

VERIFICATION REPORT OF BUNDLED WIND POWER PROJECT IN JAMNAGAR, GUJARAT



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Project Title	Bundled wind power project in Jamnagar, Gujarat
Version	01
Report ID	INDIA-VCS VER/606.49/2013

Report Title	Verification Report of Bundled wind power project in Jamnagar, Gujarat
Client	J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP
Pages	35
Date of Issue	30-July-2013
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Summary:

Bureau Veritas Certification has made the Gap validation and verification of the “Bundled wind power project in Jamnagar, Gujarat” project of J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP located across villages Butavadar, Chiroda Mulji, Chiroda Sang, Bagadhra, & Mandasan in Jamnagar of Gujarat state in India on the basis of Verified Carbon Standard Version 3, 4 October 2012, v3.3 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, Emission Reduction calculations and other supporting documents provided to the verification team. This verification is carried out in accordance with VCS Standard V.3, 4 October 2012 v3.3 and VCS Program Guide V.3, 4 October 2012 v3.4.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in revised VCS PD, registered CDM PDD and issued MR under CDM (UNFCCC no. 4964). Installed equipment being essential for generating 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.

Table of Contents

	Abbreviations	5
1	Introduction	6
1.1	Objective	6
1.2	Scope and Criteria	6
1.3	Level of assurance	6
1.4	Summary Description of the Project	8
2	Validation Process, Findings and Conclusion	8
2.1	Validation Process	8
2.2	Validation Findings	11
2.2.1	Gap Validation	11
2.2.2	Methodology Deviations	14
2.2.3	Project Description Deviations	14
2.2.4	New Project Activity Instances	14
2.3	Validation Conclusion	14
3	Verification Process	14
3.1	Method and Criteria	14
3.2	Document Review	15
3.3	Interviews	16
3.4	Site Inspections	16
3.5	Resolution of Any Material Discrepancy	17
4	Verification Findings	17
4.1	Project Implementation Status	17
4.2	Accuracy of GHG Emission Reduction or Removal Calculations	18

4.3	Quality of Evidence to Determine GHG Emission Reductions or Removals	20
4.4	Management and Operational System	20
5	Verification conclusion	21
	Annexure I VERIFICATION Protocol	23
	Annexure II: Details of corrective action and Clarifications Requested for the supplementary validation..	33
	Annexure III: Documents referred during Verification and Validation of the Project Activity	34
	Annexure IV: Curricula Vitae of the DOE'S Validation and Verification Team Members.....	35

Abbreviations:

VER	Voluntary Emission Reduction
VCS	Verified Carbon Standard
VCU	Voluntary 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
IETA	International Emissions Trading Association
MV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non Governmental Organization
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
GETCO	Gujarat Energy Transmission Corporation Limited
PPA	Power Purchase agreement
JMR	Joint Meter Reading
CEA	Central Electricity Authority
PP	Project Participant
WTG	Wind Turbine Generator
GUVNL	Gujarat Urja Vikas Nigam Limited

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. 27/09/2010 (earliest date of commissioning of WTG in the power activity) to 14/07/2011 (the date prior to the date of CDM registration). These emission reductions are verified as per the guidance provided by VCS standards version 3 dated 4 October 2012 v3.3.

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 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 reports, revised VCS PD for supplementary validation of the project as the project activity is already registered under CDM with UNFCCC, study of the monitored data and other relevant documents made available to verifier and information collected through performing interviews with the project Participant. The verification follows VCS Standard version 3 dated 4 October 2012 v3.3. 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 27/09/2010 to 14/07/2011 (inclusive of both the days). Based on this documentation, a document review and interview with the project participant regarding the implementation and emission reduction of the project activity were conducted. The Monitoring Report, version 02, dated 24/07/2013 covering the period from 27/09/2010 to 14/07/2011 (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 4 October 2012 v3.3.

The data used for the calculation of emission reductions were taken from CEA (Central Electricity Authority), Monthly Share certificate issued by GETCO for net electricity exported to the grid by project activity. As per the VCS PD, revised MR and the registered PDD with the UNFCCC (project ref. no. 4964), the calibration for the main GETCO meters (also known as revenue meter) will be done annually and cluster meters will be calibrated once in three years. The calibration certificate provided by the PP indicates that the calibration frequency of the main GETCO meters (annual) is not followed. The meters having serial number GJB 01470, GJU 04175 and GJU 04176 were calibrated on 22/01/2010 whereas meter having serial number KAB11082 was calibrated 29/05/2010. Subsequently all the above four meters were calibrated on 17/01/2012. The calibration certificate provided by the PP indicates that the cluster meters having serial number GJU60940, GJU60941, GJU60942 and GJU60945 were calibrated on 03/09/2010 and cluster meters having serial number 10058384 and 10059202 were calibrated on 20/03/2010. The results of calibration show that all the meters are working within the permissible limit of error. Therefore, the project participant has applied 0.2% of the maximum permissible errors (which is the accuracy class of the energy meters) on the Net Quantity of Electricity exported to the grid from the earliest scheduled date of calibration to the end of monitoring period (January 2011 to 14/07/2011) because of delayed calibration of main GETCO meters during this period. This is a conservative and appropriate approach in line with VCS Validation and Verification Manual Version 3 dated 4 October 2012 and also in line with the requirements given under section 9.4.4 of the CDM Validation and Verification Standard, Version 03, EB 70 Annex 03.

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 3.3 for the current verification period.

The verification team considers the assurance level as 'limited' 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 Version 3.3, the materiality threshold applied was one percent. The accrued emission reductions for the current monitoring period from the project activity are 13,123 tCO₂.

1.4 Summary Description of the Project

The project activity involves the installation of Enercon make 12 numbers Wind Turbine Generator's (WTG) of capacity 0.8 MW each (model E-53) located across villages Butavadar, Chiroda Mulji, Chiroda Sang, Bagadhra, & Mandasan in Jamnagar of Gujarat state in India. The total capacity of the project activity is 9.6 MW and the entire power generated by the project activity will be exported to the NEWNE grid with a firm power purchase agreement with GUVNL. Of the total, 4 nos. of WTGs of the project activity are owned by J. N. Investment & Trading Co. Private Limited and 8 nos. of WTGs of the project activity are owned by Vish Wind Infrastructure LLP.

The project is registered with the UNFCCC on 15/07/2011 (UNFCCC ref no 4964) and can be viewed from the weblink in the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/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 regional grid.

