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# VERIFICATION AND CERTIFICATION REPORT

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**M/s Wind World (India) Limited**

**Tungabhadra wind power project in  
Karnataka**

**UNFCCC Reference 1268**

**Monitoring Period 4: 01/09/2012 – 31/10/2013**

**(Both days inclusive)**

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**SGS Climate Change Programme**

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<b>Date of Issue:</b>	<b>Project Number:</b>
05/06/2014	CDM.VER1403 MP5
<b>Project Title:</b>	
Tungabhadra wind power project in Karnataka	
<b>Organisation:</b>	<b>Client:</b>
SGS United Kingdom Limited	M/s Wind World (India) Limited
<b>Publication of Monitoring Report:</b>	
<b>Monitoring Period:</b>	01/09/2012 to 31/10/2013
First Monitoring Version and Date:	Version 01 dated 29/11/2013
Final Monitoring Version and Date:	Version 04 dated 04/06/2014
<b>Summary:</b>	
<p>SGS United Kingdom Ltd has performed the 4<sup>th</sup> periodic verification of the CDM project “Tungabhadra wind power project in Karnataka”, with UNFCCC reference number of 1268, 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 revised monitoring plan approved on 18/02/2011; monitoring plan of the Revised PDD 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"> <li>(a) The registered PDD, including the monitoring plan and the corresponding validation report; the approved RMP and the corresponding validation opinion and the revised PDD to be submitted with this request for issuance;</li> <li>(b) The monitoring report and previous verification reports;</li> <li>(c) The applied monitoring methodology;</li> <li>(d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;</li> <li>(e) All information and references relevant to the project activity's resulting in emission reductions.</li> </ul> <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 38 WEGs (each with a capacity of 0.6 MW), at Gadag district of Karnataka, India, reaching a total installed capacity of 22.8 MW. These WEGs are of Enercon make E-40. 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 registered Project Design Document; previously approved RMP and the revised Project Design Document to be submitted with this request for issuance. 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 51,466 tCO<sub>2</sub>e emission reductions during the period 01/09/2012 up to 31/10/2013 (both days inclusive).</p>	
<b>Subject:</b>	
CDM Verification	
<b>Verification Team:</b>	
Sudeep Kodialbail – Lead Assessor, Local Assessor and Technical Area Expert (TA 1.2 -)	<input checked="" type="checkbox"/> No Distribution (without permission from the Client or responsible organisational unit)
Vijaybhai Patel – Assessor	
<b>Technical Review:</b>	<input type="checkbox"/> Limited Distribution
Date: 06/06/2014 Name: Vikas Bankar	
<b>Authorised Signatory:</b>	
Name: Siddharth Yadav Date: 16/06/2014	<input type="checkbox"/> Unrestricted Distribution

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## Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CL	Clarification Request
CMP	or Conference of Parties serving as the Meeting of the Parties
COP/MOP	
CMS	Central Monitoring Station
CO <sub>2</sub>	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)
HESCOM	Hubli Electricity Supply Company Limited
ISO	International Organization for Standardization
JMR	Joint Meter Reading
KPTCL	Karnataka Power Transport Company Limited
KERC	Karnataka Electricity Regulatory Commission
kWh	Kilo watt hour
MESCOM	Mangalore Electricity Supply Company Limited
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
VVM	Validation and Verification Manual
VVS	Validation and Verification Standard
WEG / WTG	Wind Electricity Generator / Wind Turbine Generator
WWIL	Wind World India Limited

## Table of Content

1. Introduction.....	6
1.1 Objective.....	6
1.2 Scope.....	6
1.3 Project Activity and Period Covered .....	6
2. Methodology.....	7
2.1 General Approach.....	7
2.2 Verification Team for this Assessment .....	7
2.3 Means of Verification .....	7
2.3.1 Review of Documentation .....	7
2.3.2 Site Visits .....	8
2.4 Reporting of Findings.....	8
2.5 Internal Quality Control .....	9
3. Verification Findings .....	10
3.1 Project Implementation .....	10
3.2 Post registration changes .....	12
3.2.1 Temporary deviations from registered monitoring plan or applied methodology .....	13
3.2.2 Corrections.....	13
3.2.3 Permanent changes from registered monitoring plan or applied methodology .....	14
3.2.4 Changes to project design of registered project activity .....	14
3.2.5 Changes to start date of crediting period.....	14
3.3 Remaining Issues, CAR's, FAR's from Previous Validation or Verification.....	14
3.4 Completeness and accuracy of Monitoring .....	14
3.4.1 Verification of monitoring of parameters.....	14
3.4.2 Verification of implementation of sampling plan .....	21
3.5 Accuracy of Equipment.....	21
3.6 Summary of compliance with the calibration frequency requirements for measuring instruments. ....	23
3.7 Accuracy of Emission Reduction Calculations .....	23
3.8 Quality of Evidence to Determine Emission Reductions .....	24
3.9 Management and operational System and Quality Assurance .....	24
3.10 Data from External Sources.....	24
4. Calculation of Emission Reductions .....	26
5. Recommendations for Changes in the Monitoring Plan.....	27
6. Overview of Results.....	28
7. Verification and Certification Statement .....	30
8. Document References.....	31
9. Findings Overview .....	34
10. Statement of Competence.....	44
11. Photographic Evidence.....	47

## 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 'Tungabhadra wind power project 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 RMP 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 registered project design document; the approved RMP 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:	Tungabhadra wind power project in Karnataka
UNFCCC Registration Number:	1268
Monitoring Period Covered in this Report:	01/09/2012 to 31/10/2013
Project Participants:	Host Country: India PP: M/s Wind World (India) Limited
Location of the Project Activity:	Singatalur, Koralahalli and Hammigi villages in Gadag 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 38 WEGs, (each with a capacity of 0.6 MW), at Gadag district of Karnataka, India, reaching a total installed capacity of 22.8 MW. These WEGs are of Enercon make E-40. The generated electricity is evacuated to the Karnataka state grid substation. The first set of WEGs were commissioned on 23/04/2007 and the last set of WEGs were commissioned on 31/12/2007 as confirmed from the commissioning certificates<sup>/22/</sup> and the monitoring report<sup>/13/</sup>.

All 38 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 registered PDD<sup>/5/</sup> and revised PDD<sup>/6/</sup>.

## 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 registered PDD<sup>/5/</sup>, revised PDD<sup>/6/</sup> (which includes the approved RMP<sup>/8/</sup>), the monitoring report<sup>/13/</sup> 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.

<b>Location:</b> District-Gadag; State-Karnataka; India	
<b>Date:</b> 16/01/2014 and 17/01/2014	
<b>Coverage:</b>	<b>Source of Information / Persons Interviewed</b>
<ul style="list-style-type: none"> <li>Monitoring report</li> <li>Project design and implementation</li> <li>Conformance with approved RMP</li> <li>Monitoring procedure</li> <li>Emission reduction calculations</li> </ul>	Mr. Bhupendra Verma (Dept Manager CDM Corporate; WWIL)
<ul style="list-style-type: none"> <li>Technical equipment and operation</li> <li>Data collection, operations and monitoring procedure</li> <li>Monitoring equipment testing and calibration</li> <li>Data uncertainty</li> <li>QA/QC procedures</li> </ul>	Mr. H Manjunath (Site in-charge, WWIL)  Mr. Kapil Gupta (Assistant Engineer; WWIL)

### 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**

<b>Name</b>	<b>Role</b>
Vikas Bankar	Technical Reviewer and Technical Area Expert (TA 1.2)

### 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 Gadag district of Karnataka state in India, has an installed capacity of 22.8 MW (38 WEGs x 0.6 MW/WEG). The PP has signed a PPA<sup>/21/</sup> with MESCOM for the sale of electricity to the grid. The project was registered as a CDM project on 27/10/2008<sup>/4/</sup> and the same date is the start date of the crediting period (fixed). This is the fourth verification of the project activity covering the period from 01/09/2012 to 31/10/2013. The PP had submitted a revised PDD<sup>/6/</sup>, with corrections found during the current monitoring Period. This revised PDD will be submitted to the UNFCCC along with the request for issuance of the current monitoring period. This revised PDD also contains the RMP<sup>/8/</sup> previously approved on 18/02/2011. The revision in the registered PDD has been described in detail in section 3.2.2 of this report.

