

CHAKALA WIND POWER PROJECT IN MAHARASHTRA

Document Prepared By

SGS United Kingdom Limited



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Summary:

SGS United Kingdom Ltd has performed the verification of the project “Chakala wind power project in Maharashtra” bearing CDM UNFCCC No. 9472 and VCS ID PL1197 against VCS Standard Version 3.4. The verification includes confirming the implementation of the monitoring plan of the registered CDM PDD Version 7.0 dated 29/12/2012 and the application of the monitoring methodology as per ACM0002 Version 13.0.0. A site visit was conducted to verify the data submitted in the Monitoring Report.

The project activity comprises of 26 Wind Electric Generators (WEGs) of Suzlon Energy Limited’s (SEL) S82 model, each with a capacity of 1.5 MW. Total installed capacity of the project activity is 39 MW. The generated electricity is being supplied to the NEWNE (North, Eastern, Western and North Eastern) Grid. Thus, the project contributes towards reducing GHG emissions by replacing the same amount of electricity from the NEWNE Grid which would otherwise be generated by a fossil fuel based power plant.

The report describes a total of 05 findings which include:

- 05 Corrective Action Requests (CARs)
- 00 Clarification Requests (CLs)
- 00 Forward Action Requests (FARs)

All findings have been closed satisfactorily and have been discussed in Annex 2 of this report.

SGS confirms that the project is implemented in accordance with the registered CDM PDD, version 07, dated 29/12/2012. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and validated project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 76,534 tCO₂e emission reductions during period **30/12/2011 to 01/01/2013** (both days inclusive).

Abbreviations

ACM	Approved Consolidated Methodology
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CL	Clarification Request
DISCOM	Distribution company
EB	Executive Board
EPC	Engineering and Procurement Contractor
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse Gases
ISO	International Organization for Standardization
JMR	Joint Meter Report
LCS	Local Controller System
MGR	Monthly Generation Report
MP	Monitoring Period
MR	Monitoring Report
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MW	Mega Watt
MWh	MegaWatt hour
NEWNE	Integrated Northern, Eastern, Western, and North-Eastern regional grids
OM	Operating Margin
O&M	Operation & Maintenance
PD	Project Description
PDD	Project Design Document
PP	Project Proponent
PPA	Power Purchase Agreement
QA/QC	Quality Assurance/Quality Control
REC	Renewable Energy Certificate
SEL	Suzlon Energy Limited
tCO ₂	Tonnes of Carbon Dioxide
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard

VCSA	Verified Carbon Standard Association
VCS PD	VCS Project Description
VCU	Verified Carbon Unit
WEG	Wind Electricity Generator
WTG	Wind Turbine Generator

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1 INTRODUCTION

1.1 Objective

SGS United Kingdom Ltd has been contracted by M/s Bindu Vayu Urja Private Limited to perform an independent verification of its project “Chakala wind power project in Maharashtra” (CDM UNFCCC No. 9472)^{/8/} against VCS Standard Version 3.4^{/1/}. The assessment team have reviewed the GHG data collected to date for the period from 30th December 2011 to 1st Jan 2013 (both days inclusive).

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 GHG project's 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 “Chakala wind power project in Maharashtra” as per the registered CDM PDD, version 7.0 dated 29/12/2012 and gap validation of VCS PD version 06 dated 15/05/2014^{/4/}.

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's GHG emission reductions for the defined reporting period.

The verification is not meant to provide any consulting towards the Client. However, stated 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 engagements as selected by the Client. Materiality for the project is 5%.

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:	Chakala wind power project in Maharashtra
UN Registration No.	9472
MP Covered in this Report	30th December 2011 to 01st Jan 2013 (both days included)
Project Participants	M/s Bindu Vayu Urja Private Limited (BVUPL)

Location of the Project Activity:	The project activity is located at Nandurbar, Maharashtra State, India.
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The project activity involves electricity generation by WTGs and supplying the generated electricity to the NEWNE Grid. This is a renewable energy generation, which replaces the fossil fuel dominated grid connected electricity generation. The project activity results in the reduction of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

The project activity comprises of 26 Wind Electric Generators (WEGs) of Suzlon Energy Limited's (SEL) S82 model, with a capacity of 1.5 MW each. This was checked by the assessment team during the project site visit. This information was also found to be consistent as per the information as mentioned in the registered CDM PDD, version 07, dated 29/12/2012. The WTGs have been commissioned between 30/12/2011 and 22/02/2012. The same was verified against the commissioning certificates^{/15/} and was found to be correct.

All 26 WTGs are fully functional and the assessment team verified this during the site visit.

2 VERIFICATION PROCESS

2.1 Method and Criteria

SGS' approach to the verification is a two-stage process.

In the first stage, SGS completed a strategic review and risk assessment of the projects activities and processes in order to gain 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.

At the end of this stage, SGS produced a Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

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 CDM PDD^{/9/} (version 07, dated 29/12/2012), the CDM Validation report^{/10/}, the VCS MR^{/3/}, the VCS PD^{/4/} and additional supporting documents related to the project performance submitted by the client were reviewed. A complete list of all documents reviewed is mentioned in Annex 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 Suzlon Energy Limited's (SEL) (project consultant and O&M contractor) were also interviewed. The names and designations of the personnel interviewed are mentioned in section 3.4 below.

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 and Sectoral Expert (TA1.2). The site visit was carried out from 07/01/2014 to 08/01/2014. During the site visit, representatives of the PP and SEL (O&M contractor) 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: The project activity is located at Nandurbar, Maharashtra State, India.	Date: from 07/01/2014 to 08/01/2014
Coverage	Source of Information / Persons Interviewed
Electricity Generation Records (monthly energy statements, Invoices and credit notes) Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure	Mr. Anshu Yadav (Executive-MEIL) Mr.Kiran Chaudhari(Sr.Engineer,BVUPL)
Monitoring and measuring system • Collection of measurements • Observations of established practices • Data Verification of monitoring parameters	Mr. Anshu Yadav (Executive-MEIL) Mr.Rane Rahul(Substation In charge ,SEL)
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. Anshu Yadav (Executive-MEIL) Mr.Kiran Chaudhari(Sr.Engineer,BVUPL)
Discussion to clarify issues identified during the	Mr. Anshu Yadav (Executive-

document review and the site visit through the findings document	MEIL)
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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 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 current verification. However 05 corrective action requests have been raised during the verification process. Summary of 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

3 VALIDATION FINDINGS

The site visit to the project activity was conducted on 07/01/2014 – 08/01/2014 (i.e. after 04/04/2013);

The requirement specified in clause 5.2.3 of the VCS standard 3.4 states that *“The project shall be listed on the project pipeline before the opening meeting between the validation/verification body and the project proponent (such opening meeting representing the beginning of the validation process). The validation/verification body is responsible for checking that the project is listed on the project pipeline and shall not conduct the opening meeting or otherwise begin validation until such time as the project is listed”*.

