
VERIFICATION AND CERTIFICATION REPORT

M/s Wind World (India) Limited

**Enercon Wind Farm (Hindustan) Ltd
in Karnataka**

UN PA 1259

Monitoring Period 5: 01/10/2012 – 31/10/2013

(Both days inclusive)

SGS Climate Change Programme

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|---|--------------|---|--|
| Date of Issue: | | Project Number: | |
| 19/03/2014 | | CDM.VER1248 MP5 | |
| Project Title: | | | |
| Enercon Wind Farm (Hindustan) Ltd in Karnataka | | | |
| Organisation: | | Client: | |
| SGS United Kingdom Limited | | M/s Wind World (India) Limited | |
| Publication of Monitoring Report: | | | |
| Monitoring Period: | | 01/10/2012 to 31/10/2013 | |
| First Monitoring Version and Date: | | Version 01 dated 28/11/2013 | |
| Final Monitoring Version and Date: | | Version 04 dated 19/03/2014 | |
| Summary: | | | |
| <p>SGS United Kingdom Ltd has performed the 5th periodic verification of the CDM project “Enercon Wind Farm (Hindustan) Ltd in Karnataka”, with UNFCCC reference number of 1259, registration date of 27/10/2008 and crediting period from 27/10/2008 to 26/10/2018. The verification includes confirming the implementation of the monitoring plan of the revised PDD Version 6.0 dated 03/09/2012 (approved on 08/01/2013) and the application of the monitoring methodology as per ACM0002 version 06 dated 19/05/2006. A site visit was conducted to verify the data submitted in the monitoring report. SGS confirms the following has been reviewed:</p> <ul style="list-style-type: none"> (a) The approved revised PDD, including the monitoring plan and the corresponding validation report; (b) Monitoring report and previous verification reports; (c) The applied monitoring methodology; (d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; (e) All information and references relevant to the project activity’s resulting in emission reductions. <p>The project activity involves electricity generation by wind electricity generators (WEG) and supplying the generated electricity to the southern regional electricity grid. This is renewable energy generation, which can replace the fossil fuel dominated grid connected electricity generation. The project activity involves the installation of 86 WEGs (each with a capacity of 0.8 MW), at Chitradurga and Tumkur districts of Karnataka, India, reaching a total installed capacity of 68.8 MW. These WEGs are of Enercon make E-48. The generated electricity is evacuated to Karnataka state grid substation.</p> <p>SGS confirms that the project is implemented in accordance with the validated and revised Project Design Document. 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 registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated SGS can confirm that the implementation of the project has resulted in 115,627 tCO₂e emission reductions during the period 01/10/2012 up to 31/10/2013 (both days inclusive).</p> | | | |
| Subject: | | | |
| CDM Verification | | | |
| Verification Team: | | | |
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| Name: Siddharth Yadav Date: 21/03/2014 | | | |
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Abbreviations

| | |
|-----------------|--|
| BESCOM | Bangalore Electricity Supply Company |
| BM | Build Margin |
| CAR | Corrective Action Request |
| CDM | Clean Development Mechanism |
| CEA | Central Electricity Authority |
| CER | Certified Emission Reductions |
| CL | Clarification Request |
| CMP or COP/MOP | Conference of Parties serving as the Meeting of the Parties |
| CMS | Central Monitoring Station |
| CO ₂ | Carbon Dioxide |
| CoP | Conference of the Parties |
| CPRI | Central Power Research Institute |
| CT | Current Transformer |
| DOE | Designated Operational Entity |
| DR | Document Review |
| EB | Executive Board |
| EF | Emission Factor |
| ER | Emission Reduction |
| FAR | Forward Action Request |
| GHG | Greenhouse Gas(es) |
| ISO | International Organization for Standardization |
| JMR | Joint Meter Reading |
| KPTCL | Karnataka Power Transport Company Limited |
| KERC | Karnataka Electricity Regulatory Commission |
| kWh | Kilo watt hour |
| MP | Monitoring Plan |
| MR | Monitoring Report |
| MW | Mega watt |
| MWh | Mega Watt hour |
| NABL | National Accreditation Board for Testing and Calibration of Laboratories |
| O&M | Operation and Maintenance |
| OM | Operating Margin |
| PDD | Project Design Document |
| PLF | Plant Load Factor |
| PP | Project Participant |
| PPA | Power Purchase Agreement |
| QA/QC | Quality Assurance/Quality Control |
| RMP | Revised Monitoring Plan |
| TR | Technical Review |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VVS | Validation and Verification Standard |
| WEG / WTG | Wind Electricity Generator / Wind Turbine Generator |
| WWIL | Wind World India Limited |

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1. Introduction

1.1 Objective

SGS United Kingdom Ltd has been contracted by M/s Wind World (India) Limited (the project participant of the project) to perform an independent verification of its CDM project 'Enercon Wind Farm (Hindustan) Ltd in Karnataka'. CDM projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The emissions report conforms with the requirements of the monitoring plan in the approved revised PDD and the approved methodology; and
- The data reported are complete and transparent.

1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on the validated and revised project design document and the monitoring report. The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

SGS has, based on the recommendations in the Validation and Verification Standard, employed a risk-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Due professional care has been exercised and ethical conduct has been followed by the assessment team during the verification process. The verification report is a fair presentation of the verification activity.

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 Project Activity and Period Covered

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: | Enercon Wind Farm (Hindustan) Ltd in Karnataka |
| UNFCCC Registration Number: | 1259 |
| Monitoring Period Covered in this Report: | 01/10/2012 to 31/10/2013 |
| Project Participants: | Host Country: India PP: M/s Wind World (India) Limited |
| Location of the Project Activity: | Chikkabyaladakere, Kanubehalli, Elladakere and Arasinagundi villages in Chitradurga District of Karnataka state in India and Dasudi, Nelenuru, Ganadu, Annenahalli, Siddapura villages in Tumkur district of Karnataka state, in India |

The project activity involves electricity generation by WEGs and supplying the generated electricity to the southern regional grid. This is a renewable energy generation, which can replace the fossil fuel dominated grid connected electricity generation. The project activity involves the installation of 86 WEGs, (each with a capacity of 0.8 MW), at Chitradurga and Tumkur districts of Karnataka, India, reaching a total installed capacity of 68.8 MW. These WEGs are of Enercon make E-48. The generated electricity is evacuated to Karnataka state grid substation. The first set of WEGs were commissioned on 29/09/2006 and the last set of WEGs were commissioned on 28/12/2006 as mentioned in the approved revised PDD^{6/} and the commissioning certificates^{23/}.



All 86 WEGs are fully functional and this was verified by the assessment team during the site visit. Technical details of WEGs with respect to installation place and capacity have been verified during the site visit and are found to be consistent with the details provided in the approved revised PDD^{/6/}.

2. Methodology

2.1 General Approach

SGS performs the verification work using a Periodic Verification Checklist prepared following the VVS. The Periodic Verification Checklist describes the verification approach and the sampling plan.

The checklist gives the assessment team 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 Periodic Verification Checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the monitoring report. This verification report describes the findings of this assessment.

Only verification activities undertaken after the publication of the monitoring report on the UNFCCC CDM website were used as a basis for SGS to conclude our verification and submit a request for issuance of CERs to the Board.

2.2 Verification Team for this Assessment

A team of competency has been selected to perform the verification of the project.

| Name | Role |
|-------------------|--|
| Sudeep Kodialbail | Lead Assessor; Local Assessor and Technical Area Expert (TA1.2 Wind) |
| Vijaybhai Patel | Assessor |

2.3 Means of Verification

2.3.1 Review of Documentation

The validated PDD, the monitoring report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached in section 8 of this report.

2.3.2 Site Visits

As part of the verification, the following on-site inspections have been performed by the Lead Assessor, Local Assessor and Technical Area Expert

| | |
|---|--|
| Location: Districts-Chitradurga and Tumkur; State-Karnataka; India | |
| Date: 14/01/2014 and 15/01/2014 | |
| Coverage: | Source of Information / Persons Interviewed |
| <ul style="list-style-type: none"> Monitoring report Project design and implementation Conformance with Approved Revised PDD Monitoring procedure Emission reduction calculations | <p>Mr. Bhupendra Verma (Dept Manager CDM Corporate; WWIL)</p> <p>Mr. Kapil Gupta (Assistant Engineer; WWIL)</p> |
| <ul style="list-style-type: none"> Technical equipment and operation Data collection, operations and monitoring procedure Monitoring equipment testing and calibration Data uncertainty QA/QC procedures | <p>Mr. Kapil Gupta (Assistant Engineer; WWIL)</p> <p>Mr. Himanshu Dutta (Sub-station in-charge, WWIL)</p> <p>Mr. Mohammed (Assistant Executive Engineer, BESCOM)</p> |

2.4 Reporting 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. Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- II. Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- III. Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- IV. Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants

The verification process may be halted until this information has been made available to comply with the requirements of the CDM Executive Board. 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.

A clarification request (CL) will be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

Corrective Action Requests and Clarification Requests are raised in the Periodic Verification Checklist. The Project Developer is given the opportunity to “close” outstanding CARs and respond to CLs.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period, which are for the benefit of future projects and future verification activities. These have no impact upon the completion of the verification activity.

