

BUNDLED WIND ENERGY GENERATION PROJECTS IN GUJARAT, INDIA



Project Title	Bundled wind energy generation projects in Gujarat, India
Version	04
Report ID	CCP.VOL0824 MP07(VCS ID 412)

Report Title	Verification Report for "Bundled wind energy generation projects in Gujarat, India."
Client	Wind World (India) Ltd(Formerly known as Enercon(India) Limited)
Pages	27
Date of Issue	28/07/2014
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Summary:

SGS United Kingdom Ltd has performed the Voluntary Emission Reduction verification of the VCS project “Bundled wind energy generation projects in Gujarat, India”. The verification includes confirming the implementation of the monitoring plan of the registered VCS PD (Project ID 412) and the application of the monitoring methodology as per ACM0002 version 6 dated 19/05/2006. A site visit was conducted to verify the data submitted in the monitoring report.

The project activity involves the installation of 75 WTGs with a total installed capacity of 59.4 MW. The breakdown of the 75 WTGs is as follows: 72 WTGs (E-48 Enercon) of 0.8 MW capacity each & 3 WTGs (E-40 Enercon) of 0.6 MW. The generated electricity is being supplied to the Western Regional Grid. Thus, the project contributes towards reducing GHG emissions by replacing the same amount of electricity from the Western Regional Grid, which would otherwise be generated by a fossil fuel based power plant.

The report describes a total of 03 findings which include:

- 03 Corrective Action Requests (CARs);
- 0 Clarification Requests (CLs);
- 0 Forward Action Requests (FARs);

All findings have been closed satisfactorily and this has been discussed in Appendix 2 of this verification report.

SGS confirms that the project is implemented in accordance with the validated and registered VCS PD except the deviation as discussed in section 3.3 of this report. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated, SGS confirms that the implementation of the project has resulted in **60,563 tCO₂e** during the period 01/05/2013 to 31/12/2013.

Abbreviations

BEF	Baseline Emission Factor
CAR	Corrective Action Request
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMP	Conference of Parties Serving as Meeting of Parties
CO ₂	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
EIL	Enercon India Limited
EPC	Engineering, Procurement and Construction
FAR	Forward Action Request
GEDA	Gujarat Energy Development Agency
GETCO	Gujarat Energy Transmission Corporation Limited
GHG	Green House Gas
GOI	Government of India
GUVNL	Gujarat Urja Vikas Nigam Limited
ISO	International Standards Organization
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MFR	Multi-Function Relay
MR	Monitoring Report
MW	Megawatt
MWh	Megawatt-hour
NEWNE	Northern Eastern Western Northern-Eastern
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Proponent
PPA	Power Purchase Agreement
SCADA	Supervisory Control And Data Acquisition
SGS	SGS United Kingdom Limited
QA/QC	Quality Assurance and Quality Control
UNFCCC	United Nations Framework Convention on Climate Change

WWIL	Wind World(India) Limited
WTG/WEG/W EC	Wind Turbine Generator/Wind Energy Generator/Wind Energy Converter
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

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1 INTRODUCTION

1.1 Objective

SGS United Kingdom Ltd has been contracted by Wind World (India) Ltd (formerly known as Enercon (India) Limited) to perform an independent verification of the seventh periodic verification of the VCS Registered project entitled “Bundled wind energy generation projects in Gujarat, India” (VCS ID 412) against VCS Standard Version 3.4^{/1/}. The assessment team have reviewed the GHG data collected to date for the period from 01/05/2013 to 31/12/2013 (both days included).

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the project has resulted in emission reductions as declared by the organisation or the project GHG assertion;
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

1.2 Scope and Criteria

This engagement covers the VCS verification of emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the VCS Registered its project entitled “Bundled wind energy generation projects in Gujarat, India” as per the registered VCS PD^{/4/}, version 04 dated 22/05/2007.

Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Our examination includes assessment, on a test basis, of evidence relevant to the amounts and disclosures in relation to the project GHG emission reductions for the defined reporting period.

The verification is not meant to provide any consulting towards the Client. However, requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of Assurance

The level of assurance of the verification report falls under reasonable assurance.