The PP listed their project activity in pipeline on 05/12/2013^{/21/} i.e. prior to conducting the opening meeting on 07/01/2014; hence it is accepted.

This project activity is registered under the CDM (UNFCCC No. 9472)^{/8/} on 31/12/2012. Hence, as per section 3.11.9 (paragraph 1) of the VCS Standard Version 3.4^{/1/} a gap validation has been carried out, which has been described in detail in below.

3.1 Participation under Other GHG Programs

As per the requirement of section 3.11.9 (paragraph 1) of the VCS Standard Version 3.4^{/1/}, the PP has submitted a VCS PD^{/4/} in which the cover page and 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 have been completed. In the submitted VCS PD, the PP has completed only the section mentioned above providing the necessary information and deleted the guidance. The other sections are mentioned as not applicable.

In section 1.2 of the VCS PD^{/4/}, it is mentioned that the project activity is a renewable energy project i.e. it falls under sectoral scope 1 and has confirmed that the project is not a grouped project. This was confirmed from the registered CDM PDD^{/9/}, CDM validation report of the project activity^{/10/} and physical inspection by the assessment team during the site visit.

The contact details and roles/responsibilities of the PP have been mentioned in section 1.3 of the VCS PD^{/4/}. The project is operated and managed by Suzlon Energy Limited. This has been confirmed from the registered CDM PDD (version 7, dated 29/12/2012) and site visit observations. In section 1.5 of the VCS PD^{/4/}, the start date of the project has been mentioned as 30/12/2011 which is the date of commissioning of the first WTG. This was confirmed by checking the commissioning certificates^{/15/} of all the WTGs in the project. The assessment team confirms that the PP has correctly identified the start date of the project as per the definition of the start date as mentioned in section 3.7.1 of the VCS Standard, Version 3.4^{/1/}.

In section 1.6 of the VCS PD^{/4/}, the start and end dates of the crediting period is mentioned as 30/12/2011 and 29/12/2021 respectively. The start date is the date of commissioning^{/15/} of the first WTG i.e. the date on which the project began generating GHG emission reductions. The end date of the first crediting period is 10 years after the start date of the crediting period, i.e., 29th December 2021. The crediting period will be renewed after the end of the first crediting period, however the renewed crediting period will only be until 1st January 2023 (which is also the end date of crediting period for the project activity under CDM).

The crediting period has been selected by the PP as renewal and its validity was found to be in line with the requirements of section 3.8.1, 3.8.2 & 3.8.3 of the VCS Standard Version 3.4^{/1/}. Furthermore, the PP has submitted a self declaration^{/20/} stating that the project shall not claim credits for the same GHG emission reduction under the VCS and the CDM, which has fulfilled the requirement of section 3.11.6 of VCS Standard Version 3.4. It is understood that the client will either claim under VCS or under CDM during the CDM crediting period. This satisfies the requirements of section 3.11.6 of the VCS Standard Version 3.4^{/1/}. Thus the assessment team is of the opinion that the PP has correctly identified the start date of the crediting period and the end date of crediting period, further PP has also complied with the requirements of VCS standard Version 3.4^{/1/} regarding crediting period (section 3.8.1, section 3.8.2, section 3.8.3, section 3.11.6, and 3.11.7).

In section 1.7 of the VCS PD^{/4/}, the scale of the project has been indicated as the category 'project' and the estimated amount of GHG reductions per year has been mentioned as 74,307 tCO₂e. This was checked from the registered CDM PDD of the project activity, version 07, and dated 29/12/2012. Hence, as per section 3.9.1 of the VCS Standard Version 3.4^{/1/}, the PP has correctly identified the scale of the project as 'project', as the annual GHG removal by the project activity is less than 300,000 tCO₂/year.

The details of the project location have been mentioned in section 1.9 of the VCS PD^{/4/}. The PP has indicated the project location by mentioning the geographical co-ordinates of each WTG, which allows for unique and clear identification of the project activity. The range of coordinates was verified using Google maps to confirm the project location. The project location has already been validated during the CDM validation of the project activity and has been confirmed from the validation report^{/10/}. The coordinates have also been checked against the registered CDM PDD^{/9/} and were verified during the site visit and are found to be consistent.

Section 1.10 of the VCS PD^{/4/} states that the project is a Greenfield wind power project at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. Also, as the project is a renewable energy project, electricity generated through this project does not emit any GHGs. It has already been validated and reported in the CDM validation report^{/10/}, during the CDM validation, that this project is a new installation. Also, since it is a wind power project there are no GHG emissions associated with this project and hence it is confirmed that the project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction.

The PP has submitted the commissioning certificates^{/15/} for all WTGs involved in the project and the PPA^{/16/} signed specifically for this project, as evidence of right of use, as mentioned in section 1.12.1 of the VCS PD^{/4/}. These documents have been checked to confirm the ownership of the project. This has also been validated and reported in the CDM validation report^{/10/} of this project activity. Hence it is confirmed that the PP has the right to all GHG emission reductions generated by the project during the project crediting period.

The PP has stated in section 1.12.2 of the VCS PD^{/4/} that project activity does not reduce GHG emissions from activities that are included in emissions trading program or any other mechanism that includes GHG allowance trading. The PP has provided a declaration^{/20/} confirming the same.

The PP has mentioned in section 1.12.3 of the VSC PD^{/4/} that the project activity has not sought or received another form of GHG-related environmental credit. The PP has provided a declaration^{/20/} confirming the same. The possibility of participation of the project activity in REC programme in India was

also checked and PP confirmed through the submitted undertaking^{/20/} that the project was not being registered under the REC programme for the period of the current monitoring period as referred from the web-link https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens. This is found to be in line with the requirements stipulated under section 3.11.3 of VCS standard version 3.4^{/1/} and is therefore acceptable.