The electricity generated by the project activity is evacuated to Sadodar substation maintained by Enercon (India) Limited. The net electricity supplied to the grid is calculated by GEDA on the basis of GETCO main meter reading (there are 4 main meters) at the Sadodar substation and the meter readings taken at individual cluster meters (there are 6 cluster meters) after adjusting transmission loss. For adjustment of transmission loss, the electricity metered at the GETCO meter is proportionally divided by GEDA among the customers connected to the GETCO meter on the basis of the pro rata readings taken at the cluster meters. The GETCO main meters and cluster meters are electronic tri-vector meters of 0.2s accuracy class. The meter reading is taken jointly by the representatives of Enercon and GEDA/GETCO in the form of JMR on monthly basis.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

The project is registered with the UNFCCC on 15/07/2011 (UNFCCC ref no 4964) and can be viewed from the weblink in the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>). The certification body has performed a supplementary validation and VCS PD among other documents.

Method and Criteria

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation report is based according to the Verified Carbon Standard Version 3, 4 October 2012, v3.3 and Validation report template version 3.2 which is the latest available at the VCS official website (<http://v-c-s.org/>). The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- ✓ It organizes details and clarifies the requirements a CDM project is expected to meet;
- ✓ It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

As per the policy announcement of VCS dated 4 October 2012, only a supplementary validation is 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 validation team was provided with a VCS PD along with other relevant documents. Based on this documents and review and interviews performed, a supplementary validation was conducted for the above mentioned sections of VCS PD and reported.

Document Review

The validation team was provided with VCS Project Document along with other relevant documents, CDM PDD (registered), earlier validation report, etc. The review of these documents and other related documents was carried out on and from 01/07/2013. The documents provided by the PP including VCD PD and additional background documents related to VCS PD, guidelines for completing VCS PD (VCS Version 3 dated 4 October 2012 v3.3), approved methodology; clarifications on validation requirements to be checked by Designated Operating Entity were reviewed. To address, Bureau Veritas Certification raised corrective action and clarification requests and Project Participant revised the VCS PD and resubmitted it on 02/07/2013. The validation findings presented in this report relate to the project as described in the VCS PD dated 02/07/2013. This version of the Project Document is in line with the latest format for the VCS PD and guidance for completion of the VCS PD as provided by VCS Version 3.

Interviews

From 01/07/2013 onwards, Bureau Veritas Certification performed interviews with Representatives of J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP and Wind World (India) Ltd. (Formerly Enercon (India) Limited) (Project Consultant and O & M Service provider) to confirm selected information and to resolve issues identified in the document review.

Interviewed organization	Interview topics
J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP (Project Owners)	• Project design and implementation status. • Supporting data, evidences and documentation • Project start date and Crediting Period
Wind World (India) Ltd. (Formerly Enercon (India) Limited) (Project Consultant and O & M Service provider)	• Project technology, operation and maintenance. • Monitoring System and metering system to be adopted at site • Emission reductions calculation. • Resolution of CAR(s) and CL(s)

Site Inspections

The project is registered with the UNFCCC dated 15/07/2011 (UNFCCC ref no 4964). During validation of the project under CDM, the respective validation entity has performed site visit to confirm the selected information and to resolve issues identified in the document review. Also for the verification period 01/09/2011 to 30/09/2012 which is post this VCS verification period, the respective verification entity has also performed site visit to confirm that the project activity is implemented in line with the registered PDD and the monitoring plan is in line with the description provided in the registered PDD and selected methodology. The validation team of Bureau Veritas Certification has reviewed the registered PDD, Validation report, issued MR and the Verification report to confirm that all the outstanding issues regarding the project were resolved successfully during validation and verification under CDM. Since, the project is registered under CDM and the implementation status of all the WTGs in line with the registered PDD was confirmed by the respective verification entity during the site visit at the time of CDM verification, no further site visit was conducted for this VCS cycle by the Bureau Veritas Certification validation team. Further, Bureau Veritas Certification team has reviewed the documents mentioned under Annexure III of this report to confirm the implementation and operation status and provided in the registered PDD and revised PD. The documents like commissioning certificates, Power Purchase Agreement, Monthly Share Certificates are all credible and reliable documents as these are documents issued by government bodies in India and hence reasonable level of assurance is there and there is no scope of material discrepancy or error and hence is in line with the VCS Validation Verification Manual, v3.0 dated 04/10/2012.

Hence, no site visit was conducted for the project activity during the VCS validation.

Resolution of Any Material Discrepancy

The objective of this phase of the supplementary validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification conclusion on the project design. To guarantee the transparency of the validation process, the validation team raised Corrective Action Request (CAR) and Clarification request (CL). The supplementary validation of the Project resulted in 02 CAR and 01 CL. The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure. The closure of CARs and CLs are discussed under Annexure II of this report.

2.2 Validation Findings

2.2.1 Gap Validation

Project Design

The project activity is registered as CDM project activity by CDM-EB on 15/07/2011 (UNFCCC ref no 4964). The 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 project activity was registered with UNFCCC under CDM on 15/07/2011. The crediting period for the Certified Emission Reductions (CER) has started from 01/09/2011 as mentioned in the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>). The crediting period has been mentioned as 27/09/2010 to 26/09/2020 which is the date from commissioning of first WTG till 10 years. The project participants have 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:

- **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 AMS I.D; Version 16 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.
- **Project proponent**- The project proponents for the project activity concerned are J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP. The validation has reviewed the Host Country Approval to confirm this.