1.4 Summary Description of the Project

This engagement covers emissions and emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the following project and period.

Title of Project Activity:	Bundled wind energy generation projects in Gujarat, India
VCS ID	412
MP Covered in this Report	01/05/2013 to 31/12/2013
Project Proponents	Wind World (India) Ltd (Formerly known as Enercon (India) Limited)
Location of the Project Activity:	Sites: Bamnasa; Jodhapar; Kuranga; Navadra; Okha Madhi & Satapar District: Jamnagar State: Gujarat Country: India

The project activity involves electricity generation by WTGs and the supply of the generated electricity to the Western regional grid (Part of NEWNE Grid). This project falls in the category of renewable energy generation, which replaces electricity generation from the fossil fuel dominated grid. The project activity consists of 75 WTGs with a total installed capacity of 59.4 MW. The breakdown of the 75 WTGs is as follows: 72 WTGs (E-48) of 0.8 MW capacity each & 3 WTGs (E-40) of 0.6 MW each. Both the models (E-40 & E-48) have been sourced from Enercon. The WTGs have been commissioned between 30th June 2004 and 29th September 2006. The same has been verified through the commissioning certificates^{/11/}.

All 75 WTGs are fully functioning and the assessment team verified this during the site visit.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification is performed using the following process.

SGS generates a verification checklist, which describes the verification approach. This checklist also allows a full understanding of :

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the Monitoring Report.

Using the Verification checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report^{/3/} for the period in question. This involved a site visit and a desk review of the Monitoring Report^{/3/}. This verification report describes the findings of this assessment.

2.2 Document Review

The registered VCS PD^{/4/}, VCS MR^{/3/}, VCS validation report^{/9/} and additional supporting documents submitted by the client and related to the project performance were reviewed. A complete list of all documents reviewed is mentioned in Appendix 1 of this report.

2.3 Interviews

The verification team has carried out interviews in order to verify the information included in the project documentation and to gain additional information regarding the compliance of the project with the VCS requirements. Before, during and after the on-site visit, the verification team has interviewed the representatives of the PP to confirm selected information and to clarify issues identified during the document review and the site visit. Representatives of WWIL (formerly known as EIL) (project consultant and O&M contractor) were also interviewed. The names and designations of the personnel interviewed are mentioned in section 2.4 of this report.

The main topics covered during the interview are as follows:

- General Aspects of the project
- Project Implementation
- Equipment and operation
- Staff Training procedures
- Calibration procedures
- Monitoring & Measuring System
- Data collection, recording and archiving procedure
- QA/QC procedures
- VCS documentation
- Emission reduction calculations

2.4 Site Inspections

As part of the verification, an on-site inspection has been performed by the Lead Assessor/ Local Assessor/ Sectoral Expert (TA1.2). The site visit was carried out on 24/03/2014 and 25/03/2014. During the site visit, representatives of the PP were interviewed; i.e. personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed and the topics discussed are mentioned in the table below:

Location: Bamnasa; Jodhapar; Kuranga; Navadra; Okha Madhi & Satapar District: Jamnagar State: Gujarat Country: India	Date: 24/03/2014 and 25/03/2014
Coverage Electricity Generation Records (Monthly Form B, Invoices and credit notes) Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure	Source of Information / Persons Interviewed Mr. Bhupendra Verma (Dy.Manger, WWIL) Mr.M.M Jadeja (Site Incharge, WWIL)
Monitoring and measuring system - Collection of measurements - Observations of established practices - Data Verification of monitoring parameters	Mr. Bhupendra Verma (Dy.Manger, WWIL) Mr. B.K Kudegiya(Assistant Engg.WWIL)
QA/QC procedures, data management, internal audits to maintain data quality & reliability, maintenance Practices Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations	Mr. Bhupendra Verma (Dy.Manger, WWIL) Mr.B.K Kudegiya(Assistant Engg.WWIL)
Discussion to clarify issues identified during the document review and the site visit through the findings document	Mr. Bhupendra Verma (Dy.Manger, WWIL)

2.5 Resolution of Findings

As an outcome of the verification process, the team can raise different types of findings.