The PP has stated in section 1.12.4 of the VCS PD^{/4/} that the project activity has been registered under the CDM (UNFCCC No. 9472) on 31/12/2012. This was confirmed by checking the UNFCCC project webpage^{/8/} for this project activity. Even though the project has been registered under the CDM, it shall not claim credits for the same GHG emission reduction under the VCS and the CDM. This was confirmed through a declaration^{/20/} submitted by the PP and hence accepted by the assessment team.

In section 1.13 of the VCS PD^{/4/} the PP has provided additional information relevant to the project. The project is not a grouped project and hence the identification of eligibility criteria for the inclusion of new instances of each project activity is not applicable. In compliance with the applied methodology, leakage has not been considered for the project activity. This has already been validated and reported in the CDM validation report^{/10/}. Hence the description of the leakage management plan and implementation of leakage and risk mitigation measures is not applicable. The PP has also confirmed that no commercially sensitive information has been excluded from the public version of the project description; hence this section is not applicable.

Discussion of CAR/CL:

CAR #1 was raised due to the following issues:

1. Version of methodology ACM0002 was not correctly reported in the VCS MR and VCS PD.
2. Table of contents was not provided on page 2 of the VCS MR.
3. The name of the PP in section 1.3 of both the VCS PD and VCS MR was not consistent with the information mentioned on the UNFCCC project webpage.
4. Crediting period details as mentioned in section 1.6 of the VCS MR was not correct.
5. Latitude and longitude of WTG location in VCS MR was not reported in the correct format
6. The value of electricity exported to grid during the current monitoring period mentioned in section 2.1 of the VCS MR was not consistent with the ER sheet.
7. The scale of the project was not identified correctly in section 1.7 of the VCS PD.

In response to **CAR #1** PP has submitted the revised VCS PD^{/4/}, VCS MR^{/3/} and clarified that:

1. Version methodology ACM 0002, version 13 is correctly reported in the revised MR and VCS PD.
2. Table of contents is added on page 2 of the VCS MR^{/3/}.
3. Name of the PP in section 1.3 of both the VCS PD^{/4/} and VCS MR^{/3/} is corrected and made consistent with the same mentioned at UNFCCC project webpage.
4. Crediting period details as mentioned in section 1.6 of the VCS MR^{/3/} are corrected.
5. Latitude and longitude of WTG location is reported in the correct format in the revised VCS MR^{/3/}.
6. The value of electricity exported to the grid during the current monitoring period is mentioned in section 2.1 of the VCS MR^{/3/} and is consistent with the ER sheet^{/5/}.
7. The scale of the project is correctly identified in section 1.7 of the VCS PD^{/4/}.

The assessment team has checked the revised VCS MR^{/3/} and VCS PD^{/4/} and confirms that all the issues have been addressed satisfactorily. Hence **CAR #1** was closed out. Detailed discussion is provided in appendix 2 of this report under CAR #1.

CAR #2 was raised due to following issues:

1. The values of emission factors mentioned in the VCS MR were not matching with the values as mentioned in the registered CDM PDD as available from the UNFCCC website.
2. The source of data of the monitored parameters in VCS MR was not matching with the registered PDD.
3. Monitoring equipment details including meter type, serial number and calibration details were not provided in section 3.2 of the VCS MR.
4. The electricity import parameter was not reported in the VCS MR.
5. The QA/QC procedure of the parameter "E imp" in VCS MR did not match the registered CDM PDD.

In response to **CAR #2** the PP has submitted the revised VCS PD^{/4/}, VCS MR^{/3/} and clarified that:

1. Values of emission factors mentioned are corrected in the revised VCS MR^{/4/} and are consistent with the registered CDM PDD.
2. The source of data of the monitored parameters is corrected in line with the registered CDM PDD.
3. Monitoring equipment details including meter type, serial number and calibration details are provided in section 3.2 of the revised VCS MR^{/4/}.
4. The electricity import parameter is reported in the VCS MR^{/4/}.
5. The QA/QC procedure of the parameter "E imp" is revised in line with the registered CDM PDD.

The assessment team has checked the revised VCS MR^{/3/}, VCS PD^{/4/} and confirm that all the issues have been addressed satisfactorily. Hence **CAR #2** was closed out. Detailed discussion is provided in appendix 2 of this report under CAR #2.

CAR #3 was raised due to following issues:

1. It was not clear why the apportioning procedure was not reported in VCS MR for the verification period as the billing cycle dates did not match with the monitoring dates.
2. Single line diagram was not provided in the VCS MR
3. The organisational structure for monitoring as mentioned in the VCS MR did not match the registered CDM PDD.

In response to **CAR #3** the PP has submitted the revised VCS MR^{/3/}, revised ER sheet^{/5/} and clarified that:

1. The billing cycle dates is corrected in the revised ER sheet^{/5/}. There is no apportioning required
2. Single line diagram is provided in the revised VCS MR.
3. The organisational structure is updated in the revised VCS MR in line with the registered CDM PDD.

The assessment team has checked the revised VCS MR^{/3/}, revised ER sheet^{/5/} and confirms that all the issues have been addressed satisfactorily. Hence **CAR #3** was closed out. Detailed discussion is provided in appendix 2 of this report under CAR #3.

The PP had not submitted the declaration to confirm the requirement of section 1.12.2 and 1.12.3 of the VCS PD; hence **CAR #4** was raised.

In response to CAR #4, the PP submitted the declaration, which was checked and found to be in line with the requirements of section 1.12.2 and 1.12.3 of the VCS PD, and hence **CAR #4** was closed.