- **Project start date**- The project start date for the project activity concerned is the earliest date of commissioning amongst the WTGs i.e. 27/09/2010. The validation has reviewed the commissioning certificate of all the WTGs to confirm this.
- **Project crediting period**- The project crediting period for the project activity concerned is from the earliest date of commissioning of the WTGs and upto 10 years. Therefore, the crediting period for the project activity is from 27/09/2010 to 26/09/2020. The validation team has reviewed the commissioning certificate of all the WTGs and date of registration from the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>) to confirm this. Also the project participants 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.
- **Project scale and estimated GHG emission reductions or removals**- The project activity is not a large scale project activity as the estimated annual GHG emission reduction is 13, 123 tCO₂e 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 4 October 2012 v.3.3. 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/Projects/DB/SGS-UKL1309779882.44/view>).
- **Project activities**- In line with paragraph 3.11.8 of the Verified Carbon Standard Version 3 dated 4 October 2012 v.3.3; 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 is not included in these sections. Please refer to the registered PDD in UNFCCC, Project No. 4964 (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>) for project description and how the validation team validated the accuracy of the project description.
- **Project location**- The project activity involves the installation of Enercon make 12 numbers Wind Turbine Generator's (WTG) of capacity 0.8 MW each in villages Butavadar, Chiroda Mulji, Chiroda Sang, Bagadhra, & Mandasan in Jamnagar of Gujarat state in India. The validation team has validated the accuracy of the project location from registered PDD, validation report, issued MR and the verification report, document review such as commissioning certificates, power purchase agreement as well as interview with the project participant and site visit conducted during validation of the project activity under CDM by the validation team from other DOE and during verification by verification team from another DOE for the 1st verification period under CDM.
- **Project compliance with applicable laws, statutes and other regulatory frameworks**- In line with paragraph 3.11.8 of the Verified Carbon Standard Version 3 dated 4 October 2012 v.3.3; 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* is not included under these clauses.

• Ownership and other programs

- **Right of use**- The validation team has reviewed the documents like power purchase agreement, commissioning certificate and Monthly Share certificate approved and issued by GETCO which substantiates the right of use for the concerned project activity.
- **Emissions trading programs and other binding limits**- India is a non Annex-I as recognised by the Kyoto Protocol which 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.
- **Participation under other GHG programs**- The WTGs under the project activity has applied for CDM registration and got registered on 15/07/2011 under UNFCCC CDM EB with project reference number – 4964 which can be confirmed from the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>).
- **Other forms of environmental credit sought or received**- The WTGs under the project activity has applied for CDM registration and got registered on 15/07/2011 under UNFCCC CDM EB with project reference number – 4964 which can be confirmed from the UNFCCC website (<http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view>). Thus it will earn revenue from CDM.
- **Rejection by other GHG programs**- The project activity has applied for CDM registration and got registered on 15/07/2011 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.

• Additional information relevant to the project

- **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.
- **Leakage management for AFOLU projects**- The concerned project is a wind project activity and hence is not an AFOLU project.
- **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.
- **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.

2.2.2 Methodology Deviations

There were no deviations from the referred methodology AMS I.D; Version 16 as compared to UNFCCC registered PDD and Registered Validation Report. Hence the validation team could conclude that the project activity does not require any deviation from the Methodology referred.

2.2.3 Project Description Deviations

Not applicable

2.2.4 New Project Activity Instances

Not applicable

2.3 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 3.11.8 of the Verified Carbon Standard Version 3 dated 4 October 2012 to confirm that project is likely to achieve estimated emission reduction, which would not have been reduced in absence of the project activity.

3 VERIFICATION PROCESS

3.1 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 validated and registered as a CDM project with UNFCCC on 15/07/2011 (UNFCCC ref no 4964). 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 (27/09/2010, earliest date of commissioning of WTG in the power activity) till 14/07/2011. These emission reductions are verified as per the guidance provided by VCS standards Version 3. 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, issued verification report and monitoring report for the 1st monitoring period under CDM and revised VCS PD. The current documents include the Monitoring report for the current verification period, emission reduction spreadsheet and other supporting documents (Monthly Share certificate issued by GETCO, calibration certificates, invoices, etc.) pertaining to the current verification period. Refer to Annexure III 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 CDM consultant as well as review of documents mentioned under Annexure III to ensure the implementation and operation of the project activity in line with the registered CDM PDD and issued Monitoring report for the 1st monitoring period under CDM:

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.

Findings established during the initial verification could either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified. Corrective Action Requests (CAR) is issued, where:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions, which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation and/or 1st verification to be verified during subsequent verification have not been resolved by the project participants;
- The verification team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable VCS requirements is met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Annexure 1.

The verification of the Project resulted in 01 Corrective Action Request and 01 Clarification Request.

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure. The closure of CARs and CLs are discussed under Annexure 1 of the verification report.

3.2 Document Review

The verification team has assessed the accuracy of the project description 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 proponent and their representatives. Following supporting documents were reviewed for the current verification period:

- 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.
- Monthly Share certificate issued by GETCO, monthly Invoices and calibration certificates of the energy meters pertaining to the current verification period.
- Daily generation record for the month of July 2011.
- Commissioning certificate for all the WTGs and Power Purchase Agreements of the project activity.

3.3 Interviews

From 01/07/2013 onwards, Bureau Veritas Certification performed interviews with the representative of the project participant and project consultant to confirm selected information and to resolve issues identified in the document review. Representatives of J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP and Wind World (India) Ltd. (Formerly Enercon (India) Limited) (Project Consultant and O & M Service provider) were interviewed. The main topics of the interviews are summarized in Table below:

Interviewed organization	Interview topics
J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP (Project Owners)	• Project implementation and changes; if any • Monitoring • Data recording and archiving
Wind World (India) Ltd. (Formerly Enercon (India) Limited) (Project Consultant and O & M Service provider)	• Monitoring Plan • Monitored data • Data uncertainty and residual risks • Emission reduction calculation procedures • Calibration of equipment • Performance of plants • Personnel competence • Emergency Situations • Data uncertainty and residual risks • QA/ QC Procedures • Internal review / verification mechanism

3.4 Site Inspections

The project is registered with the UNFCCC dated 15/07/2011 (UNFCCC ref no 4964). During validation of the project under CDM, the respective validation entity has performed site visit to confirm the selected information and to resolve issues identified in the document review. Also for the verification period 01/09/2011 to 30/09/2012 which is vintage after this VCS verification period, the respective verification entity has performed site visit to confirm that the project activity is implemented in line with the registered PDD and the monitoring plan is in line with the description provided in the registered PDD and selected methodology. The Bureau Veritas Certification verification team has reviewed the registered PDD, Validation report, MR of 1st verification and the verification report of the 1st verification to confirm that all the outstanding issues regarding the project were resolved successfully during validation and verification under

CDM. Since, the project is registered under CDM and the implementation status of all the WTGs in line with the registered PDD was confirmed by the respective verification entity during the site visit at the time of 1st CDM verification, no further site visit was conducted by the Bureau Veritas Certification verification team. Further, the Bureau Veritas Certification verification team has reviewed the documents mentioned under Annexure III of this report to confirm the implementation and operation status and provided in the registered PDD and revised VCS PD. The documents like commissioning certificates, Power Purchase Agreement, Monthly Share Certificates are all credible and reliable documents as these are documents issued by government bodies in India and hence reasonable level of assurance is there and there is no scope of material discrepancy or error and hence is in line with the VCS Validation Verification Manual, v3.0 dated 04/10/2012.