The project has been implemented; equipment installed and it is being operated as described in the registered PDD<sup>/5/</sup> and the revised PDD<sup>/6/</sup>. The monitoring plan implemented during the current monitoring period is in compliance with the monitoring plan in the approved RMP<sup>/8/</sup>, revised PDD<sup>/6/</sup> and the applied methodology<sup>/12/</sup>. This was verified during the site visit.

The project activity WEGs have been commissioned between 23/04/2007 and 31/12/2007 as mentioned in the Monitoring Report<sup>/13/</sup>. The details of the WEGs installed and the commissioning dates of each WTG have been mentioned in section B.1 of the MR<sup>/13/</sup>. The WTG details have been verified against the commissioning certificates<sup>/22/</sup> and are found to be correct.

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:

- i. Commissioning certificates<sup>/22/</sup>
- ii. Power Purchase Agreement<sup>/21/</sup>
- iii. Invoices<sup>/20/</sup> raised by the PP to MESCOM
- iv. Testing certificates<sup>/24/</sup> of all energy meters
- v. Monthly JMR (Form B)<sup>/15/</sup> at 33kV metering point
- vi. Monthly JMR (Form B)<sup>/16/</sup> at 110kV metering point (sub-station)
- vii. Single line diagram<sup>/23/</sup> indicating all the WEGs of the project activity
- viii. Transmission loss calculation summary reports<sup>/18/</sup> for current monitoring period

The assessment team confirms that there are no changes in the project design against the registered PDD<sup>/6/</sup>. The project implementation related information provided in the final Monitoring Report<sup>/13/</sup> is consistent with that stated in the registered PDD<sup>/5/</sup> and the revised PDD<sup>/6/</sup>.

The project was checked against the applicability criteria in the applied methodology ACM0002 Version 06<sup>/12/</sup> and it is confirmed that the methodology<sup>/12/</sup> is applicable to the project activity. The data and variables provided in the Monitoring Report<sup>/13/</sup> are the same as stated in the approved RMP<sup>/8/</sup> and revised PDD<sup>/6/</sup>.

The PP has compared the actual emission reductions during the current monitoring period against the estimated emission reductions in the registered PDD<sup>/6/</sup> and has reported it in section E.6 of the MR. A 10.61% decrease was observed, which was attributed to the low plant load factor. Hence CAR #5 (point 2) was raised requesting the PP to objectively clarify the low plant load factor, 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<sup>/2/</sup>.

**CAR #5 (point 2) was raised** requesting the PP is requested to substantiate the "low plant load factor" mentioned in section E.6 of the MR<sup>/13/</sup>. In response, the PP has substantiated the "low plant load factor" mentioned in section E.6 of the MR by comparing the actual PLF for the current monitoring period and the PLF estimated during the validation. The calculation of the actual PLF is present in the ER excel spreadsheet<sup>/14/</sup> and is correct. The actual PLF is lower than the estimated PLF. This clarifies the difference between the actual and estimated values of emission reductions. Hence **CAR #5 (point 2) was closed out**. For detailed discussions please refer CAR #5 (point 2) in section 9 of this report.

The format used for the presentation of values is not in line with paragraph 14 of the guidelines for completing the MR form<sup>/2/</sup> (EB 54 Annex 34). Hence **CAR #1 (point 1) was raised**. In response, the PP has revised the format used for the presentation of values in the MR<sup>/13/</sup>, to an internationally recognized format as required by paragraph 14 of the guidelines for completing the MR form<sup>/2/</sup> (EB 54 Annex 34). 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<sup>/13/</sup> 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 DD/MM/YYYY date formatting through the MR<sup>/13/</sup>. Hence **CAR #1 (point 2) was closed out**. For detailed discussions please refer CAR #1 (point 2) in section 9 of this report.

**CAR #1 (point 3) was raised** requesting the PP to clarify if the duration of the monitoring period mentioned on the cover page of the MR<sup>/13/</sup> includes the first and last days. In response, the PP has now mentioned on the cover page of the MR<sup>/13/</sup> that the duration of the current monitoring period mentioned on the cover page of the MR<sup>/13/</sup> includes the first and last days. This is in line with the MR completion guidelines<sup>/2/</sup>. Hence **CAR #1 (point 3) was closed out**. For detailed discussions please refer CAR #1 (point 3) in section 9 of this report.

The name of the PP mentioned on the cover page of the MR<sup>/13/</sup> was "Wind World (India) Limited". The name of the authorised PP mentioned on the UNFCCC webpage<sup>/4/</sup> of this project activity was "M/s Enercon (India) Limited". Hence **CAR #1 (point 4) was raised** requesting the PP to clarify this inconsistency. The name of the authorized PP mentioned on the UNFCCC webpage<sup>/4/</sup> of this project activity as on 06/02/2014 is "M/s Wind World (India) Limited". The name of the authorised PP was also confirmed from the Host County Approval<sup>/30/</sup> present on the UNFCCC webpage<sup>/4/</sup> of this project activity. The change in name from "Enercon (India) Limited" to "Wind World (India) Limited" was also confirmed by checking the "Certificate of Incorporation Consequent upon Change of Name"<sup>/29/</sup> issued by the Registrar of Companies (Ministry of Corporate Affairs, Government of India). Hence **CAR #1 (point 4) was closed out**. For detailed discussions please refer CAR #1 (point 4) in section 9 of this report.

The current monitoring period from 01/09/2012-31/10/2013 consists of 426 days. However the estimated ERs calculated on the cover page of the MR<sup>/13/</sup> has considered 425 days. Hence **CAR #1 (point 5) was raised**. In response, the PP has revised the estimate of ERs on the cover page of the MR<sup>/13/</sup> by correctly considering 426 days in the current monitoring period. The calculation of the estimated ERs is correct. The value of the estimated ERs has been consistently mentioned on the cover page and in section E.5 of the MR<sup>/13/</sup>. Hence **CAR #1 (point 5) was closed out**. For detailed discussions please refer CAR #1 (point 5) in section 9 of this report.

The location of the sub-station as per the registered PDD<sup>/5/</sup> page 4 is "Dambal" village. This was inconsistent with the section A.2 of the MR<sup>/13/</sup> which mentioned that the sub-station is located at Bannikoppa village. **CAR #2 (point 2) was raised**. The PP has clarified that the validation opinion<sup>/9/</sup> of the RMP issued by TUV NORD mentions that the 110 kV substation is at Bannikoppa village. The location of the sub-station was also checked during the site visit. Hence accepted and closed out. Hence **CAR #2 (point 2) was closed out**. For detailed discussions please refer CAR #2 (point 2) in section 9 of this report.

**CAR #2 (point 3) was raised** since the weblink of the methodology and the tools were not mentioned in section A.4 of the MR<sup>/13/</sup>. In response, the PP has now added the web-link of the methodology and the tools

in section A.4 of the revised MR<sup>/13/</sup>. The web-links are functional. Hence **CAR #2 (point 3) was closed out**. For detailed discussions please refer CAR #2 (point 3) in section 9 of this report.

**CAR #2 (point 4) was raised** since the titles of the baseline and the monitoring methodology in section A.4 of the MR<sup>/13/</sup> were inconsistent with the titles in the methodology ACM0002 Version 6<sup>/12/</sup>. In response, the PP has revised the titles of the baseline and the monitoring methodology in section A.4 of the revised MR<sup>/13/</sup> to make it consistent with methodology ACM0002 (Version 6.0)<sup>/12/</sup>. Hence **CAR #2 (point 4) was closed out**. For detailed discussions please refer CAR #2 (point 4) in section 9 of this report.