In general, where insufficient or inaccurate information is available and clarification or new information is required the team shall raise a Clarification Request (CL) specifying what additional information is required.

Where a non-conformance arises the team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- I. The verification is not able to obtain sufficient evidence for the reported emission reductions or part of the reported emission reductions. In this case, these emission reductions shall not be verified and certified;
- II. The verification has identified misstatements in the reported emission reductions. Emission reductions with misstatements shall be discounted based on the verifiers' ex-post determination of the achieved emission reductions.

The verification process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

FARs may be raised which are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

Corrective Action Requests and Clarification Requests are detailed in the Verification Checklist. The Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

No clarification requests or forward action request was raised during the seventh periodic verification. However, 02 corrective action requests have been raised during the verification process. The details of the findings have been provided under Appendix 2 of this report.

2.5.1 Forward Action Requests

No forward action request has been raised during this verification.

2.6 Eligibility for Validation Activities

Not applicable to this project activity. This project activity is registered under the VCS Version 1. Thus it is concluded that all the rules and validation requirements set by the VCS were already taken care of at the time of the VCS validation of the project activity. Thus no further validation is required for the project activity.

3 VALIDATION FINDINGS

This project activity is registered under the VCS Version 1. Thus it is concluded that all the rules and validation requirements set by VCS were already taken care of at the time of the VCS validation of the project activity. Thus no further validation is required for the project activity.

3.1 Participation under Other GHG Programs

The project activity is already registered under the VCS Version 1 (VCS Project ID 412) hence no gap validation is required.

3.2 Methodology Deviations

Not applicable as no methodological deviations are found during the current verification.

3.3 Project Description Deviations

The company Indo Fashions Pvt Ltd who is one of the project developers merged with the company Surbhi Textile Mills Pvt Ltd in August 2010. This issue was covered under the deviation taken during the fourth verification of this project activity (monitoring period from 01/07/2010 to 31/07/2011):

The deviation was accepted and approved by the VCS board and hence valid from fourth verification onwards. The assessment team confirms that the deviations do not impact any of the following:

- The applicability of the methodology.
- Additionality.
- The appropriateness of the baseline scenario.

The assessment team also confirms that the deviation is appropriately described and justified in the monitoring report, and the project remains in compliance with the VCS rules and hence concluded that the project deviation is valid.

There is no other deviation observed during the seventh periodic verification. During the site visit to the project activity, it is confirmed that the implementation of the project activity is in accordance with the project description mentioned in the registered VCS PD.

3.4 Grouped Project

The assessment team confirmed that the project is not a grouped project and hence this is not applicable to this project activity.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is implemented and equipments are installed^{11/} as described in the registered VCS PD.

The project activity has been commissioned^{11/} and is operating satisfactorily. The same has been checked and verified during the site visit to the project activity. The commissioning of all the WTGs have been verified against their commissioning certificates^{11/}.

It is noted that the name of the PP has changed from Enercon (India) Limited to Wind World (India) Limited. This is verified through "Certificate of Incorporation Consequent up on change of name issued by the Ministry of Corporate Affairs (GOI)", dated 01/01/2013^{/15/}. The PP name is also updated as Wind World (India) Limited in the APX VCS registry account, screenshot of the registry^{/16/} account is checked and found to be correct.

The monitoring of the project activity is found to be in accordance with the monitoring methodology described in ACM0002, Version 06^{/6/}. The monitoring mechanism is effective and reliable. During the site visit, personnel involved at various levels of the operation of the project activity have been interviewed to confirm that the plant personnel are aware of the importance of the monitoring activities. The on-site verification of the plant records also substantiate consistency in recording and reporting of monitored data.

The required monitoring systems have been installed and are operational. The meters comply with appropriate quality standards applicable for the used technology. The accuracy class of the meters installed for the project activity was verified against the registered VCS PD^{/4/}; VCS MR^{/3/} and verification reports of the previous monitoring periods^{/9/} and cross-checked against the Wheeling and Banking agreements (PPA)^{/12/} signed for the project activity.

