is followed to arrive at the emission reduction for 3 days of Aug month in verification period. Verification team checked the calculation and found same correct. Hence CAR raised is closed.

APPENDIX 2: DOCUMENTS REFERRED DURING VERIFICATION AND VALIDATION OF THE PROJECT ACTIVITY

- /1/ VCS Monitoring Report, version 01, dated 25/11/2014
- /2/ Final VCS MR version 02 dated 14/03/2015
- /3/ VCS Project Document , dated 25/11/2014 version 01
- /4/ Final VCS PD version 02 dated 14/03/2015
- /5/ CDM PDD registered with UNFCCC project reference no. 9416
- /6/ Validation report vide ref no C-1-I-01-L-0248_VA (revision 01) registered with UNFCCC under CDM with reference no. 9416
- /7/ Estimated Emission Reduction Calculation Sheet as per registered project UNFCCC reference no 9416
- /8/ VCS Monitoring report template Current Version: v3.3 dated on 8 October 2013
- /9/ Blank VCS PD Format with Guidelines for completion of VCS Project description template Version: v3.3 dated 8 October 2013
- /10/ Verified Carbon Standard Version 3, v3.4 dated 8 October 2013 v.3.3
- /11/ VCS Program Guide Version 3 v3.5 dated 8 October 2013
- /12/ Verified Emission Reduction Calculation Sheet
- /13/ Proof of registration as CDM Project activity
(http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view)
- /14/ Commissioning certificate for all the WTGs of the project activity
- /15/ Monthly Credit Notes issued by MSEDCL for the current verification period
- /16/ Copy of all invoices raised to MSEDCL by Project participant for net electricity exported to the grid for the current verification period
- /17/ Declaration from ReNew Wind Energy (Shivpur) Private Limited that the project shall not claim credits for the same period under any other GHG program dated 18/02/2015
- /18/ Calibration certificate for year 2012, 2013 and 2014 issued by MSETCL
- /19/ Meter Replacement report dated 29/01/2013 for Main and Check meters connected on Feeder no 01
- /20/ Meter Replacement report dated 09/08/2013 for Main and Check meters connected on Feeder no 02
- /21/ Guidelines for assessing compliance with the calibration frequency Version 01, CDM-EB 52, Annex 60

APPENDIX 3: LIST OF PERSONS INTERVIEWED

List of persons interviewed during the verification process or persons that contributed with other information that are not included in the documents listed above.

/1/	Mr. Satish Nikam	Asst. Manager, ReNew Power Ventures Pvt Limited
/2/	Mr. Maltesh A.	Engineer Site In-charge, ReGen Powertech Pvt Limited
/4/	Mr. Shivkumar	Substation In-charge, Vijayanand Electricals
/4/	Mr. Ashok	Local Farmer
/5/	Mr. Bossappa	Security

APPENDIX 4: CURRICULA VITAE OF THE VALIDATION AND VERIFICATION TEAM MEMBERS

Mr. Pramod Kamble - Team Leader

Bureau Veritas Certification, Lead Verifier - Climate change

He holds Bachelor's degree in Chemical Engineering from Mumbai University with 7 years of experience in the field of Energy Efficiency and Climate Change GHG projects. He has hands on experience in carrying out Energy Audits in various Industries, Hospital and Green Buildings. He worked as a consultant on more than 40 CDM projects under Clean Development Mechanism (CDM) program which is approved by United Nations. In addition to that he has also carried out validation and verifications of more than 40 CDM and VCS Projects like supercritical, biomass, wind, Hydro and waste water management projects. He has experience in Environment Management, Hazardous Waste Management, sustainability and Management System Audits (for Environment, Quality and Assurance of Sustainability Reporting). He has successfully completed CDM Verifier/ Lead Verifier Training Course of BUREAU VERITAS. Also he has completed lead auditor course of ISO 9001:2008, ISO 14001:2004 and auditor's conversion course for ISO 18001:2007.

Bhavesh Prajapati, Internal Technical Reviewer

Bureau Veritas Certification, Lead verifier – Climate Change

Bureau Veritas Certification, Lead verifier – Climate Change

Graduate in the field of Chemical Engineering and post graduate in finance (MBA-Finance). He has more than 8 years of Industrial work experience in the field of environment audits, consultancy of HVAC (pharmaceutical industry as well as commercial air conditioning) and utility services and project management of various Greenfield as well as gray field projects. He has undergone lead verifier's training on Clean Development Mechanism. He is involved in the Validation/verification projects of CDM and VCS.