During the site visit, only one transformer was observed at the project site. This was inconsistent with the line diagram in Appendix 1 of the MR<sup>/13/</sup> which indicates two transformers. Hence **CAR #5 (point 3) was raised** requesting the PP to clarify this inconsistency. In response, the PP has clarified that the numbers of transformer at the substations depends on the load connected to the substation and will vary with time. The assessment team had confirmed the same during the discussion with the site in-charge (please refer to section 2.3.2 of this report) during the site visit for this project activity. This has no affect on the project activity. Hence **CAR #5 (point 3) was closed out**. For detailed discussions please refer CAR #5 (point 4) in section 9 of this report.

**CAR #6 (point 3) was raised** since Appendix 3 of the revised PDD<sup>/6/</sup> was left blank and Appendix 6 did not include all the revisions made in the PDD. In response, the PP has correctly filled Appendix 3 of the PDD and has included all revisions to the PDD in Appendix 6 of the revised PDD<sup>/6/</sup>. Hence **CAR #6 (point 3) was closed out**. For detailed discussions please refer CAR #6 (point 3) in section 9 of this report.

The format used for the presentation of values in the MR<sup>/13/</sup> has not been reported in line with paragraph 14 of the guidelines for completing the MR form<sup>/2/</sup>. Hence **CAR #6 (point 4) was raised**. In response, the PP has revised the format used for the presentation of values in the MR<sup>/13/</sup> to make it in line with the requirement of paragraph 14 of the guidelines for completing the MR form<sup>/2/</sup>. Hence **CAR #6 (point 4) was closed out**. For detailed discussions please refer CAR #6 (point 4) in section 9 of this report.

The latest version of the VVS<sup>/1/</sup> was not referred in the MR. Hence **CAR #6 (point 5) was raised**. In response, the PP has now referred to Version 6.0 of the VVS<sup>/1/</sup> in the MR<sup>/13/</sup>, which is the latest available version. Hence **CAR #6 (point 5) was closed out**. For detailed discussions please refer CAR #6 (point 5) in section 9 of this report.

Based on the requirements of paragraph 261 and 262 of the VVS version 06.0<sup>/1/</sup> the assessment team confirms that the project has been implemented and is being operated as described in the revised PDD<sup>/6/</sup>.

### 3.2 Post registration changes

Corrections to the information in the registered PDD have been made as described in section 3.2.2 below. These corrections do not affect the design of the project activity. Hence, as per paragraph 1 of Appendix 1 of Project Standard version 6.0<sup>/3/</sup>, these corrections do not require prior approval and are being submitted along with the request for issuance for this monitoring period.

As observed on the UNFCCC webpage<sup>/4/</sup> of this project activity an RMP<sup>/8/</sup> has already been approved on 18/02/2011. The revised PDD<sup>/6/</sup> being submitted along with the Request for issuance of the current monitoring period contains not only the corrections but also the previously approved RMP<sup>/8/</sup>.

The assessment team has observed that a different text colour is present in section B.5 of the registered PDD<sup>/5/</sup>. It is observed that this changed colour seems to have been used by the PP to indicate the title and guidelines that have been copied from the additionality tool. The text in the rest of the PDD is in black colour. As per the General requirements of the Post Registration Changes in the Project Standard Version 6<sup>/3/</sup>, paragraph 255: Project participants shall identify and document any actual or proposed changes to the operation, implementation and/or monitoring of the registered CDM project activity taking into account the types of changes described in appendix 1, which describes the types of changes that do not require prior approval by the Board. The change in the geographical coordinates is related to the implementation of the project activity and hence has been identified under Post Registration Changes. The change in text colour neither affects the operation, implementation or the monitoring of the project activity. Also, the registered PDD<sup>/5/</sup> includes the same text in colours other than black and this was accepted by the UNFCCC at the time of registration. Hence the assessment team is of the opinion that there is no reason to change this in the revised PDD<sup>/6/</sup>.

### 3.2.1 *Temporary deviations from registered monitoring plan or applied methodology*

Not applicable

### 3.2.2 *Corrections*

In order to meet the requirements of the Project Standard Version 06.0 the PP has submitted a revised PDD with the corrected geographical coordinates.

The issue regarding the geographical coordinates was raised, by the DOE (TUV NORD) during the first verification of this project activity, and was discussed under CL R1 on page 21 of the verification report of the 1st monitoring period. The PP had revised the geographical coordinates in the Monitoring report of the 1st monitoring period, which was verified by the DOE.

During the current verification (fourth), the PP has incorporated the same revised coordinates in the revised PDD. The coordinates were also checked during the site visit. Hence the revision to the geographical coordinates in section A.2.4 of the revised PDD is accepted.

In addition to the revision in the geographical coordinates, the PP has also reflected the change of name of the PP from Enercon (India) Limited (or EIL) to Wind World (India) Limited (or WWIL) throughout the revised PDD. This change of legal name of the PP has been verified from the "Certificate of Incorporation Consequent upon Change of Name" dated 01/01/2013<sup>/29/</sup> issued by the Registrar of Companies, Ministry of Corporate Affairs (Government of India). The change in name is also now appearing on the UNFCCC project webpage.

The PP has also revised the reference to the various "Appendices" in the revised PDD. This revision is due to change in the PDD template.

In the revised PDD, other than the revision to the geographical coordinates, the revision to the name of the PP and the revision in the Monitoring plan to bring it in line with already approved RMP have been voluntarily done by the PP.

The PP has submitted the following three PDDs as a part of this assessment:

- a) Registered PDD (details from registered PDD VVM track PDD transferred to VVS track PDD template)
- b) Revised PDD in Track Change mode
- c) Revised PDD in Clean mode

The assessment of the above mentioned PDDs have been described in the discussion of findings in section 9 of this report. The assessment team has reviewed the revised PDDs submitted by the PP and confirms that other than the revisions described above; no other revisions have been made in the revised PDD. The assessment team also confirms that the material included in the new/revised PDD form under the VVS track, is materially the same as the information in the registered PDD.

All the changes made in the revised PDD are in line with the actual scenario observed at the site and represent current scenario at the time of submission of the revised PDD. This is in line with paragraph 292 and 293 of the VVS version 6.0<sup>/1/</sup>. These corrections do not required prior approval as per paragraph 1 of Appendix 1 of Project Standard version 6.0<sup>/5/</sup>.

**CAR #2 (point 1) was raised** since the geographical coordinates mentioned in section A.2 sub-point (d) of the MR<sup>/13/</sup> was inconsistent with the coordinates mentioned in the registered PDD<sup>/5/</sup> page 3. In response, the PP has submitted a revised PDD and the revision has been checked by the assessment team and has been found satisfactory, hence, **CAR #2 (point 1) was closed out**. For detailed discussions please refer CAR #2 (point 1) in section 9 of this report.

Section B.2.2 (Corrections) of the MR<sup>/13/</sup> was mentioned as "not applicable". Hence **CAR #6 (point 1) was raised** requesting the PP to clarify its appropriateness. In response the PP has correctly described the corrections in section B.2.2. This correction has already been discussed under CAR #2. Hence **CAR #6 (point 1) was closed out**. For detailed discussions please refer CAR #6 (point 1) in section 9 of this report.

The following issues were also raised, discussed and closed out under **CAR #6**:



1. The date of the revised PDD version 6 was inconsistent with the date mentioned in section B.2.2 of the MR version 3.0 dated 05/05/2014. In response the PP has updated the date of the revised PDD to 04/06/2014 which is consistent with the date of the revised PDD. Hence accepted and closed out.
2. In the VVS track PDD Version 5 dated 01/10/2008 (information from registered PDD VVM track PDD transferred to VVS track PDD template), the details on Page 26 (Appendix 1) was inconsistent with the details in the original VVM registered PDD and page 41 was blank. In response, the PP has revised the details in Appendix 1 to make it consistent with the registered VVM PDD and has removed the blank page 41. Hence, accepted and closed out.
3. In the revised PDD Version 6 dated 05/05/2014, page 43 in the track change PDD and page 42 in the clean mode PDD were blank. In response the PP has removed the blank pages in both PDDs. Hence accepted and closed out.