Hence, no site visit was conducted for the project activity during this VCS verification.

3.5 Resolution of Any Material Discrepancy

The project is registered with the UNFCCC dated 15/07/2011 (UNFCCC ref no 4964) under the project title 'Bundled wind power project in Jamnagar, Gujarat'. Also issuance under CDM for the verification period 01/09/2011 to 30/09/2012 which is vintage after this VCS verification period is already completed and issued. The respective verification entity has confirmed in their verification report that the project activity is implemented in line with the registered PDD and the monitoring plan is in line with the description provided in the registered PDD and selected methodology. Bureau Veritas Certification has reviewed the registered PDD, Validation report, MR of 1st verification and the 1st verification report to confirm that all the outstanding issues regarding the project were resolved successfully during validation and verification under CDM. The verification team confirms that there are no remaining issues or any material discrepancy in the project activity by reviewing the documents uploaded in the UNFCCC website and supporting documents mentioned under Annexure III of this document. However, certain CAR and CL were raised by the verification team during the current verification period and were subsequently closed by the verification team on the basis of correct and appropriate response by the Project participant. The closure of CARs and CLs are discussed under Annexure I of the verification report.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity involves the installation of Enercon make 12 numbers Wind Turbine Generator's (WTG) of capacity 0.8 MW each (model E-53) located across villages Butavadar, Chiroda Mulji, Chiroda Sang, Bagadhra, & Mandasan in Jamnagar of Gujarat state in India. The total capacity of the project activity is 9.6 MW and the entire power generated by the project activity will be exported to the NEWNE grid with a firm power purchase agreement with GUVNL. 4 nos. WTGs of the project activity are owned by J. N. Investment & Trading Co. Private Limited and 8 no. WTGs of the project activity are owned by Vish Wind Infrastructure LLP. The WTGs were commissioned between 27/09/2010 to 30/09/2010. The electricity generated by the project activity is evacuated to Sadodar substation maintained by Enercon (India) Limited. The net electricity supplied to the grid is calculated by GEDA on the basis of GETCO main meter reading (there are 4 main meters) at the Sadodar substation and the meter readings taken at individual cluster meters (there are 6 cluster meters) after adjusting transmission loss. For adjustment of transmission loss, the electricity metered at the GETCO meter is proportionally divided by GEDA

among the customers connected to the GETCO meter on the basis of the pro rata readings taken at the cluster meters. The GETCO main meters and cluster meters are electronic tri-vector meters of 0.2s accuracy class. The meter reading is taken jointly by the representatives of Enercon and GEDA/GETCO in the form of JMR on monthly basis.

The monitoring methodology used for the project activity is AMS I.D, Version 16 (which is an approved monitoring methodology by the CDM Executive Board). The title of the monitoring methodology is “Grid connected renewable electricity generation”. The key parameter to be monitored for calculation of emission reductions is the “net electricity supplied to the grid by the project activity”. The same is being monitored by the project participant through installation of the GETCO main meters and Cluster meters as discussed above.

The records of the sold electricity from the project are verified by a government agency. As per the VCS PD, revised MR and the registered PDD with the UNFCCC (project ref. no. 4964), the calibration for the main GETCO meters (also known as revenue meter) will be done annually and cluster meters will be calibrated once in three years. The calibration certificate provided by the PP indicates that the calibration frequency of the main GETCO meters (annual) is not followed. The meters having serial number GJB01470, GJU04175 and GJU04176 were calibrated on 22/01/2010 whereas meter having serial number KAB11082 was calibrated 29/05/2010. Subsequently all the above four meters were calibrated on 17/01/2012. The calibration certificate provided by the PP indicates that the cluster meters having serial number GJU60940, GJU60941, GJU60942 and GJU60945 were calibrated on 03/09/2010 and cluster meters having serial number 10058384 and 10059202 were calibrated on 20/03/2010. The results of calibration show that all the meters are working within the permissible limit of error. Therefore, the project participant has applied 0.2% of the maximum permissible errors (which is the accuracy class of the energy meters) on the Net Quantity of Electricity exported to the grid from the earliest scheduled date of calibration to the end of monitoring period (January 2011 to 14/07/2011) because of delayed calibration of main GETCO meters during this period. This is a conservative and appropriate approach in line with VCS Validation and Verification Manual Version 3 dated 4 October 2012 and also in line with the requirements given under section 9.4.4 of the CDM Validation and Verification Standard, Version 03, EB 70 Annex 03.

The verification team has referred documents Commissioning certificates, Power Purchase Agreements, Monthly Share certificate issued by GETCO, Invoice raised by the project participant for the project activity WTGs, panel meter (LCS meter) readings for the month of July 2011 and interview with the representatives of the PP for the Project activity to confirm that the project design, implementation and operation is in compliance with the registered PDD under CDM (UNFCCC ref no. 4964) and applied monitoring methodology AMS I.D version 16. The verification team also confirms that monitoring of the parameters has been carried out in accordance with the monitoring plan of the registered PDD with UNFCCC, revised PD and monitoring report. In addition, the data cross-checking procedures, calibration procedures, frequency of calibration and data uncertainty procedures remains same as it was provided in the registered PDD. Hence, the verification team confirms that the project monitoring plan is in compliance with the registered PDD, revised PD and applied monitoring methodology AMS I.D version 16.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

Project participant provided the spreadsheet used for calculating the emission reductions including the algorithms used in the calculations. The calculations of above parameters were

checked in the spreadsheets and found to be correct. The spreadsheet of emission reduction calculation contains information on i.e. net electricity exported to the grid. This information is taken from Monthly Share certificate issued by GETCO based on the monthly joint meter readings taken jointly by the representatives of Enercon and GEDA/GETCO. However, for the month of July 2011, the JMR reading is for the entire month and the verification period is ending on 14th July 2011. To get the value of net electricity exported to the grid from 1st July 2011 to 14th July 2011 for all the WTGs, the Project Participants has referred the panel meter (LCS meter) readings for the period 1st July 2011 to 14th July 2011 and from 1st July 2011 to 31st July 2011 and Share certificate issued by GETCO for the month of July 2011. The panel meter (LCS meter) reading is recorded continuously by the online monitoring system.