All CARs, CLs and FARs for this verification period are included in this report.

2.5 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment Team, all documentation will be forwarded to a Technical Review Team. The task of the Technical Review Team is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

Technical Review Team

| Name | Role |
|------------------|--|
| Ramkrishna Patil | Technical Reviewer and Technical Area Expert (TA 1.2 Wind) |

3. Verification Findings

3.1 Project Implementation

The project activity is the generation of electricity from WEGs and supplying the generated electricity to the Southern grid of India. The project, located at Chitradurga and Tumkur districts of Karnataka state in India, has an installed capacity of 68.8 MW (86 WEGs x 0.8 MW/WEG). The PP has signed a PPA^{/22/} with BESCOM for the sale of electricity to the grid. The project was registered as a CDM project on 27/10/2008^{/4/} and the same date is the start date of the crediting period (fixed). This is the fifth verification of the project activity covering the period from 01/10/2012 to 31/10/2013. The PP had submitted a revised PDD^{/6/} with corrections during the 3rd Monitoring Period which has been approved by the EB on 08/01/2013 as reflected on the UNFCCC project webpage^{/4/}.

The project has been implemented; equipment installed and is being operated as described in the approved revised PDD^{/6/}. The monitoring plan implemented during the current monitoring period is in compliance with the monitoring plan in the approved revised PDD^{/6/} and the applied methodology^{/12/}. This was verified during the site visit.

The project activity WEGs have been commissioned in 3 phases between 29/09/2006 and 28/12/2006 as mentioned in the Monitoring Report^{/13/}. The details of the WEGs installed are mentioned in the table below. All details mentioned in the below table have been verified against the commissioning certificates^{/23/} and are found to be correct.

| Phase | No. of WEGs | Capacity of each WEG (MW) | Installed Capacity (MW) | Commissioning date |
|--------------|-------------|---------------------------|-------------------------|--------------------|
| I | 56 | 0.8 | 44.8 | 29/09/2006 |
| II | 9 | 0.8 | 7.2 | 26/10/2006 |
| III | 21 | 0.8 | 16.8 | 28/12/2006 |
| Total | 86 | | 68.8 | |

In addition to the physical inspection of the site, the following documents have been reviewed by the assessment team during the site visit to verify the project implementation:

- Commissioning certificates^{/23/}
- Power Purchase Agreement^{/22/}
- Invoices^{/21/} raised by the PP to BESCOM
- Testing certificates^{/25/} of all energy meters
- Monthly JMR (Form B)^{/15/ /16/} at 33kV metering point
- Monthly JMR (Form B)^{/17/} at 220kV metering point (sub-station)
- Single line diagram^{/24/} indicating all the WEGs of the project activity
- Transmission loss calculation summary reports^{/19/} for current monitoring period

The assessment team confirms that there are no changes in the project design against the approved revised PDD^{/6/}. The project implementation related information provided in the final Monitoring Report^{/13/} is consistent with that stated in the approved revised PDD^{/6/}.

The project was checked against the applicability criteria in the applied methodology ACM0002 Version 06^{/12/} and it is confirmed that the methodology^{/12/} is applicable to the project activity. The data and variables provided in the Monitoring Report^{/13/} are the same as stated in the approved revised PDD^{/6/}.

The assessment team has compared the actual emission reductions during the current monitoring period against the estimated emission reductions in the approved revised PDD^{/6/}. A 28.40% decrease was observed. Hence **CAR #1 (point 4)** was raised requesting the PP to clarify this decrease, which has been discussed below in this section of the report. The justification provided by the PP for the difference in the emission reductions has been checked and is accepted.

The verification of the metering systems is covered in section 3.6 of this report.

The PP has correctly used version 03.2 of the MR form, which is the latest version available on the UNFCCC website. Although the MS-Word format of the MR looks in line with the MR form template available on the UNFCCC website i.e. F-CDM-MR form version 03.2, during the conversion to PDF format, some of the table borders do not appear. On zooming in, the table borders are visible again. Therefore, no revision in the format has been made, in line with the paragraph 11 of the 'Guideline: Completing the monitoring report form' version 04.0^{/2/}.

In section E.6 of the MR Version 1 dated 28/11/2013^{/13/} the PP has mentioned that the lower ER values, compared to the values in the approved revised PDD^{/6/}, are due to the seasonal nature of wind and low wind availability leading to low PLF. Hence **CAR #1 (point 4) was raised** requesting the PP to substantiate the statement with objective evidence. In response, the PP has provided the PLF calculations for the current monitoring period in the tab "PLF calculation" of the ER excel spreadsheet^{/14/}. The PLF calculations in the spreadsheet have been checked and are found to be correct. The actual PLF achieved during the current monitoring period is 18.97% compared to the estimated PLF of 26.50% considered during the validation^{/7/}. This substantiates the decrease in the actual ERs achieved compared to the estimated ERs in the approved revised PDD^{/6/}. Hence **CAR #1 (point 4) was closed out**. For detailed discussions please refer CAR #1 (point 4) in section 9 of this report.

The actual GHG emission reductions achieved during the period up to 31 December 2012 mentioned on the title page of the MR was inconsistent with sections E.1 and E.7 of the MR. Hence **CAR #1 (point 1) was raised** requesting the PP to clarify this inconsistency. In response the PP had revised the actual GHG emission reductions achieved during the period up to 31 December 2012 on the title page of the MR^{/13/} to 19,227, making it consistent with sections E.1 and E.7 of the MR. Hence **CAR #1 (point 1) was closed out**. For detailed discussions please refer CAR #1 (point 1) in section 9 of this report.

The date formatting throughout the MR was inconsistent. Hence **CAR #1 (point 2) was raised** requesting the PP to clarify this inconsistency. In response the PP has now consistently used the format DD/MM/YYYY throughout the MR. Hence **CAR #1 (point 2) was closed out**. For detailed discussions please refer CAR #1 (point 2) in section 9 of this report.

The meaning of the following statement in section C of the MR was not clear: "Since the baseline methodology is based on ex ante determination of the baseline, the monitoring of operating margin emission factor and build margin emission factor is not required." Hence **CAR #3 (point 1) was raised**. In response the PP has revised this statement in section C of the MR. The meaning of the revised statement by the PP is clear. Hence **CAR #3 (point 1) was closed out**. For detailed discussions please refer CAR #3 (point 1) in section 9 of this report.

The right hand side of the table had fallen outside of the MR^{/13/} border on pages 3 & 4. Hence **CAR #4 (point 1) was raised**. In response, the PP has adjusted the table borders on pages 3 and 4 of the MR^{/13/}. The table is now completely inside the MR border. Hence **CAR #4 (point 1) was closed out**. For detailed discussions please refer CAR #4 (point 1) in section 9 of this report.

In section E.3 of the MR^{/13/}, the methodology was mentioned but the version number was not been provided. Hence **CAR #4 (point 2) was raised**. In response, the PP has now correctly mentioned the version number of the methodology (i.e. version 06) in section E.3 of the MR^{/13/}. Hence **CAR #4 (point 2) was closed out**. For detailed discussions please refer CAR #4 (point 2) in section 9 of this report.

In section E.6 of the MR^{/13/}, the actual dates covered under the period "(Oct 12 till Oct 13)" is not clear. Hence **CAR #4 (point 3) was raised**. In response, the PP has now mentioned the specific dates i.e. 01/10/2012 – 31/10/2013 instead of "(Oct 12 till Oct 13)" in section E.6. This is correct and gives a clear indication of the period for which the PLF has been calculated. Hence **CAR #4 (point 3) was closed out**. For detailed discussions please refer CAR #4 (point 3) in section 9 of this report.

Based on the requirements of paragraph 226 to 228 of the VVS version 05.0^{/1/} the assessment team confirms that the project has been implemented and is being operated as described in the approved revised PDD^{/6/}.

3.2 Post registration changes

There are no post registration changes to the project activity during the current monitoring period.

As observed on the UNFCCC webpage^{/4/} of this project activity and through the verification reports of the previous monitoring periods^{/11/}, post registration of this project activity involved an RMP^{/8/} (approved on 15/03/2011) and a revised PDD^{/6/} (approved on 08/01/2013) has been submitted to the EB. The approved revised PDD^{/6/} contains the RMP^{/8/} approved on 15/03/2011 and also contains the correction in Annex 4 of the RMP submitted with the request for issuance of the 3rd monitoring period.

In section D.1; E.1 and E.5 of the MR^{/13/}, the PP had made reference to the “registered PDD”. Hence **CAR #1 (point 3) was raised** requesting the PP to clarify the appropriateness of this reference. In response, the PP has revised sections D.1; E.1 and E.5 of the MR^{/13/}, making reference to the “revised PDD” instead of the “registered PDD”. This reference is appropriate since a revised PDD submitted by the PP during the 3rd monitoring period has been approved and is available on the UNFCCC webpage of this project activity. Hence **CAR #1 (point 3) was closed out**. For detailed discussions please refer CAR #1 (point 3) in section 9 of this report.

3.2.1 Temporary deviations from registered monitoring plan or applied methodology

Not applicable

3.2.2 Corrections

Not applicable

3.2.3 Permanent changes from registered monitoring plan or applied methodology

Not applicable

3.2.4 Changes to project design of registered project activity

Not applicable

3.2.5 Changes to start date of crediting period

Not applicable

3.3 Remaining Issues, CAR's, FAR's from Previous Validation or Verification

There are no pending issues from the validation or the previous verifications. This was verified and confirmed from the project documents on the UNFCCC project webpage^{/4/}.