Hence **CAR #6 was closed out**. For detailed discussions please refer CAR #6 in section 9 of this report.

### **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<sup>/7/ /11/</sup> on the UNFCCC project webpage<sup>/4/</sup>.

## **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 RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>. The monitoring mechanism, including the data collection system, is effective and reliable.

The project has been registered with the methodology ACM0002 version 06<sup>/12/</sup>. The assessment team have verified the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> against ACM0002 version 06<sup>/12/</sup> and can confirm that the monitoring plan is in accordance with the approved methodology<sup>/12/</sup> applied by the project activity.

During the site visit, personnel involved at various levels of operation of the project activity have been interviewed as mentioned in section 2.3.2 of this report. It has been confirmed that the plant personnel are conscious of the importance of monitoring activities. On-site verification of plant records<sup>/15 to 20/</sup> also substantiate consistency in recording and reporting of monitored data.

The monitoring parameter relevant to this project activity listed in the applied methodology<sup>/12/</sup> is:

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

The monitoring parameters defined in the approved RMP<sup>/8/</sup> and revised PDD<sup>/6/</sup> are:

- i. EGy – Net electricity supplied to the grid by the Project
- ii. EGexport – Electricity Export recorded at meters (one main and one check) connecting 38 machines of the project activity.
- iii. EGimport – Electricity Import recorded at the meters (one main and one check) connecting 38 machines of the project activity.

- iv.  $T_E$  – Transmission loss for export between the metering location at 33 kV point and the metering location at 110 kV at the Wind World (India) Limited 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<sup>/8/</sup> and the revised PDD<sup>/6/</sup> in addition to the parameter EGy. The approved RMP<sup>/8/</sup> is now a part of the monitoring described in the revised PDD<sup>/6/</sup>.

A comparison between the requirement of the methodology<sup>/12/</sup>, for the parameter EGy; the description of the same parameter in the approved RMP<sup>/8/</sup> / revised PDD<sup>/6/</sup> 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  Approved RMP / Revised PDD and Approved Methodology	Requirement in the applicable methodology and relevant EB documents	Requirement of the monitoring plan in the approved RMP and revised PDD	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD & applicable methodology
<b>Data/Parameter</b>	EGy	EGy	EGy	The implementation is in compliance with the monitoring plan & applicable methodology.
<b>Description</b>	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.
<b>Measured/Calculated /Default</b>	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. This is the actual practice being followed on site, which is governed by the PPA <sup>/21/</sup> signed specifically for this project activity. This approach has been described in the monitoring plan of the approved RMP <sup>/8/</sup> and the revised PDD <sup>/6/</sup> . The implementation is in compliance with the monitoring plan & applicable methodology.
<b>Source of data</b>	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 <sup>/21/</sup> signed specifically for this project activity. Hence accepted.
<b>Monitoring equipment</b>	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.
<b>Measuring/Reading/ Recording frequency</b>	Hourly measurement	Recording Frequency:	Recording Frequency:	The hourly measurement and monthly recording is for the

	and monthly Recording	Monthly	Monthly	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.
<b>Calculation method (if applicable)</b>	Not Applicable	$EGy = EG_{\text{export}} - 115\% * EG_{\text{import}} - T_E$	$EGy = EG_{\text{export}} - 115\% * EG_{\text{import}} - T_E$	This is as per the actual practice on site by the state utility. Hence accepted. The same formula is mentioned in the approved RMP <sup>/8/</sup> and the revised PDD <sup>/6/</sup> .
<b>QA/QC procedures</b>	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 RMP<sup>/8/</sup>; the revised PDD<sup>/6/</sup> and the applicable methodology<sup>/12/</sup>.

EGy is a calculated parameter using directly measured values, as indicated in the table above. This calculation is carried out by the state utility (HESCOM). The PP has no role in the calculation. This was verified by interviewing the HESCOM officials during the site visit. The calculated monthly values of EGy are directly sourced from Form B (JMRs)<sup>/15/</sup> prepared by HESCOM at the 33 kV metering point. The PP has correctly reported the monthly values from the Form B (JMR) in the emission reduction spreadsheet<sup>/14/</sup>. These monthly values of EGy have been verified against the monthly invoices<sup>/20/</sup> raised by the PP and are found to be consistent.

The value of EGy for the current monitoring period is 55,228.183 MWh. This parameter is used for the emission reduction calculations.

The parameters EG<sub>export</sub>, EG<sub>import</sub> and T<sub>E</sub> have been defined in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> due to the actual situation on site. Hence a comparison between the requirement of the parameters in the monitoring plan of the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> and the actual monitoring of the parameter is shown in the tables below.



### EGexport – Electricity Export recorded at meters (one main and one check) connecting 38 machines of the project activity.

The analysis of the compliance of the actual monitoring, of the parameter EGexport, against the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is shown in the table below.

Monitoring Report, onsite checks  Approved RMP / Revised PDD and Approved Methodology	Requirement of the monitoring plan in the approved RMP and revised PDD	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD
<b>Data/Parameter</b>	EGexport	EGexport	In compliance
<b>Description</b>	Electricity Export recorded at meters (one main and one check) connecting 38 machines of the project activity.	Electricity Export recorded at meters (one main and one check) connecting 38 machines of the project activity.	In compliance
<b>Measured/Calculated /Default</b>	Measured	Measured	In compliance
<b>Source of data</b>	JMR (Form B)	JMR (Form B)	In compliance
<b>Monitoring equipment</b>	Two way trivector energy meters	Two way trivector energy meters	In compliance
<b>Measuring/Reading/ Recording frequency</b>	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
<b>Calculation method (if applicable)</b>	Not applicable since it is a measured parameter	Not applicable since it is a measured parameter	Not applicable
<b>QA/QC procedures</b>	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	In compliance

In summary, the actual monitoring for EGexport is in compliance with the monitoring plan in the revised PDD<sup>/6/</sup>.

EGexport is the energy exported to the grid, measured at the 33 kV metering point, 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 HESCOM in the presence of the WWIL representative at the metering point. 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 the Form B (JMRs)<sup>/15/</sup> prepared by HESCOM. The PP has correctly reported the monthly values in the emission reduction spreadsheet<sup>/14/</sup>.

The value of EGexport for the current monitoring period is 56,757.408 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (HESCOM). The entire

process of arriving at the value of EGexport in the JMR (Form B) is in the control of HESCOM. The PP has no role in this process. This was verified by interviewing the HESCOM officials during the site visit.

**EGimport – Electricity Import recorded at the meters (one main and one check) connecting 38 machines of the project activity.**

The analysis of the compliance of the actual monitoring, of the parameter EGimport, against the monitoring plan in the approved RMP<sup>/6/</sup> and the revised PDD<sup>/6/</sup> is shown in the table below.

Monitoring Report, onsite checks  Approved RMP / Revised PDD and Approved Methodology	Requirement of the monitoring plan in the approved RMP and revised PDD	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD
<b>Data/Parameter</b>	EGimport	EGimport	In compliance
<b>Description</b>	Electricity Import recorded at the meters (one main and one check) connecting 38 machines of the project activity.	Electricity Import recorded at the meters (one main and one check) connecting 38 machines of the project activity.	In compliance
<b>Measured/Calculated /Default</b>	Measured	Measured	In compliance
<b>Source of data</b>	JMR (Form B)	JMR (Form B)	In compliance
<b>Monitoring equipment</b>	Two way trivector energy meters	Two way trivector energy meters	In compliance
<b>Measuring/Reading/ Recording frequency</b>	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
<b>Calculation method (if applicable)</b>	Not applicable	Not applicable	In compliance
<b>QA/QC procedures</b>	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	In compliance

In summary, the actual monitoring for EGimport is in compliance with the monitoring plan in the revised PDD<sup>/6/</sup>.