To calculate emission reduction as per algorithm given in methodology, baseline emission is calculated by multiplying combined margin emission factor with total value of net electricity exported to grid. The project emissions and Leakage is considered zero which is in line with registered PDD and revised PD.

The verification team has reviewed the calibration certificates of all the GETCO main meters and cluster meters and confirm that there is no meter change that has happened during the current verification period and that all the meters are working within the permissible limit of error. However, the project participant has applied 0.2% of the maximum permissible errors (which is the accuracy class of the energy meters) on the Net Quantity of Electricity exported to the grid from the earliest scheduled date of calibration to the end of monitoring period (January 2011 to 14/07/2011) because of delayed calibration of main GETCO meters during this period as discussed above.

All the data in the revised emission reduction spreadsheet was found to be correct and accurate. There is no possible transposition errors between data sets since the monitoring of the net electricity generated is through calibrated electronic meters with high accuracy and also the value of parameter net electricity exported to the grid is taken from Monthly Share certificate issued by GETCO which is government entity and cross-checked with the monthly invoice raised by the project participants to GUVNL. Also all the recorded data is verified by the verification team. The verification team found that the monitoring plan provided in the monitoring report is same as that described in the VCS PD and it is in line with actual monitoring taking place on the site of the project activity.

Emission Reductions:

The emission reduction calculations have been carried out from the following algorithm as per applied methodology AMS I.D version 16:

$$ER_y = BE_y - PE_y - LE_y$$

Baseline emissions (BE_y)

The verification team confirms that project participant has computed the baseline emissions in accordance with the guidance provided in the methodology. The net electricity supplied by the project activity to the grid has been multiplied with the NEWNE grid electricity emission factor.

The verification team confirms through the review of the monitoring arrangements and the Monthly Share certificate issued by GETCO that for the entire current periodic verification, the electricity exported to the grid and imported from the grid was monitored through high accuracy

class bi-directional tri-vector energy meters (0.2s accuracy class) capable of continuous monitoring. The recording of the data was carried out on monthly basis. This is in accordance with the applied methodology and the monitoring plan of the registered PDD under CDM and revised VCS PD. The net electricity supplied to the grid was also cross-checked by the validation team through the invoices raised by the project participant for the sold electricity.

The grid emission factor, calculated on the basis of the combined margin is 0.92252 tCO₂/MWh and is fixed ex-ante at the time of the CDM validation of the project activity.

Hence, the validation team confirms that the baseline emissions computed for the current verification are appropriate and conservative and the calculation provided under emission reduction spreadsheet is correct. The total baseline emissions for the current verification period from 27/09/2010 to 14/07/2011 (Including both days) are 13,123 tCO₂ (rounded down value).

Project Emissions (PEy):

The project activity consists of electricity generation and supply to the grid by using renewable energy (wind energy). There is no project emission associated with renewable wind energy hence project emissions are taken as zero which is also in line with the applied methodology.

Leakages (LEy):

The verification team found that there are no leakages attributable and accountable to Project. This is in accordance with registered PDD, revised PD and applied methodology.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

GETCO issues Share Certificate based on monthly Meter readings taken jointly by representative of Enercon and GEDA/GETCO at the JMR site. On the basis of this data issued by GETCO, project participant raises invoice to GUVNL.

The verification team has reviewed the calibration certificates of all the GETCO main meters and cluster meters and confirm that all the meters are working within the permissible limit of error thus ensuring error free measurements. The calibration certificates for entire vintage were verified along with monthly meter readings. The data pertaining to the above parameters are maintained in identified records for the entire monitoring period. All the data is in compliance with the figures stated in the monitoring report.

4.4 Management and Operational System

The Verification team interacted with Enercon (India) Limited, who is the windmill supplier and O&M service provider. The agency is experienced in the monitoring system and is managing O&M of numerous other wind farm CDM projects across the host country (India). The Verification team therefore is of the opinion that the project participant through its competent O&M agency has implemented the monitoring plan in line with the registered PDD in the context of the project activity.

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 27/09/2010 to 14/07/2011 (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	
27/09/2010	31/12/2010	2918
01/01/2011	14/07/2011	10205

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 0.92252 tCO₂e/MWh for NEWNE grid was found to be correct.

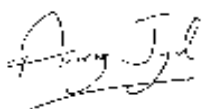
Appropriate procedures for maintaining the confidentiality and safe custody of the validation or verification documentation and for retaining them for a period sufficient to meet the needs of the client, the responsible parties, the GHG programmes to which they subscribe, and in accordance with legal 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 revised 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-III. The installed equipments being essential for generating the emission reductions run reliably and the measuring equipments/instruments are calibrated.

Reporting period: 27/09/2010 to 14/07/2011

Verified GHG emission reductions or removals in the above reporting period:

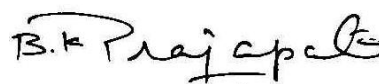
GHG Emission Reductions or Removals	tCO ₂ e
Baseline Emissions	13123
Project Emissions	0
Leakage	0
Net GHG emission reductions or removals	13123



Anurag Juyal

(Team Leader)

30/07/2013



Bhavesh Prajapati

(Internal Technical Review)

30/07/2013

Annexure I VERIFICATION Protocol

Table 1: Verification requirements based on the Voluntary Carbon Standard version 03