CAR #5 was raised due to the following issues:

1. Company name mentioned on page 1 of VCS MR was found to be inconsistent with the registered CDM PDD and the apportioning procedure not described in section 3.3 of VCS MR. Also the description of parameters E_{imp,y} and E_{exp,y} was not transparent in section 3.2 of the VCS MR.
2. ER value was mentioned in section 4.4 of the VCS MR until 31st December 2012 but the current monitoring period ends on 01/01/2013.
3. Information provided under section 1.12 of the VCS PD was not transparent.
4. It was not clear why the ER value for the period 30/12/2011 to 31/12/2011 was not calculated using controller data.
5. The end date of the current monitoring period mentioned in the ER sheet was not consistent with the same mentioned in the VCS MR.
6. Location map provided in VCS MR was not legible enough and project location name as mentioned in VCS PD was not consistent with the same mentioned in VCS MR.
7. End date for the month July 2012 mentioned in ER sheet was not correct. Also the notations of monitoring parameters in ER sheet and in VCS MR were not consistent with the same mentioned in registered PDD.

In response to **CAR #5** the PP has submitted the revised VCS MR^{/3/}, VCS PD^{/4/}, revised ER sheet^{/5/} and clarified that:

1. The company name is updated on page 1 of the VCS MR^{/3/} and is consistent with the registered PDD and the apportioning procedure is described in section 3.3 of the VCS MR^{/3/}. Description of parameters E_{imp,y} and E_{exp,y} are revised for better transparency in section 3.2 of the revised VCS MR^{/3/}.
2. Monitoring period dates are corrected in section 4.4 of the VCS MR^{/3/}.
3. Information under section 1.12 of the VCS PD is updated for better transparency.
4. First JMR (December 2011) containing the generation records for the period 03/12/2011 to 02/01/2012 is reported in the ER sheet for December 2011, hence no apportioning is required.
5. The end date of the current monitoring period is corrected in the revised ER sheet^{/5/} and is consistent with the same mentioned in the VCS MR^{/3/}.
6. Location map in revised VCS MR is legible and clear. Name of location is corrected in revised VCS PD and made consistent with VCS MR^{/3/} and registered PDD.
7. End date for the month July 2012 is corrected and notations of monitoring parameters are also corrected in revised ER sheet and in VCS MR^{/3/} consistent with registered PDD.

The assessment team has checked the revised VCS MR^{/3/}, revised VCS PD^{/4/} and revised ER sheet^{/5/} and confirms that all the issues have been addressed satisfactorily. Hence **CAR #5** was closed out. Detailed discussion is provided in appendix 2 of this report under CAR #5.

3.2 Methodology Deviations

Not applicable as no methodological deviations are found.

The assessment team confirms that the monitoring plan is in accordance with the approved consolidated methodology ACM0002^{/6/} Version 13.0.0, which was applied to the project activity and that the monitoring has been carried out in accordance with the monitoring plan. ACM0002 version 13.0.0 was the latest methodology available at the time of registration. The same is confirmed from the UNFCCC website and all the parameters used in calculation of net quantity of electricity exported to the grid by project have been verified against the registered monitoring plan and found to be complete and correct.

3.3 Project Description Deviations

Not applicable as no new project activity instances are included in the project activity. 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 CDM registered PDD^{/9/}.

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 has been implemented; all WTGs were commissioned and are in operation as described in the registered CDM PDD^{/9/} (Version 07, dated 29/12/2012). The same has been verified during the site visit. The first WTG has been commissioned on 30/12/2011 and the last WTG on 22/02/2012. The commissioning of all the WTGs have been verified against their commissioning certificates^{/15/}. The commissioning has already been validated and reported in the CDM validation report^{/10/} of this project activity.

The monitoring of the project activity is found to conform with the monitoring methodology described in ACM0002, version 13.0.0^{/6/}; monitoring plan indicated in the registered CDM PDD^{/9/} and the VCS MR^{/3/} for the current monitoring period of 30/12/2011 to 01/01/2013.

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 conscious of the importance of the monitoring activities. The on-site verification of the plant records also substantiates 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 checked against the registered CDM PDD^{/9/} and cross-checked against the signed PPA^{/16/} for the project activity. The meter details have been described in section 4.3 of this report. The monthly JMR^{/13/}, monthly generation reports (MGRs)^{/19/} and monthly invoices^{/14/} for the entire monitoring period were checked and found to be sufficient to enable verification of emission reductions.

The parameter $EG_{PJ,y}$ (Quantity of net electricity exported to the grid during the year y):

This parameter is verified to be calculated by subtracting the import and percentage transmission loss (incurred in the transmission line between the project to substation delivery point) values from the export values for the electricity relevant to the project activity which is recorded on a monthly basis in the JMR reports^{/13/}. It is verified during the site that the monthly JMR readings taken by MSEDCL official in the presence of a PP representative. This parameter is directly used in the emission reduction calculations.

This parameter has been cross verified against the invoices^{/14/} raised by the PP and found correct. The value of this parameter for the current monitoring period is **80,334.24 MWh**.

EG_{exp,y} (Electricity exported from each WEG of the project activity during the year y):

Electricity exported from each WEG of the project activity is calculated by a pre-established approach by the O&M supplier and approved by the grid authorities from the continuously measured electricity data at the substation feeder meters as well as the individual WTG controller. This is commonly known as apportioning approach, which is entirely under the jurisdiction of the state utility and the PP has no role in computing and furnishing the apportioned electricity for themselves. The apportioning procedure was checked by the assessment team during the site visit and found it to be consistent with the same outlined under annex 4 of the registered CDM PDD, version 07, dated 29/12/2012^{/9/} and in section 3.3 of the VCS

MR^{/3/}. The verification of the meters used to measure the parameters involved in calculation of this parameter has been covered in section 4.3 of this report. The meters are capable of continuous measurement.

This parameter has been cross verified against the invoices^{/14/} raised by the PP and is found to be correct. The value of this parameter for the current monitoring period is **80,670.37 MWh**.

EG_{imp,y} (Electricity imported from the grid by the project activity during the year y):

Electricity imported from each WEG of the project activity is calculated by a pre-established approach by the O&M supplier and approved by the grid authorities from the continuously measured electricity data at the substation feeder meters as well as the individual WTG controller. This is commonly known as apportioning approach, which is entirely under the jurisdiction of the state utility and the PP has no role in computing and furnishing the apportioned electricity for themselves. The apportioning procedure was checked by the assessment team during the site visit and found it to be consistent with the same outlined under annex 4 of the registered CDM PDD, version 07, dated 29/12/2012^{/9/} and in section 3.3 of the VCS MR^{/3/}. This parameter has been cross verified against the invoices^{/14/} raised by the PP and is found to be correct. The value of this parameter for the current monitoring period is **336.13 MWh**.