EGimport is the energy imported from the grid, measured at the two 33 kV metering point, 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 HESCOM in the presence of the WWIL representative at the 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 the Form B (JMRs)<sup>/15/</sup> prepared by HESCOM. The PP has correctly reported the monthly values in the emission reduction spreadsheet<sup>/14/</sup>.

The value of EGimport for the current monitoring period is 48.003 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (HESCOM). The entire process of arriving at the value of EGimport in the JMR (Form B) is in the control of HESCOM. The PP has no role in this process. This was verified by interviewing the HESCOM officials during the site visit.

**T<sub>E</sub> – Transmission loss for export between the metering location at 33 kV point and the metering location at 110 kV at the Wind World (India) Limited substation.**

The analysis of the compliance of the actual monitoring, of the parameter T<sub>E</sub>, against the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is shown in the table below.

Monitoring Report, onsite checks  Approved RMP / Revised PDD and Approved Methodology	Requirement of the monitoring plan in the approved RMP and revised PDD	Implementation of the project	Conclusion on the compliance of the implementation with the monitoring plan in the revised PDD
<b>Data/Parameter</b>	T <sub>E</sub>	T <sub>E</sub>	In compliance
<b>Description</b>	Transmission loss for export between the metering location at 33 kV point and the metering location at 110 kV at the Enercon substation.	Transmission loss for export between the metering location at 33 kV point and the metering location at 110 kV at the Wind World (India) Limited 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
<b>Measured/Calculated /Default</b>	Calculated (by the state utility)	Calculated (by the state utility)	In compliance
<b>Source of data</b>	JMR (Form B)	JMR (Form B)	In compliance
<b>Monitoring equipment</b>	Not Applicable	Not Applicable	In compliance
<b>Measuring/Reading/ Recording frequency</b>	Monthly recording frequency	Monthly recording frequency	In compliance
<b>Calculation method (if applicable)</b>	Calculation method is described in section B.7.2 of the approved RMP and section B.7.3 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 approved RMP and section B.7.3 of the revised PDD and is in line with the PPA signed specifically for this project activity.	In compliance
<b>QA/QC procedures</b>	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	QA/QC procedures are mentioned in Annex 4 of the approved RMP and Appendix 5 of the revised PDD.	In compliance

In summary, the actual of monitoring for T<sub>E</sub> is in compliance with the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>.

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 Bannikoppa substation where voltage is stepped up to 110 KV and exported to the grid. The transmission losses are calculated by the state utility considering the export readings of the meter at the 110 kV substation as well as the export readings at the 33 kV metering point. The monthly values of transmission loss are directly sourced from the Form B (JMRs)<sup>/15/</sup> prepared by HESCOM. The PP has correctly reported the monthly values in the emission reduction spreadsheet<sup>/14/</sup>. These monthly values are cross-checked with the values in the monthly Line loss calculation sheet<sup>/18/</sup> issued by BESCOM and are found to be consistent. This value have also been cross checked with the invoices<sup>/20/</sup> raised to the state utility and are found to be consistent.

The value of this parameter is 1,474.021 MWh for the current monitoring period. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (HESCOM). The entire process of arriving at the value of  $T_E$  in the JMR (Form B) is in the control of HESCOM. The PP has no role in this process. This was verified by interviewing the HESCOM 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 RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>
- Monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is in accordance with the applied methodology<sup>/12/</sup>.

In section B.1 of the MR<sup>/13/</sup> the information regarding the actual operation of the project is titled "Monthly Performance Report". Hence **CAR #2 (point 5) was raised** requesting the PP to clarify the appropriateness of this heading. In response, the PP has revised the heading of table in section B.1 of the revised MR<sup>/13/</sup> to "Project Performance Report". This is appropriate. Hence **CAR #2 (point 5) was closed out**. For detailed discussions please refer CAR #2 (point 5) in section 9 of this report.

Section C of the MR<sup>/13/</sup> states that the JMR at the 33kV metering location contains "Electricity supplied to the Grid [EGexport-115%\*EGimport-TE]". However it was observed that the JMR<sup>/15/</sup> actually contains the value "EGexport – EGimport – TE". Hence **CAR #3 (point 1) was raised** requesting the PP to clarify this inconsistency. The assessment team has checked the Form B for the current<sup>/15/</sup> and previous<sup>/17/</sup> monitoring periods. In the Form B for some months the net electricity to be billed i.e. "EGexport-115%\*EGimport-TE" has been reported while in some the net energy exported i.e. "EGexport-EGimport-TE" has been reported. This Form B is prepared and issued by the state utility and the PP has no role in the same. Hence, as per the PPA<sup>/21/</sup> signed specifically for the project activity and the actual practice in the state of Karnataka, the statement in the PDD is accepted. Hence **CAR #3 (point 1) was closed out**. For detailed discussions please refer CAR #3 (point 1) in section 9 of this report.

**CAR #3 (point 2) was raised** since it was not clear if the scenarios described under the three bullet points under the heading "If during the meter test checking", in section C of the MR<sup>/13/</sup>, occurred during the current monitoring period. In response, the PP clarified that the scenarios described under the three bullet points, have not occurred during the current monitoring. This has been confirmed from the meter calibration records for the current monitoring period. The PP has also mentioned in section C that none of the scenarios have occurred during the current monitoring period. Hence accepted and closed out. Hence **CAR #3 (point 2) was closed out**. For detailed discussions please refer CAR #3 (point 2) in section 9 of this report.

The monitoring of the parameters in section D.2 of the MR<sup>/13/</sup> was described in future tense. Hence **CAR #4 (point 1) was raised** since the monitoring of the parameters during the current period was not clear. In response, the PP has correctly revised the language in section D.2 of the MR<sup>/13/</sup> to describe the monitoring of the parameters which actually occurred during the current monitoring period. This is appropriate. Hence **CAR #4 (point 1) was closed out**. For detailed discussions please refer CAR #4 (point 1) in section 9 of this report.

**CAR #4 (point 2) was raised** since the notation of the parameters "EG<sub>export</sub>", "EG<sub>import</sub>" and "TE" in section D.2 of the MR<sup>/13/</sup> was inconsistent with the RMP. In response, the PP has revised the notation of the

parameters “EG<sub>export</sub>”; “EG<sub>import</sub>” and “TE” in section D.2 of the MR<sup>/13/</sup> to make it consistent with the approved RMP<sup>/8/</sup>. Hence **CAR #4 (point 2) was closed out**. For detailed discussions please refer CAR #4 (point 2) in section 9 of this report.

As per the requirements of the guidelines<sup>/2/</sup> for completing the MR form the meter type; the date of the last calibration and the validity were mentioned for “EG<sub>export</sub>” and “EG<sub>import</sub>” in section D.2 of the MR<sup>/13/</sup>. Hence **CAR #4 (point 3) was raised**. In response, the PP has now mentioned the Details of the metering equipment in Section C. The table in section C of the MR<sup>/13/</sup> has been checked to confirm that all details as required by the guidelines<sup>/2/</sup> for completing the MR form are included. The meter details are consistent with the meter calibration certificates<sup>/24/</sup> and the actual meter details as observed during the site visit. Hence **CAR #4 (point 3) was closed out**. For detailed discussions please refer CAR #4 (point 3) in section 9 of this report.

As per the requirements of the guidelines<sup>/2/</sup> for completing the MR form, the reading/measuring frequency has not been mentioned for the parameters “EG<sub>export</sub>” and “EG<sub>import</sub>” in section D.2 of the MR<sup>/13/</sup>. Hence **CAR #4 (point 4) was raised**. In response the PP has now mentioned the reading frequency in section D.2. This is consistent with the RMP and meets the requirements of the MR completion guidelines. Hence **CAR #4 (point 4) was closed out**. For detailed discussions please refer CAR #4 (point 4) in section 9 of this report.