3.4 Completeness and accuracy of Monitoring

3.4.1 Verification of monitoring of parameters

Monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the approved revised PDD^{/6/}. The monitoring mechanism, including the data collection system, is effective and reliable.

The project has been registered with the “Consolidated methodology for grid-connected electricity generation from renewable resources” ACM0002 version 06^{/12/}. The assessment team have verified the monitoring plan in the approved revised PDD^{/6/} against ACM0002 version 06^{/12/} (as described in Section 3.4.1 of this report) and can confirm that the monitoring plan is in accordance with the approved methodology^{/12/} applied by the project activity.

During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the plant personnel are conscious of the importance of monitoring activities. On-site verification of plant records^{/15 to 17/ /19/ /21/ /27/} also substantiates consistency in recording and reporting of monitored data.

The monitoring parameter relevant to this project activity listed in the applied methodology^{/12/} is:

- i. EGy – Electricity Supplied to the grid by the project

The monitoring parameters defined in the approved revised PDD^{/6/} are:

- i. EGy – Net electricity Supplied to the grid by the project
- ii. EGexport – Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point
- iii. EGimport – Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point
- iv. T_E – Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the WWIL substation

As per the actual situation on site, the parameter EGy is calculated using the parameters EGexport; EGimport and T_E. Hence, the PP had defined these parameters in the approved RMP^{/8/} in addition to the parameter EGy. The approved RMP^{/8/} is now a part of the monitoring described in the approved revised PDD^{/6/}.

A comparison between the requirement of the methodology^{/12/}, for the parameter EGy; the description of the same parameter in the approved revised PDD^{/6/} and the actual monitoring of the parameter is shown in the table below:

EGy – Net electricity Supplied to the grid by the project

| Monitoring Report, onsite checks Revised PDD and Approved Methodology | Requirement in the applicable methodology and relevant EB documents | Requirement of the monitoring plan in the revised PDD | Implementation of the project | Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD & applicable methodology |
|--|---|---|---|---|
| Data/Parameter | EGy | EGy | EGy | The implementation is in compliance with the monitoring plan & applicable methodology. |
| Description | Electricity supplied to the grid by the project | Net electricity supplied to the grid by the Project | Net electricity supplied to the grid by the Project | The implementation is in compliance with the monitoring plan & applicable methodology. |
| Measured/Calculated /Default | Directly measured | Calculated using directly measured values | Calculated using directly measured values | EGy is calculated using the directly measured values of EGimport and EGexport by the state utility (BESCOM). This is the actual practice on site, |

| | | | | |
|--|---|--|--|--|
| | | | | which is governed by the PPA ^{/22/} signed specifically for this project activity. This approach has been described in the monitoring plan of the approved revised PDD ^{/6/} . The implementation is in compliance with the monitoring plan & applicable methodology. |
| Source of data | Not Specified | JMR (Form B) | JMR (Form B) | This is as per the actual practice on site by the state utility, governed by the PPA signed specifically for this project activity. Hence accepted. |
| Monitoring equipment | Not Specified | Not Applicable since this is a calculated parameter | Not Applicable since this is a calculated parameter | EGy is calculated using the directly measured values of EGimport and EGexport. Hence accepted. |
| Measuring/Reading/Recording frequency | Hourly measurement and monthly Recording | Recording Frequency: Monthly | Recording Frequency: Monthly | The hourly measurement and monthly recording is for the directly measured EGy as per the applicable methodology. But since this parameter is calculated as justified in the row "Measured/Calculated /Default" above, hence the monthly recording frequency is acceptable since it is as per the actual practice on site by the state utility. Hence accepted. |
| Calculation method (if applicable) | Not Applicable | $EGy = EG_{export} - 115\% * EG_{import} - T_E$ | $EGy = EG_{export} - 115\% * EG_{import} - T_E$ | This is as per the actual practice on site by the state utility. Hence accepted. The same formula is mentioned in the approved revised PDD ^{/6/} . |
| QA/QC procedures | Electricity supplied by the project activity to the grid. Double check by receipt of sales. | The values EGy mentioned in the JMR (Form B) will be cross-checked against values mentioned in the invoice raised on the state utility | The values EGy mentioned in the JMR (Form B) will be cross-checked against values mentioned in the invoice raised on the state utility | The implementation is in compliance with the monitoring plan & applicable methodology. |

In summary, the actual monitoring for EGy is in compliance with the monitoring plan in the approved revised PDD^{/6/} and the applicable methodology^{/12/}.

EGy is a calculated parameter, as indicated in the table above. This calculation is carried out by the state utility (BESCOM). The PP has no role in the calculation. This was verified by interviewing the BESCOM officials during the site visit. The calculated monthly values of EGy are directly sourced from two Form B (JMRs)^{/15/ /16/} prepared by BESCOM at two separate 33 kV metering points i.e. for 56.8 MW and 12 MW. The PP has correctly reported the monthly values from the Form B (JMR) in the emission reduction

spreadsheet^{/14/}. These monthly values of EGy have been verified against the monthly invoices^{/21/} raised by the PP and are found to be consistent. The monthly values of EGy have also been checked against the daily generation data^{/27/} recorded by the personnel of the O&M service provider (WWIL) at the 220 kV metering point at the sub-station. The values are found to match and are therefore acceptable.

The value of EGy for the current monitoring period is 124,059.298 MWh. This parameter is used for the emission reduction calculations.

The parameters EGexport, EGimport and T_E have been defined in the approved revised PDD^{/6/} due to the actual situation on site. Hence a comparison between the requirement of the parameters in the monitoring plan of the approved revised PDD^{/6/} and the actual monitoring of the parameter is shown in the tables below.

EGexport – Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point

The analysis of the compliance of the actual monitoring, of the parameter EGexport, against the monitoring plan in the approved revised PDD^{/6/} is shown in the table below.

| Monitoring Report, onsite checks Revised PDD and Approved Methodology | Requirement of the monitoring plan in the revised PDD | Implementation of the project | Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD |
|---|---|---|--|
| Data/Parameter | EGexport | EGexport | In compliance |
| Description | Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point. | Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point. | In compliance |
| Measured/Calculated /Default | Measured | Measured | In compliance |
| Source of data | JMR (Form B) | JMR (Form B) | In compliance |
| Monitoring equipment | Two way trivector energy meters | Two way trivector energy meters | In compliance |
| Measuring/Reading/ Recording frequency | Recording Frequency: Monthly The meters are capable of recording and storing half hourly readings. | Recording Frequency: Monthly The meters are capable of continuous measurement; recording and storing half hourly readings. | In compliance |
| Calculation method (if applicable) | Not applicable since it is a measured parameter | Not applicable since it is a measured parameter | Not applicable |
| QA/QC procedures | QA/QC procedures are mentioned in Annex 4 of the revised PDD | QA/QC procedures are mentioned in Annex 4 of the revised PDD | In compliance |

In summary, the actual monitoring for EGexport is in compliance with the monitoring plan in the approved revised PDD^{/6/}.

EGexport is the summation of the energy exported to the grid, measured at the two 33 kV metering points (i.e. for 56.8 MW and 12 MW), as indicated in the table above. The electricity exported to the grid is monitored through the main meter, at the metering point. Apart from the main meter, the metering point also consists of a check meter. Both, the main and check meters, are tri-vector energy meters with the capability of continuous measurement. This was verified during the site visit. A joint meter reading (Form B) is taken by the officials of BESCOM in the presence of the WWIL representative at the two metering points. The Form B records the readings of both the main and check meter. Both values have been checked and are found to be comparable. The monthly values of electricity exported are directly sourced from two Form B (JMRs)^{/15/ /16/} prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet^{/14/}.

The value of EGexport for the current monitoring period is 125,693.250 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of EGexport in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

EGimport – Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point

The analysis of the compliance of the actual monitoring, of the parameter EGimport, against the monitoring plan in the approved revised PDD^{/6/} is shown in the table below.

| Monitoring Report, onsite checks Revised PDD and Approved Methodology | Requirement of the monitoring plan in the revised PDD | Implementation of the project | Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD |
|---|--|--|--|
| Data/Parameter | EGimport | EGimport | In compliance |
| Description | Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point. | Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point. | In compliance |
| Measured/Calculated /Default | Measured | Measured | In compliance |
| Source of data | JMR (Form B) | JMR (Form B) | In compliance |
| Monitoring equipment | Two way trivector energy meters | Two way trivector energy meters | In compliance |
| Measuring/Reading/ Recording frequency | Recording Frequency: Monthly The meters are capable of recording and storing half | Recording Frequency: Monthly The meters are capable of continuous measurement; recording and storing half | In compliance |

| | | | |
|---|---|---|---------------|
| | hourly readings. | hourly readings. | |
| Calculation method (if applicable) | Not applicable | Not applicable | In compliance |
| QA/QC procedures | QA/QC procedures are mentioned in Annex 4 of the revised PDD. | QA/QC procedures are mentioned in Annex 4 of the revised PDD. | In compliance |

In summary, the actual monitoring for EGimport is in compliance with the monitoring plan in the approved revised PDD^{/6/}.