The verification of the meters used to measure the parameters involved in calculation of this parameter has been covered in section 4.3 of this report. The meters are capable of continuous measurement.

E_{WTG,i,y} (Quantity of Electricity generated by the individual WTGs of the PP in year y):

This parameter is recorded at respective LCS meters (Controller) equipped with each WTG as described in section B.7.1 of the registered CDM PDD^{/9/}. The assessment team confirms that E_{WTG,i,y} has been monitored as per the monitoring plan described in section B.7 of the registered CDM PDD. This parameter has been considered directly from Monthly generation reports (MGR)^{/19/} in electronic format by the EPC contractor as described in section 3.2 of the VCS MR^{/3/}. LCS meter is a microprocessor based multi function relay which is highly accurate and monitors the electricity generated by each WTG. The relay runs software to sample inputs and numerically processes the information. It is therefore highly unlikely for this relay wrongly read / record data. The LCS meter do not require calibration as the energy readings of electricity generated at the LCS meter is cross verified by the energy calculated by inverting system installed in the WTGs. In case there is any mismatch in the energy values recorded by the Panel meter and the energy values calculated by the inverting system; the machine will stop working and generate the error report.

This parameter is not directly used in the emission reduction calculations. The value of this parameter is compared with the value of EGy and the conservative approach is followed by the PP for the calculation of emission reduction. The value of this parameter for the current monitoring period is **82866.39 MWh**.

Monthly Joint Meter Readings prepared by O&M service provider and endorsed by MSEDCL^{/13/} were checked by the assessment team and the value reported in the VCS MR and ER calculation sheet are found to be consistent.

The assessment team are able to confirm that there is no discrepancy observed between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology outlined in the registered CDM PDD^{/9/}.

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 reported and the verified values for all parameters are listed in section 4.1 of this report.

The parameter **EG_{PJ,y}** is used for the emission reduction calculations. The parameters **EG_{exp,y}** and **EG_{imp,y}** are used to calculate **EG_{PJ,y}**. The PP has provided the complete set of data for all the monitored parameters in the ER spreadsheet^{/5/}. This data has been verified as described in section 4.1 of this report. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved methodology ACM0002 version 13.0.0^{/6/}.

The PP has calculated the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system', version 2.2.1^{/7/}. 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 a publicly available source i.e. "CO₂ Baseline Database for Indian Power sector", version 7.0^{/12/} published by Central Electricity Authority, Ministry of Power, and Government of India. The OM has been determined as the average of the previous 3 years values obtained from the CEA database^{/12/}. The value of BM has been identified directly from the CEA database. The combined margin emission factor was arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The OM and BM have been calculated to be 0.9851 t CO₂/MWh and 0.8587 t CO₂/MWh respectively. Applying the weights, the grid emission factor has been calculated to be 0.9527 t CO₂/MWh. The calculation of the grid emission factor has been validated and reported in the CDM validation report^{/10/} of this project activity.

As per CER excel spreadsheet^{/5/} submitted by the PP, the net emission reductions for the current monitoring period were verified as 76, 534 tCO₂ for the current monitoring period. The assessment team are able to 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

All parameters used for the determination of the Emission Reductions are discussed in section 4.2 of this report. All the data recorded is in compliance with the VCS Monitoring Report^{3/} and the registered CDM PDD^{9/}. The assessment team has checked the monthly joint meter reports (JMRs)^{13/}, monthly generation reports (MGRs)^{19/} for electricity generated by project activity for the current monitoring period to verify the values of the monitoring parameter reported in the ER calculation sheet and found to be consistent. Since the monthly JMRs, MGRs and invoices have been issued by state utility, they are found to be reliable and authentic.

As per the registered CDM PDD^{9/} (version 07, dated 29/12/2012), the operations, maintenance and monitoring of the project activity is being carried out by the WTG supplier (Suzlon Energy Limited) whose operation and maintenance activities are ISO 9001:2008 certified. Hence it is confirmed that the management system of the VCS project is in place; with the responsibilities properly identified. The same was also verified during the on-site verification.

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

Location No.	Feeder No.	Main Meter No.	Check Meter No.	Calibration Date	Calibration Due Date	Remarks
C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52	11	MSP32637	MSP32638	22/08/2011 & 04/10/2012	4/10/2013	Delay in calibration.
C53, C54, C55, C56, C57, C58, C59, C60, C63, C64, C66	12	MSP32639 (Old Meter)	MSP32640 (Old Meter)	22/08/2011	-	Ok
		14831484 (New Meter)	14796430 (New Meter)	26/07/2012	26/07/2013	Ok

Meters used to measure the parameters are of accuracy class 0.2s as verified through calibration certificates^{17/} and also physical inspection during the site visit. The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006^{18/} which is considered as national standard, mentions that for voltage of 650 V up to 33 kV, 0.5s accuracy class or above is recommended. Hence, the accuracy classes of 0.2s for the energy meters installed at the project activity site are found to be appropriate.

The details of monitoring equipments involved in the project activity and their calibration details^{17/} are mentioned in the table under section 3.3 of the VCS MR^{3/}. The monitoring equipment consists of a main and check meter at the state utility substation. The meters have been physically inspected during the site visit and the meter details are found to be consistent with that observed during the site visit. The accuracy class of the meters are consistent with that mentioned in the registered CDM PDD.

The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006^{/18/} 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 is appropriate. As indicated through the dates of calibration mentioned in the table under section 5 of the VCS MR, all meters are calibrated once in a year. The date of calibration has been verified against the calibration certificates^{/17/}. The registered CDM PDD^{/9/}; the corresponding CDM validation report^{/10/} and site visit observations confirm that the metering equipment are sealed and calibrated by the state utility.

First calibration of meters installed at feeder no-11 was done on 22/08/2011 and as per the calibration frequency mentioned in registered monitoring plan; the next calibration was due to 22/08/2012. However as verified through the calibration certificate^{/17/}, the next calibration was done on 04/10/2012. Since the calibration of meters were delayed, hence covered by the guidelines outlined under paragraph 273 of VVS version 06 the PP has applied the error due to calibration delay in the months August 2012, September 2012 and October 2012, found to be acceptable.