Based on the requirements of paragraph 264 to 271 of the VVS version 06.0<sup>/1/</sup> the assessment team confirms that the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is in compliance with the monitoring methodology<sup>/12/</sup>. The assessment team also confirms that the actual monitoring activities observed on site is in compliance with the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>. The applicable parameters stated in the approved RMP<sup>/8/</sup>; the revised PDD<sup>/6/</sup> and the applied methodology<sup>/12/</sup> have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the approved RMP<sup>/8/</sup> and revised PDD<sup>/6/</sup>. 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<sup>/13/</sup>, 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<sup>/13/</sup>. There is one 33 kV metering points to which all 38 WEGs are connected. All 38 WEGs, through the 33 kV metering point, are connected to the 110 kV metering point at the Bannikoppa sub-station. Each metering point consists of two meters i.e. a main meter and a check meter.

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

Metering Point Identification	33 kV metering point	Bulk Meter I at Bannikoppa sub-station	Bulk Meter II at Bannikoppa sub-station
Monitoring equipment	Energy Meter	Energy Meter	Energy Meter
Monitoring parameter	EGimport and EGexport	N/A	N/A
S/N	6767626 (Main Meter)	6607369 (Main Meter)	6605135 (Main Meter)
	6767637 (Check Meter)	6606801 (Check Meter)	6607373 (Check Meter)
Type	Tri-vector	Tri-vector	Tri-vector

<b>Level</b>	0.2	0.2	0.2
<b>Meter Testing frequency requirement</b>	Annual	Annual	Annual
<b>Meter Testing date</b>	26/11/2011 and 20/12/2012	14/07/2011; 22/10/2012 and 25/07/2013	14/07/2011; 25/09/2012 and 25/07/2013
<b>Validity</b>	One year	One year	One year
<b>Are there delays in testing/calibration?</b>	Yes	Yes	Yes
<b>Testing / Calibration Entity</b>	State utility as per approved RMP and revised PDD. This has also been mentioned as state utility in the MR.		
<b>Accreditation Certificate for the calibration entity</b>	As per the PPA, the periodic calibration is being done by state utility and PP has no involvement in the calibration process. BESCO has carried out the calibration during the current monitoring period. The meters will be checked using a portable meter of accuracy 0.1%. The portable meter shall be owned by MESCOM.		

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 HESCO (state utility)
- JMR (Form B) for the current<sup>/15/ /16/</sup> and previous<sup>/17/</sup> monitoring period
- Meter test certificates<sup>/24/</sup> for the entire monitoring period
- Transmission loss calculation sheet for the current<sup>/18/</sup> and previous<sup>/19/</sup> monitoring period

The PP has correctly reported the delay in meter testing in section C of the MR<sup>/13/</sup> under the heading "calibration details". As per the requirements of paragraph 273 (a) of the VVS Version 06.0<sup>/1/</sup> the PP has correctly applied the maximum permissible error of 0.2% to the measured values of import; export and the calculated value of Transmission Loss. The error factor has been applied to the values of Export and Import for the period from 01/11/2012 to 31/12/2012, since there is a delay in calibration of the 33kV meter. Since there is a delay in the calibration of the metering at the substation and the readings at the sub-station are used to calculate the value of transmission loss, hence the PP has correctly applied an error factor to the value of transmission loss for the period 01/09/2012 to 31/10/2012. The error factor has been correctly applied in the ER excel spreadsheet<sup>/14/</sup> submitted by the PP.

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

- The meter details are correctly mentioned in the MR<sup>/13/</sup>
- 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 RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>
- 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 RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>

The CEA (Installation and Operation of Meters) Regulations<sup>/27/</sup>, which is considered as a national standard, mentions that for Energy accounting and audit meters “The accuracy class of meters in generation and transmission system shall not be inferior to that of 0.2S Accuracy Class.”. 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<sup>/27/</sup> also state that “All interface meters shall be tested at least once in five years.” Hence, the stipulated annual testing frequency in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is appropriate.

As per paragraph 269 (c) to (e) of the VVS, version 06.0<sup>/1/</sup>, 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 in accordance with the monitoring plan in the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>. The delay in calibration has been appropriately addressed by the PP.
- 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 approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>.

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

The calibration of all meters is in the control of the state utility. BESCOM has carried out the calibration during the current monitoring period. The PP has no control over the same. The actual testing of the meters is carried out by the officials of the state utility on an annual basis which varies based on the availability of staff; weather conditions; etc. This was confirmed during the interview with the state utility officials. As per the approved RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup>, the meters are to be tested annually. This testing frequency has not been followed for the current monitoring period. A delay in meter testing has been observed which has been reported in the table in section 3.5 of this report.

The PP has correctly reported the delay in meter testing in section C of the MR<sup>/13/</sup> under the heading “calibration details”. As per the requirements of paragraph 273 (a) of the VVS Version 06.0<sup>/1/</sup> the PP has correctly applied the maximum permissible error of 0.2% to the measured values of import; export and the calculated value of Transmission Loss. The error factor has been correctly applied in the ER excel spreadsheet<sup>/14/</sup> submitted by the PP.

The assessment team confirms that the testing of the meters covers the entire monitoring period. The meter test reports<sup>/24/</sup> have been checked to confirm that the errors observed were within permissible limits.

The CEA (Installation and Operation of Meters) Regulations<sup>/27/</sup>, 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 RMP<sup>/8/</sup> and the revised PDD<sup>/6/</sup> is appropriate.

### **3.7 Accuracy of Emission Reduction Calculations**

The calculation of emission reductions in the final ER excel spreadsheet<sup>/14/</sup> 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 TE are used to calculate EGy. The PP has provided the complete set of data for the parameter EGexport; EGimport and TE in the ER spreadsheet<sup>/14/</sup>. 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 RMP<sup>/8/</sup>; the revised PDD<sup>/6/</sup> and the approved methodology ACM0002 version 6<sup>/12/</sup>.

The baseline emission factor has been calculated as per the guidance provided in ACM0002 version 6<sup>/12/</sup>. The Grid Emission Factor has been taken from the Central Electricity Authority<sup>/26/</sup> (Ministry of Power, Government of India) and the same is reported in the registered PDD<sup>/5/</sup> and the revised PDD<sup>/6/</sup>. This is an ex-ante parameter calculated in the registered PDD and revised PDD and remains constant throughout the crediting period. The value in the PDD is 0.93204 tCO<sub>2</sub>/MWh; however the PP has considered the value of 0.932 tCO<sub>2</sub>/MWh in the ER calculations which results in conservative Emission reductions.

As per the ER excel spreadsheet<sup>/14/</sup> submitted by the PP, the net emission reductions for the current monitoring period are verified as 51,466 tCO<sub>2</sub> for current monitoring period. The difference between the estimated and verified ERs has been discussed under section 3.1 of this report.

**CAR #5 (point 1) was raised** requesting the PP to clarify the baseline emissions of 51,469 calculated in section E.1 of the MR<sup>/13/</sup>. In response, the PP has added a statement in Section E.1 of the MR<sup>/13/</sup> clarifying the difference between the value of baseline emission obtained using the formula mentioned in section E.1 (i.e. 51,472) and the actual value of baseline emissions considered for the ER calculations (i.e. 51,466). The assessment team has verified the ER excel spreadsheet to confirm the clarification issued by the PP. In the ER sheet the baseline emissions for the current monitoring period has been obtained by (i) calculating the rounded down value of baseline emissions for each month and summing the monthly rounded down values (ii) by using a three decimal (i.e. 0.932 tCO<sub>2</sub>e/MWh) emission factor instead of five decimal (0.93204 tCO<sub>2</sub>e/MWh). Hence the value of baseline emission used for the ER calculations is lesser (more conservative) than the baseline emission obtained using the formula in section E.1 of the MR<sup>/13/</sup>. Hence **CAR #5 (point 1) was closed out**. For detailed discussions please refer CAR #5 (point 1) in section 9 of this report.