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
1 Compliance of the project implementation with the registered project design document			
a Has the implementation and operation of the project activity been conducted in accordance with the description contained in the registered PD?	Yes, the project participant has implemented and operated the project activity in line with the description in the registered PDD (UNFCCC ref no 4964) dated 04/02/2013 and revised PD. The project activity comprises of Enercon make 12 numbers WTG having capacity 0.8 MW (model E-53) each. The generated electricity is being supplied to Gujarat Urja Vikas Nigam Limited (GUVNL) under long-term power purchase agreement (PPA). The verification team has conducted the document review and interview with the project participant and confirms that the implementation and operation of the project activity is in accordance with the description contained in the registered PDD and revised monitoring plan.	OK	OK
b Are all physical features of the project activity in the registered PD in place?	As per the registered PDD and revised PD, "Bundled wind power project in Jamnagar, Gujarat", is a wind power project spread across villages Butavadar, Chiroda Mulji, Chiroda Sang, Bagadhra, & Mandasan in Jamnagar of Gujarat state in India. The WTG's installed are 12 and total installed capacity is 9.6 MW.	OK	OK
c Have the project participants operated the project activity as per the registered PD?	Yes, the project participants have operated the project activity as per the description provided in the registered	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	PDD dated 04/02/2013 and revised PD.		
d Was an on-site visit conducted?	No site visit of the project was conducted for the project activity for this verification period.	OK	OK
e If not, justify the rationale of the decision.	The project is registered with the UNFCCC dated 15/07/2011 (UNFCCC ref no 4964) as discussed in the sections above. During validation of the project under CDM, the validation entity has performed site visit to confirm the selected information and to resolve issues identified in the document review. Also for the verification period 01/09/2011 to 30/09/2012 which is post this VCS verification period, the respective verification entity has performed site visit to confirm that the project activity is implemented in line with the registered PDD and the monitoring plan is in line with the description provided in the registered PDD and selected methodology. The verification team has reviewed the registered PDD, Validation report, issued MR and the verification report to confirm that all the outstanding issues regarding the project were resolved successfully during validation and verification under CDM. Since, the project is recently registered under CDM and the implementation status of all the WTGs in line with the registered PDD was confirmed by the respective verification entity during the site visit at the time of CDM verification, no further site visit was conducted for the VCS verification team. Further, the verification team has reviewed the following documents to confirm the implementation and operation status and	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	conformance with the monitoring plan provided in the registered PDD and revised PD: a) Monthly Share certificate issued by GETCO for the specified monitoring period b) Calibration certificates of the energy meters for the specified monitoring period c) Emission reduction spreadsheet. d) Invoice raised by Vish Wind Infrastructure LLP and J. N. Investment & Trading Co. Private Limited to GUVNL. e) Daily generation record for the month of July 2011. f) Commissioning certificate for all the WTGs. g) Power Purchase Agreements of the project activity		
2 Compliance of the monitoring plan with the monitoring methodology including applicable tool(s)			
a Is the monitoring plan of the project activity in accordance with the applied methodology including applicable tool(s)?	Monitoring Plan is in accordance with the approved methodology AMS-I.D, EB 54 Version 16. As per the methodology net electricity generation by the project activity has to be monitored and the same has been mentioned in the validated monitoring Plan.	OK	OK
b Is the project implementation in accordance with the provisions of the registered PD and/or an approved revised PD?	Yes, the implemented and operation of the project activity conforms to the description provided in the registered PDD (UNFCCC ref no 4964) dated	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	04/02/2013 and revised PD.		
3 Compliance of monitoring activities with the registered monitoring plan			
a Have the monitoring of parameters related to the GHG emissions reductions in the project activity been implemented in accordance with the monitoring plan contained in the registered PDD36 or any accepted revised monitoring plan?	Yes, as per the revised monitoring plan the parameter monitored to calculate the emission reduction is Net Quantity of Electricity exported to the grid. The source of data for this parameter is Share certificate issued by GETCO. The monitoring of Net Quantity of Electricity exported to the grid and the monitoring plan provided in the MR is in line with the registered PDD dated 04/02/2013.	OK	OK
b Has the monitoring plan been properly implemented and followed by the project participants?	The parameter monitored to calculate the emission reduction is Net electricity supplied to the grid by the Project is based on the Share certificate issued by GETCO which is as per the monitoring plan mentioned in the registered PDD and revised PD.	OK	OK
c Have all parameters stated in the monitoring plan and relevant Board decisions been monitored and updated as applicable, including:			
i Project emission parameters?	As per the registered PDD and PD project emission is considered to be 0.	OK	OK
ii Baseline emission parameters?	The baseline emission parameter which is being monitored in the project activity is Net Quantity of Electricity exported to the grid. The same is in line with the approved methodology AMS I.D. and the monitoring plan specified in the registered PDD and revised PD. The net electricity supplied to the grid for the monitoring period 27/09/2010 to 14/07/2011 has been cross checked with the Share certificate issued by GETCO and which has been further checked with invoice raised by the PP to the Gujarat Urja Vikas Nigam Limited (GUVNL) and was found to be accurate. However, for the month July 2011, since the date of meter reading is	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	not matching with the date of verification, data has been apportioned based on the daily generation data received from LCS meters and the energy meters for the whole month of July 2011.		
iii Leakage parameters?	There is no leakage emissions attributed from the project activity in the current monitoring period.	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?	The project is operated and managed by competent persons from Enercon (India) Limited (O & M service provider). The Bureau Veritas Certification team has interacted with the PP and cross-checked with the registered PDD and issued MR dated 08/10/2012 available in the UNFCCC website and confirm that the responsibilities and authorities for monitoring and reporting is lying with Enercon (India) Limited.	OK	OK
d Is the equipment used for monitoring in accordance with monitoring plan and is controlled and calibrated in accordance with the monitoring plan in the registered PD, the applied methodology, local/national standards, or as per the manufacturer.s specification?	As per the registered PDD and issued MR, four number main GETCO meters (also known as revenue meter) and 6 cluster meters of 0.2s accuracy class is installed for this project activity. The main GETCO meter are calibrated annually and cluster meters will be calibrated once in three years. The verification team based on review of the calibration certificate indicates that the number and type of energy meter, its location and accuracy class is in line with the information stated in the monitoring report, registered PDD and revised PD. However, the calibration certificate of the main GETCO meters having serial number GJB 01470, GJU 04175 and GJU 04176 are not legible. Please clarify with appropriate justifications.	CL 1	OK