The main meter and check meter at feeder number 12 were replaced with new meters on 30/07/2012. As the calibration of older meters were valid at the time of replacement and the new meters were calibrated before the replacement (on 26/07/2012), hence no issue observed in this regard.

In view of the above discussion the assessment team is able to confirm that the 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 engaged by M/s Bindu Vayu Urja Private Limited to verify that the greenhouse gas (GHG) emission reductions reported for the “Chakala wind power project in Maharashtra” (UNFCCC No. 9472) for the period from 30th December 2011 to 1st January 2013 in the VCS Monitoring Report Version 06 dated 15/05/2014 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 the project “Chakala wind power project in Maharashtra” (UNFCCC No. 9472), as well as an additional confirmation of the compliance of the VCS PD^{/4/} with the requirements of VCS Standard version 3.4^{/1/}.

The verification is not meant to provide any consulting towards the Client. However, stated 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) by the assessment team, 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 (appendix 1 for full list), the emission reductions during the monitoring period from 30th December 2011 to 01st January 2013 (both the days included) are verified as 76,534 tCO₂e.

Liability statement with regards to the accuracy of the verification statement

The management of M/s Bindu Vayu Urja Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions. SGS is responsible for verification and confirming emission estimates 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 CDM PDD, 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 06 dated 15/05/2014 on emission reductions for "Chakala wind power project in Maharashtra" (CDM 9472 and VCS PL1197), during the reporting period 30th December 2011 to 01st January 2013 (both days included), is materially correct and is a fair representation of the GHG data and 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 below reporting period are completely, comparably, accurately and correctly reported.

Verification period: From 30th December 2011 to 01st Jan 2013 Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
30/12/2011 - 01/01/2013	76534	0	0	76534
Total	76534	0	0	76534

Note: Since the length of vintage period for the years 2011 and 2013 is very small hence PP has not provided the calculation of emission reductions as per vintage period.

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: 19/05/2014

Signature:



Dated: 21/05/2014

Signature:



Lead Assessor

Ravi Kant Soni

Technical Reviewer

Shivaji Chakraborty

APPENDIX 1: DOCUMENT REFERENCES

1. VCS Standard Version 3.4
2. VCS Program Guide Version 3.5
3. VCS Monitoring Report, a) Version 01, dated 08/10/2013 b) Version 02, dated 10/02/2014 c) Version 03, dated 20/02/2014 d) Version 04, dated 26/02/2014 e) Version 05, dated 05/04/2014 f) Version 06,dated 15/05/2014 (Final)
4. VCS Project Description, a) Version 01, dated 08/10/2013 b) Version 02, dated 10/02/2014 c) Version 03, dated 20/02/2014 d) Version 04, dated 26/02/2014 e) Version 05, dated 05/04/2014 f) Version 06,dated 15/05/2014 (Final)
5. Emission Reduction Spreadsheet, a) version 01, dated 12/12/2013 b) version 02, dated 04/02/2014 c) version 03, dated 20/02/2014 d) Version 04, dated 05/04/2014 e) Version 05,dated 15/05/2014 (Final)
6. Approved consolidated methodology ACM0002, Version 13.0.0
7. Tool to calculate the emission factor for an electricity system, version 02.2.1
8. CDM Project Webpage (http://cdm.unfccc.int/Projects/DB/BVQI1356940326.49/view)
9. Registered CDM PDD Version 7 dated 29/12/2012
10. CDM Validation report, dated 30/12/2012
11. Breakdown details of WTGs for the current monitoring period
12. CEA database Version 7
13. Monthly Joint Meter Reading (JMR) recorded at Substation metering point for the current monitoring period
14. Monthly Invoices for the project activity issued by the PP for the current monitoring period
15. Commissioning Certificates for project activity.
16. Power Purchase Agreement, dated 13/06/2012
17. • Calibration Certificates for current monitoring period, dated 04/10/2012 • Calibration certificate for meter (Main Meter no: 14831484 and Check Meter No: 14796430),dated 26/07/2012

18. CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006
19. Monthly electricity generation report (MGR) for current monitoring period
20. Declaration issued by the PP for validating clauses 1.6, 1.12.2 and 1.12.4, dated 03/02/2014
21. Listing of project under VCS pipeline (Project ID:1197) (https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Pipeline&a=3&i=1197&lat=21%2E281361&lon=74%2E308413&bp=1)

APPENDIX 2: OVERVIEW OF FINDINGS

Findings Overview Summary

	CARs	CLs	OBSs
Total Number raised	05	00	00

Date:	08/01/2014	Raised by:	Assessment team		
Type:	CAR	Number:	01	Reference:	AU4
Lead Assessor Comment:					
1. The project as per the information available in the UNFCCC website is registered using methodology ACM 0002, version 13. However, the version has not been correctly shown in the MR and VCS PD.					
2. Table of contents is not provided at page 2 of MR.					
3. Name of the PP in section 1.3 of both the VCS PD and MR is not consistent with the same mentioned at UNFCCC project webpage.					
4. Crediting period details as mentioned in section 1.6 of the MR is not correct.					
5. Latitude and longitude of WTG location not reported in Degree, minute and second form.					
Project Participant Response:				Date: 10/02/2014	
1. The Methodology of the project has been updated in revised MR and PD.					
2. Table of content is included in revised MR and PD.					
3. Name of PP in section 1.3 of both the VCS PD & MR have been updated in revised MR and PD.					
4. Credit period details have been updated in revised MR and PD.					
5. Latitude and longitude of WTG of the project have been updated in revised MR and PD.					
Documentation Provided by Project Participant:					
Revised MR version 02,dated 10/02/2014					
Revised VCS PD version 02,dated 10/02/2014					
Information Verified by Lead Assessor:					
Revised MR version 02 ,dated 10/02/2014 and revised VCS PD version 02 ,dated 10/02/2014 is checked					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 18/02/2014	
PP has updated the version of methodology in revised MR and VCS PD, the same is found to be consistent with UNFCCC project web page. Closed					
Table of contents provided in revised MR. Closed					
Name of PP is corrected in section 1.3 of MR and VCSPD, found to be satisfactory. Closed					
Crediting period mentioned in section 1.6 of MR and VCS PD is not correct. Open					
Latitude and longitude of WTG location is correctly reported in MR. Closed					
CAR #1 is open					
Project Participant Response:				Date: 24/02/2014	
Crediting Period mentioned in section 1.6 of MR and VCS PD is corrected in revised MR & PD.					
Documentation Provided by Project Participant:					
Revised MR version 03,dated 20/02/2014					
Revised VCS PD version 03,dated 20/02/2014					