The meter details are described in section 4.3 of this report. The supporting records of monthly share certificates^{/7/} and monthly invoices^{/8/} for the entire monitoring period were checked and found to be sufficient to enable verification of emission reductions.

The parameter "Net electricity supplied to the grid by the Project (EGy)" has been verified for the calculation of emission reductions. EG_y has been considered as mentioned in the share certificates issued by the state electricity authority. The WTGs belonging to the project activity are connected to the State Grid Authority sub-stations through different feeders where other WTGs of other customers (not part of the project activity) are also connected. As a result, apportioning of the generated electricity by the project WTGs at grid interface is carried out to calculate electricity supplied by the project activity. The apportioning of electricity generated by the project activity is entirely under jurisdiction of GUVNL and the project proponent has no role in computing and furnishing the apportioned electricity for themselves.

This parameter is used for the emission reduction calculations. Furthermore, this parameter has been cross verified against the invoices^{/8/} raised by the PP and found correct, hence accepted. The value of this parameter for the current monitoring period is 64413.903 MWh.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The calculation of the emission reductions is found to be correct. The details of the verified values for the monitored parameter are provided in section 4.1 of this report.

The net electricity supplied to grid by the project activity is used for the emission reduction calculations. The project proponent has provided a complete set of data for the specified monitoring period 01/05/2013 up to 31/12/2013.

The values of parameter reported in the ER spreadsheet^{/5/} submitted by the PP is verified with the share certificates^{/7/} and cross checked with invoices raised by the project proponent^{/8/}. The values are found to be consistent and accurate.

The formula and method used to calculate the baseline emissions are appropriate. Since the project is a wind power generation project, project emissions and leakage emissions are not involved in the project activity. This is found to be in line with the approved methodology ACM0002 version 06 and as defined in the registered VCS PD^{/4/}.

The PP has calculated the grid emission factor as per the combined margin approach described in the methodology ACM0002 version 06. The grid emission factor has been calculated as the weighted average of OM & BM; and has been fixed ex-ante for the entire crediting period.

The OM and BM have been obtained from the publicly available source i.e. “CO₂ Baseline Database for Indian Power sector” version 1.1^{/10/} published by Central Electricity Authority, Ministry of Power, Government of India. The OM has been determined as the average of the previous 3 years values mentioned in the CEA database. The value of BM has been identified directly from the CEA database. The combined margin emission factor has been arrived at by applying weights of 75% for OM and 25% for BM, as specified in the methodology ACM0002 version 06.

The OM and BM have been calculated to be 0.9945 tCO₂/MWh and 0.7772 tCO₂/MWh respectively. Applying the weights, the grid emission factor has been calculated to be 0.94022 tCO₂/MWh.

The PP has referred to the correct version of the CEA database^{/10/} to obtain the value of grid emission factor. The values have been checked against the database and found to be correct. Also, the calculation of the emission factor is in line with that mentioned in the registered VCS PD^{/4/} and the applied methodology.

As per the ER excel spreadsheet^{/5/} submitted by the PP, the net emission reductions for the current monitoring period was verified as 60,563 tCO_{2e} for the current monitoring period.

The assessment team therefore confirm that the GHG emission reductions and removals have been quantified correctly in accordance with the project description and applied methodology.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The parameter used for the determination of the Emission Reductions is discussed in section 4.1 of this report. The data pertaining to the parameters mentioned in section 4.1 of this report are maintained in the identified records^{/7/, /8/}. The external sources data have been discussed in section 4.2 of this report. All the data is in compliance with the figures stated in the monitoring report^{/3/} and the ER calculation excel spreadsheet^{/5/}.

According to the registered VCS PD, the verification team has checked the share certificates^{/7/} signed by GUVNL and WWIL officials. The same have being cross checked against the invoices raised to GUVNL by individual investors. Since the monthly share certificates and monthly invoices have been issued by the state utility hence they are found to be reliable and authentic.

As per the registered VCS PD^{/4/} (version 04, dated 22/05/2007), the operations, maintenance and monitoring of the project activity is being carried out by WWIL (formerly known as Enercon (India) Limited) whose operation and maintenance activities are ISO 9001:2008 certified, same is verified during the site visit. Hence it is confirmed that the management system of the VCS project is in place; with the responsibilities properly identified.