EGimport is the summation of the energy imported from the grid, measured at the two 33 kV metering points (i.e. for 56.8 MW and 12 MW), as indicated in the table above. The electricity imported from the grid is monitored through the main meter, at the metering point. Apart from the main meter, the metering point also consists of a check meter. Both, the main and check meters, are tri-vector energy meters with the capability of continuous measurement. This was verified during the site visit. A joint meter reading is taken by the officials of BESCOM in the presence of the WWIL representative at the two metering points. The Form B records the readings of both, the main and check meter. Both values have been checked and are found to be comparable. The monthly values of electricity imported are directly sourced from two Form B (JMRs)^{/15/ /16/} prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet^{/14/}.

The value of EGimport for the current monitoring period is 35.250 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of EGimport in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

T_E – Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the WWIL substation

The analysis of the compliance of the actual monitoring, of the parameter T_E, against the monitoring plan in the approved revised PDD^{/6/} is shown in the table below.

| Monitoring Report, onsite checks Revised PDD and Approved Methodology | Requirement of the monitoring plan in the revised PDD | Implementation of the project | Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD |
|--|--|---|--|
| Data/Parameter | T _E | T _E | In compliance |
| Description | Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the Enercon substation. | Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the WWIL substation. | The change in the “Enercon” to “WWIL” in the description of the parameter is due to the change in name of the PP. Hence, in compliance |
| Measured/Calculated /Default | Calculated (by the state utility) | Calculated (by the state utility) | In compliance |
| Source of data | JMR (Form B) | JMR (Form B) | In compliance |
| Monitoring equipment | Not Applicable | Not Applicable | In compliance |

| | | | |
|--|--|--|---------------|
| Measuring/Reading/Recording frequency | Monthly recording frequency | Monthly recording frequency | In compliance |
| Calculation method (if applicable) | Calculation method is described in section B.7.2 of the revised PDD and is in line with the PPA signed specifically for this project activity. | Calculation method is described in section B.7.2 of the revised PDD and is in line with the PPA signed specifically for this project activity. | In compliance |
| QA/QC procedures | QA/QC procedures are mentioned in Annex 4 of the revised PDD. | QA/QC procedures are mentioned in Annex 4 of the revised PDD. | In compliance |

In summary, the actual of monitoring for T_E is in compliance with the monitoring plan in the approved revised PDD^{/6/}.

Transmission losses refer to the energy loss incurred between the 2 metering points for the project WEGs connected at 33 kV substations and the receiving substation at Dasudi village where voltage is stepped up to 220 KV and exported to the grid. The transmission losses are calculated by the state utility considering the export readings of the meter at the 220 kV substation as well as the export readings at the 33 kV metering point. The monthly values of transmission loss are directly sourced from two Form B (JMRs)^{/15/ /16/} prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet^{/14/}. These monthly values are cross-checked with the values in the monthly Line loss calculation sheet^{/19/} issued by BESCOM and are found to be consistent. This value has also been checked with the invoices^{/21/} raised to the state utility and are found to be consistent.

The value of this parameter is 1,593.414 MWh for the current monitoring period. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of T_E in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

The JMR (Form B), from which all parameters are sourced, is prepared and endorsed by an external government agency i.e. the State Electricity Board and the PP has no influence in the entire procedure. Hence the data issued by the state electricity board through the Form B is considered to be authentic.

Based on the above discussion, the assessment team is of the opinion that the:

- Actual implementation of the monitoring plan is in compliance with the monitoring plan in the approved revised PDD^{/6/}
- Monitoring plan in the approved revised PDD^{/6/} is in accordance with the applied methodology^{/12/}.

The value of EGexport for the month of Feb-13 in section E.1 of the MR Version 1 and the excel spreadsheet Version 1 was inconsistent with the Form-B for the same month. Hence **CAR #2 (point 1) was raised** requesting the PP to clarify this inconsistency. In response, the PP has revised the value of EGexport (for KBCWP-2) for the month of Feb-13 in section E.1 of the MR^{/13/} and the excel spreadsheet^{/14/} to 4,215,000. This is consistent with the Form-B for the same month, issued by the state utility. Hence **CAR #2 (point 1) was closed out**. For detailed discussions please refer CAR #2 (point 1) in section 9 of this report.

The tables in section E.1 of the MR Version 1 and the "Generation details" tab of the excel spreadsheet version 1 mentioned the month as Oct-12; Nov-12; etc. The actual duration covered under Oct-12; Nov-12; etc was not clear. Hence **CAR #2 (point 2) was raised** requesting the PP to clarify the duration covered. In response, the PP has mentioned the actual start and end dates of the months, in the tables in section E.1 of the MR^{/13/} and the "Generation details" tab of the ER excel spreadsheet. The duration is consistent with the Form B issued by the state utility. Hence **CAR #2 (point 2) was closed out**. For detailed discussions please refer CAR #2 (point 2) in section 9 of this report.

As per section D.2 of the MR^{/13/}, the parameters EGy and TE are calculated parameters. However, the row "Measuring/Reading/Recording frequency:" states "provisions for measurement methods". Hence **CAR #3**

(point 2) was raised requesting the PP to clarify this inconsistency. In response, the PP has deleted “provisions for measurement methods”. Since these are calculated parameters, hence this deletion is correct. Hence **CAR #3 (point 2) was closed out**. For detailed discussions please refer CAR #3 (point 2) in section 9 of this report.

The value of EGy for Feb 2013 for meter KBCWP-02 in section E.1 of the MR^{/13/} was inconsistent with the ER spreadsheet. Hence **CAR #3 (point 3) was raised**. In response, the PP has revised the value of EGy for Feb 2013 for meter KBCWP-02 in section E.1 of the MR^{/13/} to make it consistent with the ER spreadsheet. Hence **CAR #3 (point 3) was closed out**. For detailed discussions please refer CAR #3 (point 3) in section 9 of this report.

In Annex 2 i.e. “Monitoring information” and section D.2 of the MR^{/13/}, under the “Meter Test Checking” section it was not clear if error means error beyond the permissible limit, or it indicates error within the permissible limit also. Hence **CAR #3 (point 4) was raised**. In response, the PP has clarified that the meters are calibrated in case the error is beyond the permissible limit. This is correct and consistent with the actual situation observed on the site. Hence **CAR #3 (point 4) was closed out**. For detailed discussions please refer CAR #3 (point 4) in section 9 of this report.

Based on the requirements of paragraph 229 to 236 of the VVS version 05.0^{/1/} the assessment team confirms that the monitoring plan in the approved revised PDD^{/6/} is in compliance with the monitoring methodology^{/12/} and the actual monitoring activities observed on site is in compliance with the monitoring plan in the approved revised PDD^{/6/}. The applicable parameters stated in the approved revised PDD^{/6/} and the applied methodology^{/12/} have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the approved revised PDD^{/6/}. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored, including its values in the final version of the MR^{/13/}, have been correctly reported and confirmed by the assessment team.

3.4.2 Verification of implementation of sampling plan

Not Applicable

3.5 Accuracy of Equipment

The line diagram of the metering system of the project activity is indicated in Appendix 1 of the MR^{/13/}. There are two 33 kV metering points to which 71 WEGs (i.e. 56.8 MW) and 15 WEGs (i.e. 12 MW) respectively, are connected. All 86 WEGs, through the 33 kV metering point, are connected to the 220 kV metering point at the sub-station. Each metering point consists of two meters i.e. a main meter and a check meter. For the entire duration of the current monitoring period, only WEGs belonging to the project activity were connected to the 220 kV metering point at the sub-station.

As per the line diagram in Appendix I of the MR^{/13/}, WEGs of other project owners are connected to 220 KV sub-station. **CAR #3 (point 5) was raised** requesting the PP to clarify if this is consistent with the actual situation on site. The PP has clarified in Section C and Appendix 1 that for the current monitoring period; at 220kV sub-station, only the WEGs of this project activity are connected and there are no WEGs of other customers. At the time of validation WEGs of another project activity were connected to the same 220kV sub-station; that's why the generic procedure of apportion is mentioned in the MR. Furthermore, it may be noted that in the future, WEGs of other project activities might be connected to the same 220kV sub-station depending on the requirements. Monitoring system and apportioning procedure is given to provide the generic scenario and method of calculation to arrive at the net electricity export of individual customers in case there is another project's WEGs connected to the same 220 kV sub-station. This procedure of apportioning is applied by the state utility only. It was confirmed during the site visit, through interviews with the site personnel that WTGs other than the project activity WTGs were connected to the 220 kV sub-station during the validation stage. Also the assessment team checked and confirmed during the site visit that no other WTGs were connected. Hence, the apportioning procedure and the line diagram reflected in the MR is the generic situation at the site, which will be applicable in case additional WTGs are connected in the future to substation by state utility. Hence **CAR #3 (point 5) was closed out**. For detailed discussions please refer CAR #3 (point 5) in section 9 of this report.