Information Verified by Lead Assessor:	
Revised MR version 03,dated 20/02/2014 and revised VCS PD version 03, dated 20/02/2014 is checked	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 25/02/2014
Dates of crediting period is corrected in revised MR and VCS PD.Closed Value of electricity exported to grid during current monitoring period mentioned in section 2.1 of MR is not consistent with ER sheet. Open Scale of the project not identified correctly in section 1.7 of VCS PD.Open CAR #1 is open	
Project Participant Response:	Date: 04/03/2014
Value of electricity exported to grid during current monitoring period mentioned in section 2.1 of MR is corrected as per with ER sheet. Scale of the project is defined in revised VCS PD.	
Documentation Provided by Project Participant:	
Revised MR version 04,dated 26/02/2014	
Revised VCS PD version 04,dated 26/02/2014	
Information Verified by Lead Assessor:	
Following documents have been checked against the response provided: Revised MR version 04, dated 26/02/2014 Revised VCS PD version 04, dated 26/02/2014	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 14/03/2014
Value of electricity exported to grid during current monitoring period mentioned in section 2.1 of MR is corrected and found to be consistent with ER sheet. Scale of the project correctly reported in section 1.7 of VCS PD. CAR #1 is closed	
Acceptance and Close out by Lead Assessor:	Date: 14/03/2014

Date:	08/01/2014		Raised by:	Assessment team	
Type:	CAR	Number:	02	Reference:	AU4
Lead Assessor Comment:					
1. The emission factors mentioned in the MR is not matching with the values as mentioned in the registered CDM PDD as available in the UNFCCC website. 2. The source of data of the monitored parameters are not matching with the registered PDD, PP is requested to clarify the mismatch. 3. PP is requested to clarify why the monitoring equipment details in section 3.2 of the MR, including meter type, serial number and calibration details is not reported. 4. The PP has not reported the electricity import parameter in the MR. PP is requested to justify. 5. The QA/QC procedure of the parameter "E imp" is not matching with the registered PDD. The PP is requested to clarify.					
Project Participant Response:				Date: 10/02/2014	
1. Emission factor mentioned in MR have been updated in revised MR and PD. 2. The source of data of the monitored parameters is updated as per registered PDD. 3. Energy meters details have been included in revised MR. 4. Monitoring parameter Eimp is included in revised MR. 5. The QA/QC procedure of the parameter "E imp" is now in line with registered PDD.					
Documentation Provided by Project Participant:					
Revised MR version 02,dated 10/02/2014					
Revised VCS PD version 02,dated 10/02/2014					
Information Verified by Lead Assessor:					
Revised MR version 02,dated and revised VCS PD version 02,dated 10/02/2014 is checked					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 18/02/2014	
1. Value of emission factors (OM, BM and CM) is corrected but description of all 3 factors is not consistent with the same mentioned in registered PDD.Open 2. Source of data of the monitoring parameters is corrected but the description of other aspects e.g QA/QC procedure/calculation method reported is not consistent with registered PDD.Open 3. PP has provided calibration details of meters provided in section 3.3 of revised MR. However it is found that first calibration was done on 22/08/2011 but next calibration of few meter carried out on 18/10/2012,hence there is delay in calibration. Please clarify why error due to calibration delay is not applied to measured parameters in line with paragraph 238 of VVS version 05.Open 4. PP has reported electricity import parameter in the MR. But issue is not closed as discussed under point 2 above. 5. Already covered under point 2.					
CAR #2 is open					
Project Participant Response:				Date: 24/02/2014	
1. Descriptions of all 3 factors are corrected as per registered PDD. 2. Description of aspects i.e. QA/QC procedure/Calculation methods are corrected as per registered PDD. 3. Second calibration of few meters is carried out on 04/10/2012 and date of certification is 18/10/2012 and Error due to calibration delay has been applied to measured parameters in line with paragraph 238 of VVS version 05 and revised MR, PD and Emission calculation reduction sheet has been submitted to DOE.					

Documentation Provided by Project Participant:	
Revised MR version 03,dated 20/02/2014	
Revised ER sheet version 03,dated 20/02/2014	
Revised VCS PD version 03,dated 20/02/2014	
Information Verified by Lead Assessor:	
Relevant sections of following documents have been checked:	
Revised MR version 03, dated 20/02/2014	
Revised ER sheet version 03, dated 20/02/2014	
Revised VCS PD version 03, dated 20/02/2014	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 25/02/2014
Description and values of emission factors (OM,BM and CM) is made consistent with registered PDD.Closed QA/QC procedure and calculation method of monitoring parameters is made consistent with registered PDD.Closed It is verified through calibration certificates that second calibration of few meters were done on 04/10/2012 and calibration certificate issued on 18/10/2012.PP has correctly applied the error due to calibration delay in the months August, September and October 2012 in line with paragraph 238 of VVS version 05, found to be satisfactory. Closed CAR #2 is closed.	
Acceptance and Close out by Lead Assessor:	Date: 25/02/2014