**CAR #5 (point 4) was raised** requesting the PP to clarify the information in columns A, B and C in the tab "Generation and ER Calculation" of the ER spreadsheet<sup>/14/</sup>. In response, the PP has revised the ER excel spreadsheet<sup>/14/</sup> by deleting the previously present tabs and has presented all relevant information in a single "CER Calculation" tab. The information present in the ER excel spreadsheet<sup>/14/</sup> has been checked by the assessment team and is found to be correct. With this revision in the spreadsheet, the earlier comment raised by the assessment team is no longer relevant. Hence **CAR #5 (point 4) was closed out**. For detailed discussions please refer CAR #5 (point 4) in section 9 of this report.

The value of EF was used inconsistently in the MR<sup>/13/</sup> and ER sheet<sup>/14/</sup>. It was not clear why emission factor with three decimal places was considered for the ER calculations. Hence **CAR #6 (point 2) was raised**. In response the PP has now stated in section E.1 that use of 3 decimal places leads to conservative value of Emission Reductions. This has also been mentioned as a comment in cell H5 of the ER excel spreadsheet. Hence **CAR #6 (point 2) was closed out**. For detailed discussions please refer CAR #6 (point 2) 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<sup>/28/</sup> quality assurance system implemented, therefore we can conclude that the management system of the CDM project is implemented, 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, as mentioned in section 2.3.2 of this report.

In order to verify the data quality, the PP works in accordance with a quality assurance procedure<sup>/28/</sup>, 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 registered PDD<sup>/5/</sup> and the revised PDD<sup>/6/</sup>. The Emission factor was calculated by the combined margin approach with 75% and 25% weights for OM & BM respectively, using data available in CO<sub>2</sub> Baseline Database for the Indian Power Sector version 1.1 published by Central Electricity Authority<sup>/26/</sup> (CEA), Ministry of Power, Government of India.



The value of OM i.e. 1.0034 tCO<sub>2</sub>e/MWh has been calculated as the average of 3 years data as mentioned in section B.6.2 of the revised PDD. The value of BM i.e. 0.7180 tCO<sub>2</sub>e/MWh has been directly sourced from the CEA database version 1.1 as mentioned in section B.6.2 of the revised PDD.

The value of baseline emission factor used in emission reduction calculations for the current monitoring period is 0.93204 tCO<sub>2</sub>/MWh as reported in the Monitoring Report. This is found to be consistent with the value of EF mentioned in the registered PDD<sup>/5/</sup> and the revised PDD<sup>/6/</sup>. The value in the PDD is 0.93204 tCO<sub>2</sub>/MWh; however the PP has considered the value of 0.932 tCO<sub>2</sub>/MWh in the ER calculations which results in conservative Emission reductions.

#### 4. Calculation of Emission Reductions

Parameter	Reported Value MR Version 01 dated 29/11/2013 (Web hosted MR)	Verified Value MR Version 04 dated 04/06/2014 (Final MR)
EGexport (MWh)	56,757.408	56,757.408
EGimport (MWh)	48.003	48.003
T <sub>E</sub> (MWh)	1,474.021	1,474.021
EGy (MWh)	55,228.183	55,228.183
Grid Emission Factor (tCO <sub>2e</sub> /MWh)	0.93204	0.93204

The baseline emissions (BEy) are calculated as follows:

$$\begin{aligned}
 \text{BEy} &= \text{EGy (MWh)} \times \text{Grid emission Factor (t CO}_{2e}\text{/MWh)} \\
 &= 55,228.183 \times 0.932 \\
 &= 51,472.666 \text{ tCO}_2e
 \end{aligned}$$

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 51,466 tCO<sub>2e</sub>. For detailed calculations, please refer to the emission reduction excel spreadsheet<sup>14/</sup>. The lower value of 51,466 tCO<sub>2e</sub> 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 registered PDD<sup>5/</sup> and the revised PDD<sup>6/</sup>, Project emissions (PEy) and leakage (Ly) and are zero.

Thus emission reductions are calculated as follow:

$$\begin{aligned}
 \text{ERy} &= \text{BEy} - \text{PEy} - \text{Ly} \\
 &= 51,466 - 0 - 0 \\
 &= 51,466 \text{ tCO}_2e
 \end{aligned}$$

#### Emission Reduction:

Period	Reported Value (as per the web hosted MR) tCO <sub>2e</sub>	Verified Value tCO <sub>2e</sub> (Final MR)	If Different, Summary of Issues That Caused the Difference
01/09/2012 to 31/10/2013 (including first and last days of monitoring period)	51,469	51,466	Please refer CAR #5 (point 1) in Section 9 (Findings overview) of this report
CERs (Up to 31 December 2012 (1st commitment period); )	13,523	13,523	Not Applicable
CERs (From 1 January 2013 onwards.	37,946	37,943	Please refer CAR #5 (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. The registered PDD has been revised due to corrections as described in section 3.2.2 of this report, therefore the already approved RMP was also inserted in the revised PDD submitted by the PP.

## 6. Overview of Results

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

Is the project documentation in accordance with the requirements of the registered 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) visited the site 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 CO<sub>2</sub> baseline database for the Indian power sector published by Central Electricity Authority (CEA), Ministry of Power, Government of India. The value determined in the PDD is 0.93204 tCO<sub>2</sub>/MWh, which is fixed for the entire crediting period. This data is publicly available and verified to be acceptable. The value used for the emission reductions calculations during the current monitoring period is 0.932 tCO<sub>2</sub>/MWh, which leads to lower i.e. more conservative emission reductions.*

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 revised PDD and revised monitoring plan. The emission reduction was 57,575 tCO<sub>2</sub> for the period 01/09/2012 to 31/10/2013 as per the estimation made in the registered PDD. The actual emission reduction has been verified as 51,466 tCO<sub>2</sub> 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.

*An inconsistency was observed between the geographical coordinates in the MR and the registered PDD. This issue was identified during the 1<sup>st</sup> verification of this project as described in detail in section 3.2.2 of this report. There are no concerns about verifications conducted earlier or CERs issued during previous verifications.*

Post monitoring report on UNFCCC website

Yes, the monitoring report is available at ref. 1268 on the UNFCCC website

(<http://cdm.unfccc.int/Projects/DB/DNV-CUK1185867846.4/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 'Tungabhadra wind power project in Karnataka' and UNFCCC Reference Number 1268 for the period 01/09/2012 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 04/06/2014.