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

Substation Name	Meter Sr. No.	Accuracy class (%)	Calibration Dates	Calibration Due Date
Bhogat	GJB 00486	0.5	23/11/2010 and 09/12/2013	09/12/2016
	GJU 07452	0.2	23/11/2010 and 09/12/2013	
Navadra	GJB 00267	0.5	29/05/2010 and 13/12/2013	13/12/2016
	GJB 00269	0.5	29/05/2010 and 13/12/2013	

The meters used to measure the parameters are of accuracy class 0.5s and 0.2s as verified through calibration certificates^{/13/} and also physical inspection during the site visit.

The details of monitoring equipments involved in the project activity and their calibration details^{/13/} are mentioned in the table under section 3.3 of the VCS MR^{3/}. The meters have been physically inspected during the site visit and the meter details are found to be consistent with the same mentioned in the VCS MR^{3/} and registered VCS PD^{/4/}.

The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006^{/14/} which is considered as national standard mentions that "All interface meters shall be tested at least once in five years." Hence, the stipulated calibration frequency of once in 3 years^{/17/} is appropriate. As indicated through the dates of calibration mentioned in the table under section 3.3 of the VCS MR, all meters are calibrated once a year. The date of calibration has been verified against the calibration certificates^{/13/}. It is observed that the calibration of the meters was not carried out in line with the provisions as mentioned in registered VCS PD. The assessment team has verified the latest calibration certificate and confirmed that the results of delayed calibration does not show any error which is beyond the permissible error as specified by the manufacturer of meters as part of their technical specifications.

In line with the guidelines provided under paragraph 283(a) of VVS version 07, the PP has applied the maximum error factor to the measured values corresponding to delayed calibration period. This is verified through the ER calculation sheet and found to be appropriate and hence accepted.

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

4.4 Non-Permanence Risk Analysis

Not applicable in this project activity.

5 VERIFICATION CONCLUSION

The scope of the verification

SGS have been contracted by Wind World (India) Ltd (Formerly known as Enercon India Limited) to verify that the greenhouse gas (GHG) emission reductions reported for the period 01/05/2013 to 31/12/2013 for the “Bundled wind energy generation projects in Gujarat, India” (VCS ID-412) in the VCS Monitoring Report Version 04 dated 25/07/2014 are eligible for issuance as Verified Carbon Units.

This engagement covers the verification of emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of “Bundled wind energy generation projects in Gujarat, India” (VCS ID-412).

The verification is not meant to provide any consulting towards the Client. However, requests for clarifications and/or corrective actions may provide input for improvement of the project design.

Conclusions of the verification

(a) SGS is an entity accredited by the United Nations Framework Convention on Climate Change (UNFCCC) to undertake certification and verification services in the sector in which the Project is undertaken. The accreditation is accepted by VCSA as indicated in Clause 5 of VCS Program Guide Version 3.5^{/2/}.

(b) The VCS Monitoring Report, together with other information examined, (appendix 1 for full list) was prepared as per the VCS Monitoring Report Template, Version 3.3.

(c) The information in the VCS Monitoring Report together with other information examined (appendix 1 for full list), including all the information necessary to determine that the emission reductions achieved have been determined correctly.

(d) Based on the examination of the VCS Monitoring Report and other relevant information (appendix 1 for full list), the project meets all the requirements of the VCS Standard Version 3.4^{/1/}.

(e) Based on our examination of the VCS Monitoring Report^{/3/} and other relevant information, the emission reductions during the monitoring period from 01/05/2013 to 31/12/2013 (both the days included) are verified as 60,563tCO₂e.

Liability statement with regards to the accuracy of the verification statement

The management of Wind World (India) Ltd (Formerly known as Enercon India Limited) is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions. SGS is responsible for verification and confirming reported emissions for the project, as described in the VCS Monitoring Report.

Our certification approach draws on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Our examination includes an assessment of evidence, through desk review, and where necessary, interviews, stakeholder discussions and site visits, relevant to certifying the rightfulness of the amounts and disclosures in relation to the Project's GHG emission reductions.

We planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that the amount of GHG emission reductions for the given period, prepared on the basis of the Monitoring Report, are fairly stated.

This assessment included:

- Collection of evidence supporting the reported data;
- Checking whether the provisions of the Monitoring Plan in the registered VCS PD, were consistently and appropriately applied;
- Site visit and interview of relevant staff.

We have verified whether the information included in the VCS Monitoring Report representing the emission reductions achieved has been determined correctly for the given period from the baseline figure.

Certification statements

Based on process and procedures conducted, in our opinion, the VCS Monitoring Report Version 04 dated 25/07/2014 on emission reductions for the reporting period 01/05/2013 to 31/12/2013 (both days included), for the VCS Registered project entitled "Bundled wind energy generation projects in Gujarat, India", (VCS ID 412) is materially correct and is a fair representation of the GHG data, information and the emission reductions during this period. All relevant facts have been found correct by our examination. The GHG emission reductions calculation is also confirmed as correct.

Therefore, SGS is able to certify that the project is in full compliance with the VCS Standard Version 3.4, and the quantity of the reported emission reductions during the below reporting period are completely, comparably, accurately and correctly reported.

Verification period: From 01/05/2013 to 31/12/2013

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

Year	Baseline emissions or 19removals (tCO ₂ e)	Project emissions or 19removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or 19removals (tCO ₂ e)
2013	60,563	0	0	60,563

Vintage Period	VCUs
1 st May 2013 to 31 st Dec 2013	60,563
Total VCUS(tCO₂e)	60,563

Statement of Confidentiality

SGS will hold all information confidential until the client instructs otherwise or until it has been released in accordance with the VCS Standard Version 3.4^{1/} requirements.

Signed on behalf of the Verification Body by Authorized Signatory

SGS United Kingdom Limited

Dated: 28/07/2014

Dated: 30/07/2014

Signature:



Signature:



Lead Assessor

Technical Reviewer

Ravi Kant Soni

Shivaji Chakraborty

APPENDIX 1: DOCUMENT REFERENCES

1. VCS Standard Version 3.4															
2. VCS Program Guide Version 3.5															
3. VCS Monitoring Report, i. Version 01,dated 20/02/2014 ii. Version 02,dated 23/05/2014 iii. Version 03,dated 13/06/2014 iv. Version 04,dated 25/07/2014															
4. Registered VCS PD version 04, dated 22/05/2007															
5. Emission Reduction Spreadsheet, i. Version 01,dated 04/04/2014 ii. Version 02 ,dated 23/05/2014 iii. Version 03,dated 25/07/2014															
6. Approved consolidated methodology ACM0002, Version 06 dated 19/05/2006															
7. Monthly share certificates issued by state utility for the current monitoring period.															
8. Invoices for project activity for current monitoring period raised by PP to state utility.															
9. VCS project web page (https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=412&lat=22%2E011389&lon=69%2E170361&bp=1)															
10. CEA database Version 1.1 http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm															
11. Commissioning certificates for all the WTGs of project activity															
12. Power Purchase Agreement (Wheeling and banking agreements) between Entities involved (other investors) and GUVNL.															
13. Calibration Certificates for current monitoring period															
<table><tr><td>Meter Location</td><td>Meter serial No.</td><td>Date of calibration</td><td>Entity responsible for the calibration</td></tr><tr><td rowspan="2">Bhogat</td><td>GJB 00486</td><td>23/11/2010 and 09/12/2013</td><td rowspan="4">State utility(GUVNL/GET CO)</td></tr><tr><td>GJU 07452</td><td>23/11/2010 and 09/12/2013</td></tr><tr><td rowspan="2">Navadra</td><td>GJB 00267</td><td>29/05/2010 and 13/12/2013</td></tr><tr><td>GJB 00269</td><td>29/05/2010 and 13/12/2013</td></tr></table>	Meter Location	Meter serial No.	Date of calibration	Entity responsible for the calibration	Bhogat	GJB 00486	23/11/2010 and 09/12/2013	State utility(GUVNL/GET CO)	GJU 07452	23/11/2010 and 09/12/2013	Navadra	GJB 00267	29/05/2010 and 13/12/2013	GJB 00269	29/05/2010 and 13/12/2013
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Bhogat	GJB 00486	23/11/2010 and 09/12/2013	State utility(GUVNL/GET CO)												
	GJU 07452	23/11/2010 and 09/12/2013													
Navadra	GJB 00267	29/05/2010 and 13/12/2013													
	GJB 00269	29/05/2010 and 13/12/2013													
14. Central Electricity Authority (Installation and Operation of Meters) Regulations a. Notified on 17/03/2006 No. 502/70/CEA/DP&D b. Amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I															
15. Fresh Certificate of Incorporation Consequent up on change of name issued by the Ministry of Corporate Affairs (GOI), dated 01/01/2013 Snap shot of APX VCS registry															
16. Snap shot of APX VCS registry															