Date:	08/01/2014		Raised by:	Assessment team	
Type:	CAR	Number:	03	Reference:	AU4
Lead Assessor Comment:					
Please clarify why the apportioning procedure is not reported for the verification period as billing cycle dates doesn't match with the monitoring dates.					
Under section 3.3 the PP has mentioned that a SLD has been included in Appendix 1 of the MR, however no SLD was found. The PP is requested to clarify.					
The organizational structure for monitoring as mentioned in the MR is not matching with that of the registered PDD. PP is requested to justify.					
Project Participant Response:				Date: 10/02/2014	
SLD & Organizational Structure is corrected in revised MR & PD					
Documentation Provided by Project Participant:					
Revised MR version 02,dated 10/02/2014					
Revised VCS PD version 02,dated 10/02/2014					
Revised ER sheet version 02,dated 04/02/2014					
Information Verified by Lead Assessor:					
Following documents are verified:					
Revised MR version 02, dated 10/02/2014					
Revised VCS PD version 02, dated 10/02/2014					
Revised ER sheet version 02, dated 04/02/2014					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 18/02/2014	
No response provided for the first issue. Open					
SLD is imperceptible. Open					
The organizational structure for monitoring as mentioned in the MR is corrected in line with the registered PDD. Closed					
CAR #3 is open					
Project Participant Response:				Date: 24/02/2014	
Billing cycle dates have been corrected in Revised emission sheet. Billing cycle dates are matching with the monitoring dates. Hence, there is no apportioning of generation is done.					
SLD is updated in revised MR.					
Documentation Provided by Project Participant:					
Revised MR version 03,dated 20/02/2014					
Revised ER sheet version 03,dated 20/02/2014					
Information Verified by Lead Assessor:					
Revised MR version 03, dated 20/02/2014 and revised ER sheet version 03, dated 20/02/2014 is checked.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 25/02/2014	
There is no apportioning done because billing cycle dates is consistent with monitoring period dates. Same is verified through monthly JMRs. Closed					
SLD is updated in revised MR. Closed					
CAR #3 is closed.					
Acceptance and Close out by Lead Assessor:				Date: 25/02/2014	

Date:	08/01/2014		Raised by:	Assessment team	
Type:	CAR	Number:	04	Reference:	AU4
Lead Assessor Comment:					
The PP is requested to provide a declaration to confirming the requirement of section 1.12.2 and 1.12.3 of the VC PD.					
Project Participant Response:				Date: 10/02/2014	
Declaration to confirming the requirement of section 1.12.2 and 1.12.3 of the VC PD					
Documentation Provided by Project Participant:					
Declaration dated 03/02/2014					
Information Verified by Lead Assessor:					
Declaration ,dated 03/02/2014 provided by PP is checked					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 18/02/2014	
The declaration provided by PP is found to be in line with the requirement of section 1.12.2 and 1.12.3 of the VC PD.					
Acceptance and Close out by Lead Assessor:				Date: 18/02/2014	

Date:	27/03/2014		Raised by:	Assessment team	
Type:	CAR	Number:	05	Reference:	AU4
Lead Assessor Comment:					
MR and VCS PD: i. Company name mentioned at page 1 of MR is not found to be consistent with registered PDD and apportioning procedure is not described in section 3.3 of MR. Also description of parameters E, imp, y and E, exp, y is not transparent in section 3.2 of MR. ii. ER value mentioned in section 4.4 of MR till 31st December 2012 but the current monitoring period ends on 01/01/2013. Please clarify iii. PP has not provided relevant information's in section 1.12 of VCS PD and its sub-section in transparently. ER sheet: i. As first JMR (December 2011) recorded the values of parameters E, exp, E, imp till 02/01/2012, then please clarify why the ER for the period 30/12/2011 to 31/12/2011 is not calculated using controller data. ii. End date of current monitoring is not consistent with the same mentioned in MR.					
Project Participant Response:				Date: 09/04/2014	
MR and VCS PD: 1. Company name mentioned at page 1 of MR and apportioning procedure is not described in section 3.3 of MR. Also description of parameters E, imp, y and E, exp, y in section 3.2 of MR are corrected. 2. Monitoring period is corrected in revised MR. 3. Information in section 1.12.2 and 1.12.3 of VCS PD is updated for transparency. ER sheet: 4. As first JMR (December 2011) recorded the values of parameters E, exp, E, imp till 02/01/2012. Therefore, the period for first JMR is corrected and as the period is from 30/12/2011 to 02/01/2012, no apportioning done. 5. Monitoring date is corrected in line with the revised MR.					
Documentation Provided by Project Participant:					
Revised MR version 05, dated 05/04/2014					
Revised ER sheet version 04, dated 05/04/2014					
Revised PD version 05, dated 05/04/2014					
Information Verified by Lead Assessor:					
Following documents are checked:					
Revised MR version 05, dated 05/04/2014					
Revised ER sheet version 04, dated 05/04/2014					
Revised PD version 05, dated 05/04/2014					

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 14/04/2014
PPs name has been corrected at page 1 of revised MR and also description of parameters E, imp, y and E, exp, y in section 3.2 of MR are updated and found to be satisfactory. Closed Dates of monitoring period is corrected in section 4.4 of MR. Closed PP has updated the information's provided under section 1.12.2 and 1.12.3 of VCS PD, found to be satisfactory. Closed First JMR contains the generation for the period starting from 30/12/2011 to 01/01/2012. PP has reported the period correctly in ER sheet, hence no apportioning is required. Closed End date of monitoring period is corrected in ER sheet. Closed	
Acceptance and Close out by Lead Assessor:	Date: 14/04/2014
CAR #5 re-opened	
Lead Assessor Comment:	Date: 15/05/2014
MR and PD: Map provided for project location is not clear enough. Project location name as mentioned in PD is not consistent with MR and registered PDD. ER sheet: End date for the month July 2012 is not correct. Symbol referred for some parameters are not consistent with MR and registered PDD.	
Project Participant Response:	Date: 16/05/2014
MR and PD: Map provided in MR will be more legible if zoom level increases. Location name is corrected in PD consistent with MR and registered PDD. ER sheet: It was typo error, end date for the month July 2012 is corrected and notations of all the parameter are made consistent with MR and registered PDD.	
Documentation Provided by Project Participant:	
Revised MR version 06, dated 15/05/2014 Revised ER sheet version 05, dated 15/05/2014 Revised VCS PD version 06, dated 15/05/2014	
Information Verified by Lead Assessor:	
Following documents are checked: Revised MR version 06, dated 15/05/2014 Revised ER sheet version 05, dated 15/05/2014 Revised VCS PD version 06, dated 15/05/2014	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 19/05/2014

MR and PD:

Map provided in the revised MR is legible enough and name of location is corrected in revised VCS PD in line with the same mentioned in revised MR and registered PDD.

ER sheet:

PP has corrected the end date for the month July 2012 and notations of monitoring parameters are made consistent with registered PDD and MR.

CAR #5 is closed

Acceptance and Close out by Lead Assessor:

Date: 19/05/2014

APPENDIX 3: TEAM MEMBERS STATEMENTS OF COMPETENCY

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

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

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