e Are monitoring results consistently recorded as per approved frequency?	As per the registered PDD and issued MR under CDM, four number main GETCO meters (also known as revenue meter) and 6 cluster meters of 0.2s accuracy class is installed for this project activity. The main GETCO meter are calibrated annually and cluster meters will be calibrated once in three years. The	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	calibration certificate provided by the PP indicates that the calibration frequency of the main GETCO meters (annual) are not followed. The meters having serial number GJB 01470, GJU 04175 and GJU 04176 were calibrated on 22/01/2010 whereas meter having serial number KAB11082 was calibrated 29/05/2010. Subsequently all the above four meters were calibrated on 17/01/2012. However, the results of calibration shows that all the meters are working within the permissible limit of error. Therefore, the project participant has applied 0.2% of the maximum permissible errors (which is the accuracy class of the energy meters) on the Net Quantity of Electricity exported to the grid for the entire monitoring period (27/09/2010 to 14/07/2011) because of delayed calibration during this period. This is a conservative and appropriate approach in line with VCS Validation and Verification Manual Version 3 dated 4 October 2012 and also in line with the requirements of Guidelines for assessing compliance with the Calibration Frequency requirements" EB 52, annex 60.		
f Have quality assurance and quality control procedures been applied in accordance with the monitoring plan or the revised monitoring plan?	Please refer checklist question 3.d and 3.e above.	--	OK
4 Assessment of data and calculation of emission reductions			
a Were the data and calculations of GHG emission reductions achieved by/resulting from the project activity by the application of the selected approved methodology assessed?	A set of data has been provided for the specified monitoring period which consists of following: a) Monthly Share certificate issued by GETCO for the specified monitoring period b) Calibration certificates of the energy meters for the specified monitoring period	--	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	c) Emission reduction spreadsheet. d) Invoice raised by Vish Wind Infrastructure LLP and J. N. Investment & Trading Co. Private Limited to GUVNL. e) Daily generation record for the month of July 2011. The monitoring parameters have been monitored and recorded as per the frequency stated in the monitoring plan specified in the registered PDD. Further the discrepancy observed was reported as CL 1 above.		
b Is a complete set of data for the specified monitoring period is 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).	A set of data has been provided for the specified monitoring period which consists of following: a) Monthly Share certificate issued by GETCO for the specified monitoring period b) Calibration certificates of the energy meters for the specified monitoring period c) Emission reduction spreadsheet. d) Invoice raised by Vish Wind Infrastructure LLP and J. N. Investment & Trading Co. Private Limited to GUVNL. e) Daily generation record for the month of July 2011. The monitoring parameters have been monitored and recorded as per the frequency stated in the monitoring	--	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	plan specified in the registered PDD. Further the discrepancy observed was reported as CL 1 above.		
c Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	Yes, the information provided in the monitoring report has been cross checked with the other sources such as Share certificate, Invoices, Daily generation record etc. However, following inadequacies are observed in the MR and emission reduction (ER) spreadsheet: 1. The format of date of the MR and monitoring period given in the front page is not in line with the VCS Monitoring Report template Current Version: v3.2 Issued: 4 October 2012. 2. Explanation given in sections 1.4 and 2.3 is not in detail and inconclusive in nature. 3. The monitoring period provided in the ER calculation spreadsheet is incorrect. 4. The explanation of project emission (section 4.2) and leakage emission (section 4.3) of the MR is not elaborate and correct. 5. The unit of BE_y and EG_{Bly} is not correct in line with the applied methodology in the section 4.1 of the MR.	CAR 1	OK
d Have calculations of baseline emissions, and project activity 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?	Yes. Baseline emission parameter which is being monitored in the project activity is Net Quantity of Electricity exported to the grid. The same is in line with the approved methodology AMS I.D. and the monitoring plan specified in the registered PDD and revised PD. The net electricity supplied to the grid for the monitoring	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	period 27/09/2010 to 14/07/2011 has been cross checked with the Share certificate issued by GETCO and which has been further checked with invoice raised by the PP to the Gujarat Urja Vikas Nigam Limited (GUVNL) and was found to be accurate. However, for the month July 2011, since the date of meter reading is not matching with the date of verification, data has been apportioned based on the daily generation data received from LCS meters and the energy meters for the whole month of July 2011.		
e Have any assumptions used in emission calculations been justified?	No assumptions was made in the emission reduction calculations, hence not applicable	OK	OK
f Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	The project participant has used grid emission factor (0.92252 tCO₂/MWh) for the purpose of calculation of baseline emissions. The grid emission factor has been fixed ex-ante and the value of 0.92252 tCO₂/MWh as specified in registered PDD, has been consistently applied by the project participant.	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 in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CL 1 The calibration certificate of the main GETCO meters having serial number GJB 01470, GJU 04175 and GJU 04176 are not legible. Please clarify with appropriate justifications.	Table 1 3.d	The Clear & legible calibration certificate of the main GETCO meters (GJB 01470, GJU 04175 and GJU 04176) has been submitted to DOE along with revised version of MR.	The Clear & legible calibration certificate of the main GETCO meters (GJB 01470, GJU 04175 and GJU 04176) has been provided to the verification team. Hence CL 1 is closed.
CAR 1 Following inadequacies are observed in the MR and emission reduction (ER) spreadsheet: 1. The format of date of the MR and monitoring period given in the front page is not in line with the VCS Monitoring Report template Current Version: v3.2 Issued: 4 October 2012. 2. Explanation given in sections 1.4 and 2.3 is not in detail and inconclusive in nature. 3. The monitoring period provided in the ER calculation spreadsheet is incorrect. 4. The explanation of project emission (section 4.2) and leakage emission (section 4.3) is not elaborate and correct. 5. The unit of BE_y and EG_{Bly} is not correct in line with the applied methodology in the section 4.1 of the MR.	Table 1 4.c	1. The format of date of the MR & monitoring period has been corrected in the revised version of MR. 2. Explanation given in Section 1.4 & 2.3 has been detailed in revised version of MR. 3. The monitoring period has been corrected in revised version of ER calculation spreadsheet. 4. The elaborated explanation of project emission & leakage emission has been given in revised version of MR. 5. The unit of BE_y and EG_{Bly} has been corrected in revised version of MR.	1. The information given in the front page of the revised MR is correct and is in line with the VCS Monitoring Report template Current Version: v3.2 Issued: 4 October 2012. 2. Explanation given in sections 1.4 and 2.3 of the revised MR is now in detail and conclusive in nature. 3. The monitoring period provided in the revised Emission Reduction calculation spreadsheet is correct. 4. The explanation of project emission (section 4.2) and leakage emission (section 4.3) is now elaborate and correct in the revised MR. 5. The unit of BE_y and EG_{Bly} is now correct and in line with the applied methodology in the section 4.1 of the revised MR. Hence acceptable to the verification team and CAR 1 is closed.