The meter details, verified by the assessment team, as reported in the MR are summarised in the below table:

| | | | |
|---|---|---|---|
| Metering Point Identification | KBCWP-02 (56.8 MW) at 33 kV | KBCWP-03 (12 MW) at 33 kV | KBCWP-01 (68.8 MW) at 220 kV sub-station |
| Monitoring equipment | Trivector Energy Meter | Trivector Energy Meter | Trivector Energy Meter |
| Monitoring parameter | EGimport and EGexport | EGimport and EGexport | N/A |
| S/N | 5389967 (Main Meter) 5389970 (Check Meter) | 5463844 (Main Meter) 5463845 (Check Meter) | 6605121 (Main Meter) 6605122 (Check Meter) |
| Type | L&T | L&T | L&T |
| Level | 0.2 | 0.2 | 0.2 |
| Meter Testing frequency requirement | Annual | Annual | Annual |
| Meter Testing date | 24/07/2012; 17/01/2013 | 25/06/2012; 17/01/2013 | 24/07/2012; 17/01/2013 |
| Validity | One year | One year | One year |
| Are there delays in testing/calibration? | No | No | No |
| Testing / Calibration Entity | KPTCL or BESCO as per approved revised PDD. This has been mentioned as state utility in the MR. | | |
| Accreditation Certificate for the calibration entity | As per the PPA, the periodic calibration is being done by state utility (BESCO) and PP has no involvement in the calibration process. The calibration of the reference meter is carried out at the laboratory of The Central Power Research Institute, Government of India. The laboratories of CPRI are accredited under National Accreditation Board for Testing and Calibration of Laboratories (NABL), which is the National body for accreditation of Laboratories | | |

The metering systems, which are summarised in the table above, have been verified through the following means:

- Physical inspection of the meters during the site visit
- Interviewing the staff at the sub-station
- Interviewing the officials of BESCO (state utility)
- The CMS of the O&M service provider located at the site
- JMR (Form B) for the current^{/15/ /16/ /17/} and previous^{/18/} monitoring period
- Meter test certificates^{/25/} for the entire monitoring period
- Transmission loss calculation sheet for the current^{/19/} and previous^{/20/} monitoring period

Based on the above mentioned means of verification, the assessment team confirms that:

- The meter details are correctly mentioned in the MR^{/13/}
- The meter details are consistent throughout all verified documents
- The entire metering system is in the custody of the state utility. The PP has no control over this
- The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the approved revised PDD^{/6/}
- The accuracy of the equipment used for monitoring is in accordance with the relevant guidance provided by the CDM Executive Board
- The monitoring equipment are controlled and calibrated in accordance with the requirements of the approved revised PDD^{/6/}

The testing/calibration of the reference meter (No. IDCAL 1213C0002) was also discussed during the interview with the Assistant Executive Engineer from the state utility (BESCOM). The assessment team was shown the original meter test certificate of the reference meter issued by CPRI during the visit to the BESCOM office. The reference test meter has an accuracy class of 0.1%, which is greater than that of the meters installed at the metering points. The testing of the reference test meter is the responsibility of BESCOM. It has an annual testing frequency. The latest date of calibration of the reference meter is 09/04/2013 and the due date is 08/04/2014.

The CEA (Installation and Operation of Meters) Regulations^{/29/}, which is considered as a 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 during the current monitoring period, are found to be appropriate. The CEA Regulations^{/29/} also state that "All interface meters shall be tested at least once in five years." Hence, the stipulated annual testing frequency in the approved revised PDD^{/6/} is appropriate.

As per paragraph 234 (c) to (e) of the VVS, version 05.0^{/1/}, the verification team confirms that

- The equipment used for monitoring is in accordance with the relevant guidance provided by the CDM Executive Board and it is controlled and calibrated in accordance with the monitoring plan in the revised PDD^{/6/}.
- Monitoring results are consistently recorded as per approved frequency
- Quality assurance and quality control procedures have been applied in accordance with the monitoring plan in the revised PDD^{/6/}.

3.6 Summary of compliance with the calibration frequency requirements for measuring instruments.

The calibration of all meters is in the control of BESCOM / KPTCL. The PP has no control over the same. The actual testing of the meters is carried out by the officials of BESCOM / KPTCL on a quarterly basis which varies based on the availability of staff; weather conditions; etc. This was confirmed during the interview with the officials at BESCOM. As per the approved revised PDD^{/6/}, the meters are to be tested annually. This testing frequency has been followed for the present as well as the previous monitoring period. Hence the assessment team has confirmed that the testing of the meters covers the entire monitoring period. The meter test reports^{/25/} have been checked to confirm that the errors observed were within permissible limits.

There is no delay in meter testing during the current monitoring period. This has been confirmed by checking the meter test certificates^{/25/}.

The CEA (Installation and Operation of Meters) Regulations^{/29/}, which is considered as a national standard, mentions that “All interface meters shall be tested at least once in five years.” Hence, the stipulated annual calibration frequency in the approved revised PDD^{/6/} is appropriate.

3.7 Accuracy of Emission Reduction Calculations

The calculation of emission reductions in the final ER excel spreadsheet^{/14/} submitted by the PP is found to be correct. The findings and the satisfactory responses regarding the ER calculations have been discussed in this section. The details of the reported and the verified values for all the parameters are listed in section 4 of this report, ‘Calculation of Emission Reductions’.

The parameter EGy is used for the emission reduction calculations. The parameters EGexport; EGimport and T_E are used to calculate EGy. The PP has provided the complete set of data for the parameter EGexport; EGimport and T_E in the ER spreadsheet^{/14/}. This data has been verified as described in section 3.4.1 of this report. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved revised PDD^{/6/} and the approved methodology ACM0002 version 6^{/12/}.

The baseline emission factor has been calculated as per the guidance provided in ACM0002 version 6^{/12/}. The Grid Emission Factor 0.93204 tCO₂/MWh has been taken from the Central Electricity Authority^{/28/} (Ministry of Power, Government of India) and the same is reported in the approved revised PDD^{/6/}. This is an ex-ante parameter calculated in the revised PDD and remains constant throughout the crediting period.

As per the ER excel spreadsheet^{/14/} submitted by the PP, the net emission reductions for the current monitoring period are verified as 115,627 tCO₂ for current monitoring period. The difference between the estimated and verified ERs has been discussed under section 3.1 of this report.

The comment in Cell G2 of the “Emission Reduction calculation” tab of the ER excel spreadsheet^{/14/} does not clarify the version of the methodology. Hence **CAR #4 (point 5) was raised**. In the comment in Cell G2 of the “Emission Reduction calculation” tab, the PP has now added the version number (i.e. 6) of the methodology. Hence **CAR #4 (point 5) was closed out**. For detailed discussions please refer CAR #4 (point 5) in section 9 of this report.

In cell F2 of the “PLF calculation” tab of the ER excel spreadsheet^{/14/} the actual period covered under the months “(Oct 12 till Oct 13)” was not clear. Hence **CAR #4 (point 6) was raised**. In cell F2 of the “PLF calculation” tab, the PP has now mentioned the specific dates i.e. 01/10/2012 – 31/10/2013 instead of “(Oct 12 till Oct 13)”. This is correct and gives a clear indication of the period for which the PLF has been calculated. Hence **CAR #4 (point 6) was closed out**. For detailed discussions please refer CAR #4 (point 6) in section 9 of this report.

3.8 Quality of Evidence to Determine Emission Reductions

Critical parameters used for the determination of the Emission Reductions are discussed in section 3.4 of this report. All the data recorded is in compliance with the monitoring report.

3.9 Management and operational System and Quality Assurance

The companies involved in the project have ISO 9001:2008^{/30/} quality assurance system implemented, therefore we can affirm that the management system of the CDM project is in place, with the responsibilities properly identified and in place. The WWIL representative and site in-charge of the PP were interviewed during the site visit to confirm the same.

In order to verify the data quality, the Company involved in the project works in accordance with a quality assurance procedure^{/30/}, which establishes the implementation of the operational and management structure.

3.10 Data from External Sources

The baseline emission factor was determined ex-ante and fixed for the entire crediting period as mentioned in section B.6.2 of approved revised PDD^{/6/}. The Emission factor was calculated by the combined margin

approach with 75% and 25% weights for OM & BM respectively, using data available in CO2 Baseline Database for the Indian Power Sector version 1.1 published by Central Electricity Authority^{28/} (CEA), Ministry of Power, Government of India.

The value of baseline emission factor used in emission reduction calculations for the current monitoring period is 0.93204 tCO₂/MWh as reported in the Monitoring Report. This is found to be consistent with the value of EF mentioned in the approved revised PDD^{6/}.

The link in cell B3 of the “Emission Factor” tab of the ER excel spreadsheet^{14/} does not work. Hence **CAR #4 (point 4) was raised**. In response, the PP has revised the weblink in cell B3 of the “Emission Factor” tab. The weblink is functional now. Hence **CAR #4 (point 4) was closed out**. For detailed discussions please refer CAR #4 (point 4) in section 9 of this report.

4. Calculation of Emission Reductions

| Parameter | Reported Value MR Version 01 dated 28/11/2013 (Web hosted MR) | Verified Value MR Version 04 dated 19/03/2014 (Final MR) |
|---|--|---|
| EGexport (MWh) | 125,603.250 | 125,693.250 |
| EGimport (MWh) | 35.250 | 35.250 |
| T _E (MWh) | 1,593.414 | 1,593.414 |
| EGy (MWh) | 123,969.298 | 124,059.298* |
| Grid Emission Factor (tCO ₂ e/MWh) | 0.93204 | 0.93204 |

* This change in value of EGy was triggered by CAR #2 (point 1). For details please refer CAR #2 (point 1) in section 9 of this report.