17. Letter issued by GUVNL confirming the calibration frequency as once in 3 years, dated 10/02/2010 (Ref: GUVNL/Com/CFM(IPP)/GETCO:290)
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APPENDIX 2: OVERVIEW OF FINDINGS

Findings Overview Summary

	CARs	CLs	OBSs
Total Number raised	03	00	00

Date:	25/03/2014		Raised by:	Assessment team	
Type:	CAR	Number:	01	Reference:	AU4
Lead Assessor Comment:					
Calibration details provided under section 3.3 of MR don't cover the current monitoring period, it is not clear if meters were calibrated during current monitoring period.					
Project Participant Response:				Date: 23/05/2014	
Latest calibration details of meters are enclosed for reference. We would like to clarify to DOE that all the meters are under the control of state utility & PP doesn't have any control on maintenance & calibration of meters. Further latest dated calibration records have been submitted to DOE. Since there is delay in calibration of meters that's why while calculating the emission reduction by project activity error correction factor as per the VVS standard 06.0("Compliance with the calibration frequency requirements for measuring instruments"), paragraph 273 (a) has been applied. As per the VVS standard 06.0, error correction factor of -0.5% has been applied on net export value as sourced by GEDA certificate. For the WEGs connected at Bhogat sub-station error factor is applied on Nov & Dec 13 generation data while for Navadra sub-station error factor is applied from May 13 to Dec 13 generation data.					
Documentation Provided by Project Participant:					
Meter calibration detail issued by GEDA MR (Version 2.0),dated 23/05/2014 ER Sheet_59.4 MW_May 13 to Dec 13 (version 2.0),dated 23/05/2014					
Information Verified by Lead Assessor:					
Following documents are checked Meter calibration detail issued by GEDA MR (Version 2.0),dated 23/05/2014 ER Sheet_59.4 MW_May 13 to Dec 13 (version 2.0),dated 23/05/2014					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 30/05/2014	
PP has provided the calibration details of meters covering current monitoring period and the same is verified through the detail provided by GEDA and found to be consistent. It is observed that calibration of meters got delayed during current monitoring period hence in line with the guidelines provided under paragraph 273(a) of VVS version 06; PP has applied the correction error to the measured parameters for the relevant months. Hence CAR #1 is closed					
Acceptance and Close out by Lead Assessor:				Date: 30/05/2014	
CAR #1 re-opened					
Lead Assessor Comment:				Date: 09/06/2014	
In section 3.3 of MR, It is confirmed that the accuracy class of all the meters are 0.5s but one meter installed at Bhogat is of the accuracy class 0.2s.Please clarify the inconsistency. Under appendix 2 of MR it is mentioned that the Indo Fashions Pvt Ltd. amalgamated with Surbhi Textile Mills Pvt Ltd, Surat effective from August,2010.Please clarify why this information is not discussed under section					