Annexure II

Details of corrective action and Clarifications Requested for the supplementary validation

Draft report clarifications and corrective action requests by validation team	Reference/ Section	Summary of project owner response	Validation team conclusion
CAR 1: As per the VCS Ver 3.3, paragraph number 3.11.8 (1), informations provided in the section 1.2, 1.3, 1.7, 1.9, 1.12.1, 1.12.2 and 1.13 of the PD are not in line with the requirement. Please elaborate with proper justification.	1.2, 1.3, 1.7, 1.9, 1.12.1, 1.12.2 and 1.13 of VCS- PD	The VCS PD has been revised & proper justification has been included.	As per the requirement of VCS Ver 3.3, paragraph number 3.11.8 (1) for project registered under CDM, section 1.2, 1.3, 1.7, 1.9, 1.12.1, 1.12.2 and 1.13 are addressed appropriately and correctly in the revised PD. Hence CAR 1 is closed.
CAR 2: As per the VCS Ver 3.3 and Project description template Current Version: v3.1 Issued: 4 October 2012, informations provided in the cover page (contact), section 1.1, 1.4, 1.8, 1.11, 1.12.5, 2, 3, 4, 5 and 6 are not in line with the requirement. Please elaborate with proper justification.	cover page, 1.1, 1.4, 1.8, 1.11, 1.12.5, 2, 3, 4, 5 and 6 of VCS- PD	The VCS PD is revised & proper justification has been included.	As per requirements under VCS Ver 3.3 and Project description template Current Version: v3.1 Issued: 4 October 2012, cover page (contact) and section 1.1, 1.4, 1.8, 1.11, 1.12.5, 2, 3, 4, 5 and 6 are addressed appropriately and correctly in the revised PD. Hence CAR 2 is closed.
CL 1: Please provide the Commissioning certificate for all the WTGs and Power Purchase Agreements of the project activity	1.5, 1.9, 1.10, and 1.12.1 of VCS-PD	The Commissioning certificate for all the WTGs and Power Purchase Agreements of the project activity has been submitted along with revised version of PD.	The PP has provided the Commissioning certificate for all the WTGs and Power Purchase Agreements of the project activity. Hence CL 1 is closed.

Annexure III :Documents referred during Verification and Validation of the Project Activity

// 1//	VCS Monitoring Report, version 02, dated 24/07/2013
// 2//	VCS Project Document , dated 02/07/2013 version 02
// 3//	Final CDM PDD registered with UNFCCC under CDM vide project reference no. 4964
// 4//	Validation report registered with UNFCCC under CDM with reference no. 4964
// 5//	Estimated Emission Reduction Calculation Sheet as per registered project reference no 4964
// 6//	VCS Monitoring report template Current Version: v3.2 Issued: 4 October 2012
// 7//	Blank VCS PD Format with Guidelines for completion of VCS Project Document (Project description template Current Version: v3.1 Issued: 4 October 2012).
// 8//	Verified Carbon Standard Version 3 dated 4 October 2012 v.3.3
// 9//	VCS Validation and Verification Manual Version 3 dated 4 October 2012
// 10//	Clean development mechanism validation and verification standard, Version 03 EB 70 Annex 03
// 11//	Emission Reduction Calculation Sheet for the verification period (27/09/2010-14/10/2011)
// 12//	Validation report registered with UNFCCC under CDM with reference no. 4964
// 13//	Monitoring report of the project activity with reference no. 4964 dated 08/10/2012 issued with UNFCCC under CDM for the period 01/09/2011-30/09/2012
// 14//	Verification report of the project activity with reference no. 4964 dated 21/02/2013 issued with UNFCCC under CDM for the period 01/09/2011-30/09/2012
// 15//	Host Country Approval Letter for the project activity vide reference no F.No. 4/17/2010-CCC dated 28/04/2011
// 16//	Proof of registration as CDM Project activity http://cdm.unfccc.int/Projects/DB/SGS-UKL1309779882.44/view
// 17//	Commissioning certificate for all the WTGs of the proposed project activity
// 18//	Power Purchase Agreements of the project activity signed between Gujarat Urja Vikas Nigam Limited (GUVNL) and Vish Wind Infrastructure LLP dated 21/09/2010
// 19//	Power Purchase Agreements of the project activity signed between Gujarat Urja Vikas Nigam Limited (GUVNL) and J. N. Investment & Trading Co. Private Limited dated 05/08/2010
// 20//	Monthly Share certificate issued by GETCO for the verification period (27/09/2010-14/10/2011)
// 21//	Invoice raised by J. N. Investment & Trading Co. Private Limited and Vish Wind Infrastructure LLP to GUVNL for the verification period (27/09/2010-14/10/2011)
// 22//	Calibration certificates of the main GETCO meters having serial number GJB 01470, GJU 04175 and GJU 04176 dated 22/01/2010 and serial number KAB11082 dated 29/05/2010
// 23//	Calibration certificates of the main GETCO meters having serial number GJB 01470, GJU 04175 and GJU 04176 and KAB11082 dated 17/01/2012
// 24//	Calibration certificates of the cluster meters having serial number GJU60940, GJU60941, GJU60942 and GJU60945 dated 03/09/2010 and cluster meters having serial number 10058384 and 10059202 were calibrated on 20/03/2010
// 25//	Daily Generation Report of the Project activity WTG (LCS meter reading) for the month of July 2011
// 26//	Declaration from Vish Wind Infrastructure LLP dated 29/07/2013 that the project shall not claim credits for the same GHG emission reduction under the VCS and the CDM
// 27//	Declaration from J. N. Investment & Trading Co. Private Limited dated 29/07/2013 that the project shall not claim credits for the same GHG emission reduction under the VCS and the CDM

Annexure IV :Curricula Vitae of the DOE'S Validation and Verification Team Members

Anurag Juyal- Team Leader

Bureau Veritas Certification, Lead Verifier - Climate change

Mr. Anurag Juyal is a Post-graduate in Energy Systems with around 6 years of experience in the field of climate change services. He is working in Bureau Veritas Certification (India) Pvt. Ltd. as Verifier-Climate Change. Prior to joining Bureau Veritas, he worked on GS/CDM/VCS projects as a consultant. He has received extensive training in CDM validation and verification processes and participated in assessment of CDM projects.

Pratik Bhattacharya– Team Member

Bureau Veritas Certification, Lead Verifier - Climate change

Graduate in Mechanical Engineering from Kavikulguru Institute of Technology and Science (Nagpur University) and Post graduate Diploma in Energy Management from Indian Institute of Social Welfare and Business Management (Calcutta University) and Certified Energy Auditor under Bureau of Energy Efficiency (Government of India, Ministry of Power). He has around 4 years of experience in System Designing (HVAC) and Energy Auditing. He has undergone intensive training on Clean Development Mechanism and Environment Management System. He is involved in validation and Verification of CDM and VCS projects activities.

Bhavesh Prajapati, Internal Technical Reviewer

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.