The baseline emissions (BEy) are calculated as follows:

$$\begin{aligned}
 \text{BEy} &= \text{EGy (MWh)} \times \text{Grid emission Factor (t CO}_2\text{e/MWh)} \\
 &= 124,059.298 \times 0.93204 \\
 &= 115,628.228 \text{ tCO}_2\text{e}
 \end{aligned}$$

In the ER excel spreadsheet, BEy has been calculated on a monthly basis using monthly values of EGy and the calculation has been rounded down which results in conservative emission reductions. The value of BEy as calculated in the spreadsheet is 115,627 tCO₂e. For detailed calculations, please refer to the emission reduction excel spreadsheet^{14/}. The lower value of 115,627 tCO₂e has been considered for the ER calculations, in order to be conservative.

As per the applied methodology and as described in section B.6.1 of the approved revised PDD^{6/}, Project emissions (PEy) and leakage (Ly) and are zero.

Thus emission reductions are calculated as follow:

$$\begin{aligned}
 \text{ERy} &= \text{BEy} - \text{PEy} - \text{Ly} \\
 &= 115,627 - 0 - 0 \\
 &= 115,627 \text{ tCO}_2\text{e}
 \end{aligned}$$

Emission Reduction:

| Period | Reported Value (as per the web hosted MR) tCO ₂ e | Verified Value tCO ₂ e (Final MR) | If Different, Summary of Issues That Caused the Difference |
|---|---|--|---|
| 01/10/2012 to 31/10/2013 (including first and last days of monitoring period) | 115,544 | 115,627 | Please refer CAR #2 (point 1) in Section 9 (Findings overview) of this report |
| CERs (Up to 31 December 2012 (1st commitment period);) | 19,277 | 19,227 | Please refer CAR #1 (point 1) in Section 9 (Findings overview) of this report |

| Period | Reported Value (as per the web hosted MR) tCO ₂ e | Verified Value tCO ₂ e (Final MR) | If Different, Summary of Issues That Caused the Difference |
|------------------------------------|---|--|--|
| CERs (From 1 January 2013 onwards. | 96,317 | 96,400 | Please refer CAR #2 (point 1) in Section 9 (Findings overview) of this report. |

5. Recommendations for Changes in the Monitoring Plan

No recommendation is made for changes in the approved revised monitoring plan during the current monitoring period.

6. Overview of Results

Assessment Against the Provisions of Decision 17/CP.7:

Is the project documentation in accordance with the requirements of the approved revised PDD and relevant provision of decision 17/CP.7, EB decisions and guidance and the COP/MOP?

Yes. The results of the compliance assessment are recorded in the verification checklist which is used as an internal report only.

Have on-site inspections been performed that may comprise, inter alia, a review of performance records, interviews with project participants and local stakeholders, collection of measurements, observations of established practices and testing of the accuracy of monitoring equipment?

Yes. The Lead Assessor, Local Assessor and Technical Area Expert (TA 1.2-Wind) visited the sites and undertook interviews, collected data, audited the implementation of procedures, checked calibration certificates and checked data, inter alia.

The results of the site visit are recorded in the verification checklist which is used as an internal report only.

The evidences have been checked and collected. The final monitoring report is attached with this verification report.

Has data from additional sources been used? If yes, please detail the source and significance.

Emission Factor of the Grid used for emission reduction calculation has been determined ex-ante from version 1.1 of CO₂ baseline database for the Indian power sector published by Central Electricity Authority (CEA), Ministry of Power, Government of India. The value used is 0.93204 tCO₂/MWh, which is fixed for the entire crediting period. This data is publicly available and verified to be acceptable.

Please review the monitoring results and verify that the monitoring methodologies for the estimation of reductions in anthropogenic emissions by sources have been applied correctly and their documentation is complete and transparent.

Yes. The monitoring methodology has been correctly applied and the monitoring report and supporting references are complete and transparent.

Have any recommendations for changes to the monitoring methodology for any future crediting period been issued to the project participant?

No.

Determine the reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CDM project activity, based on the data and information using calculation procedures consistent with those contained in the registered project design document and the monitoring plan.

The data used in anthropogenic emission reduction calculation is consistent with those contained in the approved revised PDD and revised monitoring plan. The emission reduction was 161,500 tCO₂ for the period 01/10/2012 to 31/10/2013 as per the estimation made in the approved revised PDD. The actual emission reduction has been verified as 115,627 tCO₂ for the same period and this difference is discussed in section 3.1 of this verification report.

Identify and inform the project participants of any concerns related to the conformity of the actual project activity and its operation with the registered project design document. Project participants shall address the concerns and supply relevant additional information.

No such non conformity of the actual project activity and its operation with the registered project design document has been observed.

Post monitoring report on UNFCCC website



*Yes, the monitoring report is available at ref. 1259 on the UNFCCC website
(<http://cdm.unfccc.int/Projects/DB/DNV-CUK1185356859.49/view>)*

7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by M/s Wind World (India) Limited to perform the verification of the emission reductions reported for the CDM project 'Enercon Wind Farm (Hindustan) Ltd in Karnataka' and UNFCCC Reference Number 1259 for the period 01/10/2012 to 31/10/2013.

The verification is based on the validated and registered project design document and the monitoring report for this project. Verification is performed in accordance with section I of Decision 3/CMP.1, and relevant decisions of the CDM EB and CoP/MoP. The scope of this engagement covers the verification and certification of greenhouse gas emission reductions generated by the above project during the above mentioned period, as reported in monitoring report version 04 dated 19/03/2014.

The management of M/s Wind World (India) Limited is responsible for the preparation, calculation and determination of GHG emission reductions from the project. The development and maintenance of records and reporting procedures are in accordance with the monitoring report.


It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01/10/2012 to 31/10/2013 based on the reported emission reductions in the Monitoring Report version 04 dated 19/03/2014 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, SGS 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 this reported amount of GHG emission reductions for the period is fairly stated.

SGS confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have seen and evaluated, we confirm the following:

| | |
|---|--|
| Project Title: | Enercon Wind Farm (Hindustan) Ltd in Karnataka |
| UNFCCC Reference Number: | 1259 |
| Revised PDD and Approved Used for Verification: | Revised PDD Version 06 dated 03/09/2012 approved on 08/01/2013 |
| Methodology Used for Verification: | ACM0002 version 06 dated 19/05/2006 |
| Applicable Period: | 01/10/2012 to 31/10/2013 |
| Total GHG Emission Reductions Verified: | 115,627 tCO ₂ e |

Signed on behalf of the Verification Body by Authorized Signatory

Signature: 

Name: Siddharth Yadav

Date: 21/03/2014

8. Document References

1. Clean Development Mechanism Validation and Verification Standard version 05.0
2. Guidelines for completing the monitoring report form version 04.0
3. Clean Development Mechanism Project Standard version 05.0
4. UNFCCC web link of the CDM project activity (UN No. 1259)
5. Registered PDD (Version 5 dated 01/10/2008)
6. Revised PDD Version 6.0 dated 03/09/2012 approved on 08/01/2013
7. Validation Report of the registered CDM project activity (Report No. 2007-1021 Revision No. 03 dated 24/10/2008 issued by DNV)
8. Approved RMP (Date of CDM EB approval: 15/03/2011)
9. RMP validation opinion issued by TUV Nord dated 24/02/2011
10. Monitoring Reports of all previous monitoring periods (available on the UNFCCC project webpage)
11. Verification Reports of all previous monitoring periods (available on the UNFCCC project webpage)
 - a) MP1: Report No. 53606409-09/453 issue 0 dated 16/07/2011 issued by TUV NORD
 - b) MP2: Project number CDM.VER1248 MP2 issue 2 dated 05/11/2011 issued by SGS
 - c) MP3: Project number CDM.VER1248 MP3 issue 3 dated 04/10/2012 issued by SGS
 - d) MP4: Project number CDM.VER1248 MP4 issue 3 dated 10/01/2013 issued by SGS
12. Applied Methodology - ACM0002 version 06 dated 19/05/2006
13. Monitoring Reports covering monitoring period 01/10/2012 to 31/10/2013

| Version No. | Date | Remarks |
|-------------|------------|---|
| 1 | 28/11/2013 | This version was uploaded on the UNFCCC website prior to the site visit. |
| 2 | 16/01/2014 | <ol style="list-style-type: none"> 1. The Actual GHG emission reductions achieved during the period up to 31 December 2012 on the title page of the MR was made consistent with sections E.1 and E.7 of the MR. 2. The date formatting was made consistent throughout the MR. 3. In section D.1; E.1 and E.5 of the MR, the reference to the "registered PDD" was corrected. 4. Objective evidence to substantiate the increase in ERs was provided in section E.6. 5. The value of EGexport (KBCWP-2) for the month of Feb-13 in section E.1 of the MR was corrected. 6. The specific dates covered under the months in the tables |

| | | |
|---|------------|--|
| | | <p>in section E.1 of the MR were mentioned.</p> <p>The above revisions have been discussed in detail under CAR #1 and CAR #2 in section 9 of this report.</p> |
| 3 | 19/02/2014 | <ol style="list-style-type: none"> 1. The statement “Since the baseline methodology is based on ex ante determination of the baseline, the monitoring of operating margin emission factor and build margin emission factor is not required.” was revised in Section C of the MR. 2. In section D.2, for the parameters E_{Gy} and T_E in the row “Measuring/Reading/Recording frequency.” the text “provisions for measurement methods” was deleted. 3. This value of E_{Gy} for Feb 2013 for meter KBCWP-02 in section E.1 was corrected. 4. In Annex 2 i.e. “Monitoring information” in the “Meter Test Checking” section and section D.2 of the MR it was clarified that the error referred to was error beyond permissible limit. 5. A note was inserted in Section C and Appendix 1 of the MR to clarify the other WTGs connected to the sub-station. <p>The above revisions have been discussed in detail under CAR #3 in section 9 of this report.</p> |
| 4 | 19/03/2014 | <ol style="list-style-type: none"> 1. The table in section A.2 was formatted to ensure that the table borders are within the MR page borders. 2. The version number of the methodology was mentioned in section E.3 3. The specific dates of the monitoring period has been mentioned in section E.6 <p>The above revisions have been discussed in detail under CAR #4 in section 9 of this report.</p> |