2.2.2 of MR.	
Please clarify why the latest template of monitoring report is not used.	
Please clarify why error correction factor as 0.5% is applied for all the parameters in ER sheet.	
Project Participant Response:	Date: 13/06/2014
This is to confirm that meters installed at the project site are of accuracy class of 0.2% & 0.5%. Out of total 4 meters 3 meters are of 0.5% accuracy class while 1 meter is of 0.2% accuracy class. Same has been mentioned in revised MR.	
The information is mentioned in section 2.2.2 of MR in line with VCS MR template requirements.	
MR has been revised to latest template.	
We would like to clarify to DOE that at project site there is joint metering at sub-station that's why being conservative PP has applied correction factor of 0.5% on generation data.	
Documentation Provided by Project Participant:	
Revised MR version 3.0, dated 13/06/2014	
Information Verified by Lead Assessor:	
Revised MR version 3.0, dated 13/06/2014 is checked.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 18/06/2014
The accuracy class of meters reported in revised MR is correct and consistent as verified during site visit.	
Closed	
PP has reported the necessary information's regarding project deviation in section 2.2.2 of MR, found to be acceptable. Closed	
PP has used the latest template of VCS MR, found to be acceptable. Closed	
PP has consistently applied the error factor as 0.5% while addressing the calibration delay. This approach is found to be conservative, hence accepted. Closed	
CAR #1 is closed.	
Acceptance and Close out by Lead Assessor:	Date: 18/06/2014

Date:	25/03/2014		Raised by:	Assessment team	
Type:	CAR	Number:	02	Reference:	AU4
Lead Assessor Comment:					
Please provide the following documents for current monitoring period: - Monthly share certificates - Monthly invoices - ER calculation sheet					
Project Participant Response:				Date: 23/05/2014	
- Monthly share certificates have already been provided to DOE. - Monthly invoices have already been submitted to DOE through CD. - ER calculation sheet has already been provided to DOE.					
Documentation Provided by Project Participant:					
Monthly share certificates for current monitoring period					
Monthly invoices for current monitoring period					
ER calculation sheet version 01,04/04/2014					
Information Verified by Lead Assessor:					
Following documents are checked:					
Monthly share certificates for current monitoring period					
Monthly invoices for current monitoring period					
ER calculation sheet version 01,04/04/2014					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 30/05/2014	
PP has submitted the documents and the same is checked and found to be correct.					
CAR #2 closed.					
Acceptance and Close out by Lead Assessor:				Date: 30/05/2014	

Date:	23/07/2014		Raised by:	Assessment team	
Type:	CAR	Number:	03	Reference:	AU4
Lead Assessor Comment:					
MR: Monitoring period number as mentioned in section 1.1 of MR is not correct. Version of applied methodology ACM0002 is not consistent in MR. Delay in calibration of meters found during the current monitoring period, please clarify why the corrective action taken to address the delay is not discussed in section 3.3 of MR. ER calculation sheet: Generation details tab: Please clarify why the latest version of VVS is not referred in Cell P1.					
Project Participant Response:				Date: 25/07/2014	
MR: Section 1.1 has been revised in line with the comment. The version of the methodology has been made consistent in the revised MR. The explanation for the delay in the calibration has been provided in the revised MR. ER calculation sheet: The latest version of the VVS has been referred in the revised ER calculation sheet.					
Documentation Provided by Project Participant:					
MR version 04,dated 25/07/2014					
ER sheet version 03,dated 25/07/2014					
Information Verified by Lead Assessor:					
Revised MR version 04, dated 25/07/2014 and ER calculation sheet version 03,dated 25/07/2014 is checked.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/07/2014	
The PP has addressed all the comments in revised MR and ER sheet appropriately. CAR #3 is closed.					
Acceptance and Close out by Lead Assessor:				Date: 28/07/2014	

APPENDIX 3: TEAM MEMBERS STATEMENTS OF COMPETENCY

Statement of Competence

Name: Ravi Kant Soni

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	India	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 12/10/2012

Statement of Competence

Name: Ahmed
Rekibuddin

Status

- Lead Assessor		- Expert	
- Assessor	x	- Financial Expert	
- Local Assessor	India	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	
Technical Area(s):	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 02/11/2012

Statement of Competence

Name: Shivaji Chakraborty

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	India	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s):	
TA 1.1 Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	x
Technical Area(s): TA 2.1 Electricity distribution	
TA 2.2 Heat distribution	
3. Energy Demand	x
Technical Area(s): TA 3.1 Energy Demand	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 19/09/2012