14. Emission Reduction Spreadsheet

- a) Version 1 dated 26/11/2013
- b) Version 2 dated 16/01/2014
- c) Version 3 dated 19/03/2014

15. JMR (Form B) – 33 kV (12 MW; KBCWP-03) – October 2012 to October 2013

16. JMR (Form B) – 33 kV (56.8 MW; KBCWP-02) – October 2012 to October 2013

17. JMR (Form B) – 220 kV (sub-station; KBCWP-01) – October 2012 to October 2013

18. Form B – Previous MP (July 2012 to September 2012)

19. Line loss calculation sheet issued by the state utility for the Current Monitoring Period (i.e. October 2012 to October 2013)

20. Line loss calculation sheet issued by the state utility for the Previous Monitoring Period (i.e. July 2012 to September 2012)

21. Monthly invoices issued by PP to BESCOM (October 2012 to October 2013)

22. PPA dated 01/03/2006 between BESCOM and the PP

23. Commissioning Certificates of all WEGs commissioned from 29/09/2006 to 28/12/2006

24. Single Line diagram indicating WEG location and sub-station
25. Meter test certificates:
 - a) Location KBCWP-01 issued by KPTCL with date of testing 24/07/2012
 - b) Location KBCWP-01 issued by KPTCL with date of testing 17/01/2013
 - c) Location KBCWP-02 issued by BESCOM with date of testing 24/07/2012
 - d) Location KBCWP-02 issued by BESCOM with date of testing 17/01/2013
 - e) Location KBCWP-03 issued by BESCOM with date of testing 25/06/2012
 - f) Location KBCWP-03 issued by BESCOM with date of testing 17/01/2013
26. Monthly shutdown details for the project activity for the period from October 2012 to October 2013
27. Daily Generation Data recorded by the WWIL Personnel at the sub-station (October 2012 to October 2013)
28. CEA CO₂ Baseline Database for the Indian Power Sector Version 1.1
http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm
29. 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
30. ISO 9001:2008 certificate issued by Intertek with certificate number IMB-0482.12 with an expiry date of 28/03/2015

9. Findings Overview

| | CARs | CLs | FARs |
|---------------------|------|-----|------|
| Total Number raised | 4 | - | - |

| | | | | | |
|--|------------|------------|------------------|------------|----|
| Date: | 14/01/2014 | Raised by: | Assessment Team | | |
| Type: | CAR | Number: | #1 | Reference: | MR |
| Lead Assessor Comment: | | | Date: 14/01/2014 | | |
| 1. The Actual GHG emission reductions achieved during the period up to 31 December 2012 on the title page of the MR is inconsistent with sections E.1 and E.7 of the MR. | | | | | |
| 2. The date formatting through the MR is inconsistent. | | | | | |
| 3. In section D.1; E.1 and E.5 of the MR, the PP has made reference to the “registered PDD”. Please clarify the appropriateness of this reference. | | | | | |
| 4. Please provide objective evidence to substantiate the justification in section E.6. | | | | | |
| Project Participant Response: | | | Date: 16/01/2014 | | |
| 1. The Actual GHG emission reductions achieved during the period up to 31 December 2012 on the title page of the MR has been corrected to make it consistent with sections E.1 and E.7 of the MR. | | | | | |
| 2. Date formatting through the MR has been made consistent. | | | | | |
| 3. In section D.1; E.1 and E.5 of the MR, correction has been made from registered to revised PDD. | | | | | |
| 4. Justification has been added in section E.6 of MR along with the PLF calculation in CER calculation sheet. | | | | | |
| Documentation Provided as Evidence by Project Participant: | | | | | |
| MR version 2.0 | | | | | |
| CER calculation sheet version 2.0 | | | | | |
| Information Verified by Lead Assessor: | | | | | |
| The revised MR version 2.0 dated 16/01/2014 and the revised ER sheet version 2.0 dated 16/01/2014 has been checked for the revisions made by the PP. | | | | | |
| Reasoning for not Acceptance or Acceptance and Close Out: | | | | | |
| 1. The PP has revised the Actual GHG emission reductions achieved during the period up to 31 December 2012 on the title page of the MR to 19,227 making it consistent with sections E.1 and E.7 of the MR. Hence closed out. | | | | | |
| 2. The PP has now consistently used the DD/MM/YYYY date formatting through the MR. Hence closed out. | | | | | |
| 3. The PP has revised sections D.1; E.1 and E.5 of the MR, making reference to the “revised PDD” instead of the “registered PDD”. This reference is appropriate since a revised PDD submitted by the PP during the 3 rd monitoring period has been approved and is available on the UNFCCC webpage of this project activity. Hence accepted and closed out. | | | | | |
| 4. The PP has provided the PLF calculations for the current monitoring period in the tab “PLF calculation” of the ER excel spreadsheet. The PLF calculations have been checked and are found to be correct. The actual PLF achieved during the current monitoring period is 18.97% compared to the PLF of 26.50% considered during the validation. Hence the reductions in the actual ERs achieved compared to the estimated ERs is justified. Hence closed out. | | | | | |
| CAR #1 closed out | | | | | |
| Acceptance and Close out by Lead Assessor: Closed | | | Date: 26/01/2014 | | |

| | | | | | |
|---|------------|------------|------------------|------------|-----------------|
| Date: | 14/01/2014 | Raised by: | Assessment Team | | |
| Type: | CAR | Number: | #2 | Reference: | MR and ER sheet |
| Lead Assessor Comment: | | | Date: 14/01/2014 | | |
| 1. The value of EGexport for the month of Feb-13 in section E.1 of the MR and the excel spreadsheet is inconsistent with the Form-B for the same month. | | | | | |
| 2. The tables in section E.1 of the MR and the “Generation details” tab of the excel spreadsheet mention the month as Oct-12; Nov-12; etc. Please clarify the actual duration covered under Oct-12; Nov-12; etc | | | | | |
| Project Participant Response: | | | Date: 16/01/2014 | | |
| 1. Value of EGexport for the month of Feb-13 in section E.1 of the MR and the excel spreadsheet has been corrected in line with the Form-B for the same month. | | | | | |
| 2. Actual duration covered under the tables in section E.1 of the MR and the “Generation details” tab of the excel spreadsheet has been mentioned. | | | | | |
| Documentation Provided as Evidence by Project Participant: | | | | | |
| MR version 2.0 | | | | | |
| CER calculation sheet version 2.0 | | | | | |
| Information Verified by Lead Assessor: | | | | | |
| The revised MR version 2.0 dated 16/01/2014 and the revised ER sheet version 2.0 dated 16/01/2014 has been checked for the revisions made by the PP. | | | | | |
| Reasoning for not Acceptance or Acceptance and Close Out: | | | | | |
| 1. The PP has revised the value of EGexport (for KBCWP-2) for the month of Feb-13 in section E.1 of the MR and the excel spreadsheet to 4,215,000. This is consistent with the Form-B for the same month issued by the state utility. Hence closed out. | | | | | |
| 2. The PP has mentioned the actual start and end dates of the months, to specify the actual duration covered, in the tables in section E.1 of the MR and the “Generation details” tab of the ER excel spreadsheet. The duration is consistent with the Form B issued by the state utility. Hence accepted and closed out. | | | | | |
| CAR #2 closed out | | | | | |
| Acceptance and Close out by Lead Assessor: Closed | | | Date: 26/01/2014 | | |

| | | | | | |
|---|------------|------------|------------------|------------|----|
| Date: | 17/02/2014 | Raised by: | Assessment Team | | |
| Type: | CAR | Number: | #3 | Reference: | MR |
| Lead Assessor Comment: | | | Date: 17/02/2014 | | |
| MR Version 2.0 dated 16/01/2014 | | | | | |
| <div>1. “Since the baseline methodology is based on ex ante determination of the baseline, the monitoring of operating margin emission factor and build margin emission factor is not required.” Please clarify the meaning of this statement in Section C of the MR.</div> <div>2. As per section D.2, the parameters EGy and TE are calculated parameter. However, the row “Measuring/Reading/Recording frequency:” states “provisions for measurement methods”. Please clarify how this is appropriate.</div> <div>3. This value of EGy for Feb 2013 for meter KBCWP-02 in section E.1 is inconsistent with the ER spreadsheet.</div> <div>4. In Annex 2 i.e. “Monitoring information” is not transparent in the “Meter Test Checking” section – It is not clear if error means error beyond the permissible limit or it indicates error within the permissible limit also. Please clarify the same in section D.2.</div> <div>5. As per line diagram in Appendix I, WEGs of other project owners are connected to 220 KV sub-station. Please clarify if this is consistent with the actual situation on the site.</div> | | | | | |

| | |
|--|-------------------------|
| Project Participant Response: | Date: 19/02/2014 |
| <ol style="list-style-type: none"> 1. As per DOE comment required sentence under Section C of MR has been modified to make it more clear. 2. Correction has been made in Section D.2 for the parameters EG_y and T_E under the row "Measuring/Reading/Recording frequency:" 3. Value of EG_y for Feb 2013 for meter KBCWP-02 in section E.1 has been corrected in line with the ER spread sheet. 4. This is to clarify in Annex 2 under the "Meter Test Checking" section error means error beyond the permissible limit and accordingly correction has been made in Annex2 and section D.2. 5. This is to confirm for the current monitoring period; at 220kV sub-station only the WEGs of project activity are connected and there is no WEGs of other customers while at the time of validation WEGs of other project activity were also connected to same 220kV sub-station that's why the generic layout of monitoring system is presented in Appendix I. Further it may be noted in future WEGs of other project activity might be connected to 220kV same sub-station depending on the requirements. Monitoring system shown in Appendix I is given to provide the generic scenario and method of calculation to arrive the net electricity export of individual customers in case there is other project WEGs are also connected to same 220kV sub-station. This procedure of apportioning is applied by state utility only. | |
| Documentation Provided as Evidence by Project Participant: | |
| Revised MR version 3.0 | |
| Information Verified by Lead Assessor: | |
| The revised MR version 3.0 dated 19/02/2014 has been checked for the revisions made by the PP | |
| Reasoning for not Acceptance or Acceptance and Close Out: | |
| <ol style="list-style-type: none"> 1. The PP has revised the statement in section C of the MR. The meaning of the revised statement by the PP is clear. Hence accepted and closed out. 2. In section D.2 for the parameters EG_y and T_E in the row "Measuring/Reading/Recording frequency:" the PP has deleted "provisions for measurement methods". Since these are calculated parameters, hence this deletion is correct. Hence closed out. 3. The PP has revised the value of EG_y for Feb 2013 for meter KBCWP-02 in section E.1 of the MR to make it consistent with the ER spreadsheet. Hence closed out. 4. In Annex 2 i.e. "Monitoring information" and section D.2, the PP has clarified that the meters are calibrated in case the error is beyond the permissible limit. This is correct and consistent with the actual situation observed on the site. Hence accepted and closed out. 5. The PP has clarified in Section C and appendix 1 that for the current monitoring period; at 220kV sub-station only the WEGs of project activity are connected and there is no WEGs of other customers. At the time of validation WEGs of other project activity were also connected to same 220kV sub-station; that's why the generic procedure of apportion is mentioned in the MR. Further it may be noted in future WEGs of other project activity might be connected to 220kV same sub-station depending on the requirements. Monitoring system and apportioning procedure mentioned below is given to provide the generic scenario and method of calculation to arrive the net electricity export of individual customers in case there is other project WEGs are also connected to same 220 kV sub-station. This procedure of apportioning is applied by state utility only. It was confirmed during the site visit, through interviews with the site personnel and by checking the Form B issued by the state utility, that for the current monitoring period WTGs other than the project activity WTGs were connected to the 220 kV sub-station during the validation. Hence, the apportioning procedure and the line diagram reflected in the MR is the generic situation at the site. Hence accepted and closed out. | |
| CAR #3 closed out. | |
| Acceptance and Close out by Lead Assessor: Closed | Date: 03/03/2014 |

| | | | | | | |
|---|------------|---------|------------|------------------|------------|----------------------|
| Date: | 18/03/2014 | | Raised by: | Assessment Team | | |
| Type: | CAR | Number: | #4 | | Reference: | MR & CER spreadsheet |
| Lead Assessor Comment: | | | | Date: 18/03/2014 | | |
| MR Version 3.0 dated 19/02/2014 | | | | | | |
| 1. The right hand side of the table has fallen outside of the MR border on pages 3 & 4. | | | | | | |
| 2. In section E.3, the methodology is mentioned but the version has not been provided. | | | | | | |
| 3. In section E.6, the actual period covered under the period “(Oct 12 till Oct 13)” is not clear. | | | | | | |
| CER Spreadsheet Version 2.0 dated 16/01/2014 | | | | | | |
| 4. The link in cell B3 of the “Emission Factor” tab does not work. | | | | | | |
| 5. The comment in Cell G2 of the “Emission Reduction calculation” tab does not clarify the version of the methodology. | | | | | | |
| 6. In cell F2 of the “PLF calculation” tab the actual period covered under the months “(Oct 12 till Oct 13)” is not clear. | | | | | | |
| Project Participant Response: | | | | Date: 19/03/2014 | | |
| 1. Format of table on pages 3 & 4 of MR has been corrected. | | | | | | |
| 2. In section E.3, version of methodology has been provided. | | | | | | |
| 3. In section E.6, the actual period covered under the monitoring period has been mentioned. | | | | | | |
| 4. The link in cell B3 of the “Emission Factor” tab does have been corrected. | | | | | | |
| 5. Version of the methodology has been mentioned in the comment in Cell G2 of the “Emission Reduction calculation” tab. | | | | | | |
| 6. In cell F2 of the “PLF calculation” tab the actual period covered under the months “(Oct 12 till Oct 13)” is has been clearly mentioned. | | | | | | |
| Documentation Provided as Evidence by Project Participant: | | | | | | |
| MR Version 4.0 dated 19/03/2014 | | | | | | |
| CER Spread sheet Version 3.0 dated 19/03/2014 | | | | | | |
| Information Verified by Lead Assessor: | | | | | | |
| The revised MR version 4.0 dated 19/03/2014 and the revised ER excel spreadsheet version 3.0 dated 19/03/2014 has been checked for the revisions made by the PP | | | | | | |

| Reasoning for not Acceptance or Acceptance and Close Out: | |
|---|-------------------------|
| MR Version 4.0 dated 19/03/2014 | |
| <ol style="list-style-type: none"> 1. The PP has adjusted the table borders on pages 3 and 4 of the MR. The table is now completely inside the MR border. Hence closed out. 2. The PP has correctly mentioned the version number of the methodology (i.e. version 06) in section E.3 of the MR. 3. In section E.6, the PP has now mentioned the specific dates i.e. 01/10/2012 – 31/10/2013 instead of “(Oct 12 till Oct 13)”. This is correct and gives a clear indication of the period for which the PLF has been calculated. Hence accepted and closed out. | |
| CER Spreadsheet Version 3.0 dated 19/03/2014 | |
| <ol style="list-style-type: none"> 4. The PP has revised the weblink in cell B3 of the “Emission Factor” tab. The weblink is functional now. Hence closed out. 5. In the comment in Cell G2 of the “Emission Reduction calculation” tab, the PP has now added the version number (i.e. 6) of the methodology. This is correct and hence closed out. 6. In cell F2 of the “PLF calculation” tab, the PP has now mentioned the specific dates i.e. 01/10/2012 – 31/10/2013 instead of “(Oct 12 till Oct 13)”. This is correct and gives a clear indication of the period for which the PLF has been calculated. Hence accepted and closed out. | |
| CAR #4 closed out | |
| Acceptance and Close out by Lead Assessor: Closed | Date: 19/03/2014 |

10. Statement of Competence

Name: Sudeep Kodialbail

Status

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

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: 06/02/2012

Statement of Competence

Name: Vijaybhai Shankarbhai Patel

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: 08/11/2012

Statement of Competence

Name: Ramkrishna Patil

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 | 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: 02/07/2012

11. Photographic Evidence

Unique reference number:

KBCWP-01 (Main Meter - 6605121)

Parameter: Electricity exported and imported from all WEGs

Name of equipment: Trivector Energy Meter

Date: 15/01/2014



Unique reference number:

KBCWP-01 (Check Meter - 6605122)

Parameter: Electricity exported and imported from all WEGs

Name of equipment: Trivector Energy Meter

Date: 15/01/2014



Unique reference number:

Parameter: EGexport and EGimport

KBCWP-02 (Main Meter - 5389967)

Name of equipment: Trivector Energy Meter

Date: 15/01/2014



Unique reference number:

Parameter: EGexport and EGimport

KBCWP-02 (Check Meter - 5389970)

Name of equipment: Trivector Energy Meter

Date: 15/01/2014



Unique reference number:

Parameter: EGexport and EGimport

KBCWP-03 (Main Meter - 5463844)

Name of equipment: Trivector Energy Meter

Date: 15/01/2014



Unique reference number:

Parameter: EGexport and EGimport

KBCWP-03 (Check Meter - 5463845)

Name of equipment: Trivector Energy Meter

Date: 15/01/2014