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 01/09/2012 to 31/10/2013 based on the reported emission reductions in the Monitoring Report version 04 dated 04/06/2014 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:	Tungabhadra wind power project in Karnataka
UNFCCC Reference Number:	1268
Registered PDD and Approved RMP Used for Verification:	Registered PDD Version 5.0 dated 01/10/2008 RMP approved on 18/02/2011 Revised PDD Version 06 dated 04/06/2014 (Submitted for approval along with the request for issuance)
Methodology Used for Verification:	ACM0002 version 06 dated 19/05/2006
Applicable Period:	01/09/2012 to 31/10/2013
Total GHG Emission Reductions Verified:	51,466 tCO <sub>2</sub> e

**Signed on behalf of the Verification Body by Authorized Signatory**

Signature:



Name: Siddharth Yadav

Date: 16/06/2014

## 8. Document References

1. Clean Development Mechanism Validation and Verification Standard version 06.0
  2. Guidelines for completing the monitoring report form version 04.0
  3. Clean Development Mechanism Project Standard version 06.0
  4. UNFCCC web link of the CDM project activity (UN No. 1268)
  5. Registered PDD (Version 5 dated 01/10/2008)
  6. Revised PDD\*
    - a) Version 6.0 dated 03/03/2014
    - b) Version 6.0 dated 13/03/2014
    - c) Version 6.0 dated 05/05/2014
    - d) Version 6.0 dated 04/06/2014 (submitted with the Request for Issuance of this monitoring period)
- \*To see the revisions in each of the PDDs please refer to the discussion of findings in section 9 of this report
7. Validation Report of the registered CDM project activity (Report No. 2007-1022 Revision No. 03 dated 21/10/2008 issued by DNV)
  8. Approved RMP (Date of CDM EB approval: 18/02/2011)
  9. RMP validation opinion issued by TUV Nord with reference no. 09\_452/1268 dated 18/11/2010
  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: 53606309-09/452-V01 dated 21/09/2011 issued by TUV NORD
    - b) MP2: Report No: 8108229015 – 11/472 V02 dated 08/12/2011 issued by TUV NORD
    - c) MP3: Report No: 8109474588– 12-533 dated 30/01/2013 issued by TUV NORD
  12. Applied Methodology - ACM0002 version 06 dated 19/05/2006
  13. Monitoring Reports covering monitoring period 01/09/2012 to 31/10/2013

Version No.	Date	Remarks
1	29/11/2013	This version was uploaded on the UNFCCC website prior to the site visit.
2	27/01/2014	<ol style="list-style-type: none"> <li>1. The number and date formatting was corrected throughout the MR.</li> <li>2. The estimated value of ERs was corrected on the cover page of the MR.</li> <li>3. The weblinks of the methodology and tools used was added in section A.4 of the MR.</li> <li>4. The titles of the baseline and monitoring methodology was revised in section A.4 of the MR.</li> <li>5. The heading of the table in section B.1 of the MR was revised.</li> </ol>

		<p>6. The language in section D.2 of the MR was revised to clarify the monitoring during the current MP.</p> <p>7. The notations of the parameters in section D.2 of the MR were revised.</p> <p>8. The reading frequency of the parameters in section D.2 of the MR was mentioned.</p> <p>9. The reference to the meter details was mentioned in section D.2 for the parameters.</p> <p>10. A statement clarifying the value of baseline emissions in Section E.1 of the MR has been added.</p> <p>11. The difference between the actual and estimated values of emission reductions was clarified in section E.6 of the MR.</p> <p>The above revisions have been discussed in detail under CAR #1 to CAR #5 in section 9 of this report.</p>
3	05/05/2014	<p>1. The corrections to the registered PDD were mentioned in Section B.2.2</p> <p>2. A clarification on the use of three decimal places in the emission factor was added in section E.1</p> <p>3. The number formatting was corrected throughout the MR.</p> <p>4. The latest version of the VVS was referred in section C.</p> <p>The above revisions have been discussed in detail under CAR #6 in section 9 of this report.</p>
4 (Final Version)	04/06/2014	<p>1. To correct the date of the revised PDD in Section B.2.2. This revision has been discussed under CAR #6 in section 9 of this report.</p>

14. Emission Reduction Spreadsheet

- a) Version 1 dated 29/11/2013
- b) Version 2 dated 27/01/2014
- c) Version 3 dated 05/05/2014

15. Monthly JMR (Form B) at 33 kV metering point – September 2012 to October 2013

16. Monthly JMR (Form B) at 110 kV sub-station – September 2012 to October 2013

17. Monthly Form B – Previous MP (September 2011 to August 2012)

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

19. Line loss calculation sheet issued by the state utility for the Previous Monitoring Period (i.e. September 2011 to August 2012)

20. Monthly invoices issued by PP to MESCOM (September 2012 to October 2013)

21. PPA dated 16/08/2006 between MESCOM and the Project Participant

22. Commissioning Certificates of all WEGs commissioned from 24/04/2007 to 31/12/2007

23. Single Line diagram indicating WEG location and sub-station

24. Meter test certificates:

Location 33 kV – Main Meter (Sr. No. 6767626) & Check Meter (Sr. No. 6767637)

- a) Issued by HESCOM with date of testing 26/11/2011
- b) Issued by HESCOM with date of testing 20/12/2012

Sub-station Bulk meter I – Main meter (Sr. No. 6607369) & Check meter (Sr. No. 6606801)



- c) Issued by HESCOM with date of testing 22/10/2012
- d) Issued by HESCOM with date of testing 25/07/2013
- Sub-station Bulk meter II – Main meter (Sr. No. 6605135) & Check meter (Sr. No. 6607373)
- e) Issued by HESCOM with date of testing 25/09/2012
- f) Issued by HESCOM with date of testing 25/07/2013
- 25. Monthly shutdown details for the project activity for the period from October 2012 to October 2013
- 26. CEA CO<sub>2</sub> Baseline Database for the Indian Power Sector Version 1.1  
[http://www.cea.nic.in/reports/planning/cdm\\_co2/cdm\\_co2.htm](http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)
- 27. 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
- 28. ISO 9001:2008 certificate issued by Intertek with certificate number IMB-0482.12 with an expiry date of 28/03/2015
- 29. Fresh Certificate of Incorporation Consequent upon Change of Name issued by the Registrar of Companies (Ministry of Corporate Affairs, Government of India) dated 01/01/2013 indicating the change of name from “Enercon (India) Limited” to “Wind World (India) Limited”.
- 30. Host Country Approval with No. 4/23/2006-CCC dated 24/12/2013 issued to Wind World (India) Limited by the Ministry of Environment and Forests (India DNA)

## 9. Findings Overview

	CARs	CLs	FARs
Total Number raised	6	-	-

Date:	17/01/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	#1	Reference:	MR
<b>Lead Assessor Comment:</b>			<b>Date:</b> 17/01/2014		
MR Version 1.0 dated 29/11/2013					
<ol style="list-style-type: none"> <li>1. The format used for the presentation of values is not in line with paragraph 14 of the guidelines for completing the MR form (EB 54 Annex 34).</li> <li>2. The date formatting used throughout the MR is inconsistent.</li> <li>3. PP is requested to clarify if the duration of this monitoring period mentioned on the cover page of the MR includes the first and last days</li> <li>4. The name of the PP mentioned on the cover page of the MR is "Wind World (India) Limited". The name of the authorised PP mentioned on the UNFCCC webpage of this project activity is "M/s Enercon (India) Limited". Please clarify this inconsistency.</li> <li>5. The current monitoring period from 01/09/2012-31/10/2013 consists of 426 days. However the estimated ERs calculated on the cover page has considered 425 days.</li> </ol>					
<b>Project Participant Response:</b>			<b>Date:</b> 27/01/2014		
<ol style="list-style-type: none"> <li>1. Format used for presentation of values has been rectified in the revised MR</li> <li>2. Format used for presentation of date has been rectified in the revised MR</li> <li>3. Information that first and last day of monitoring period are included; has been included in revised MR</li> <li>4. The name of authorized PP on UNFCCC webpage has been updated with Wind World (India) Limited.</li> <li>5. The number of days in current monitoring period and respective numbers of emission reduction units has been modified in revised MR</li> </ol>					
<b>Documentation Provided as Evidence by Project Participant:</b>					
Revised monitoring report (Version 2.0)					
<b>Information Verified by Lead Assessor:</b>					
<p>The revised monitoring report version 2.0 dated 27/01/2014 has been checked for the revisions made by the PP.</p> <p>Host Country Approval No. 4/23/2006-CCC dated 24/12/2013 issued by Ministry of Environment and Forests, Government of India (DNA) to Wind World (India) Limited mentioning the change in name.</p> <p>Fresh Certificate of Incorporation Consequent upon Change of Name, issued by the Registrar of Companies, Ministry of Corporate Affairs (Government of India) mentioning the name change from "Enercon (India) Limited" to "Wind World (India) Limited"</p>					

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
1.	The PP has revised the format used for the presentation of values in the MR, to an internationally recognized format as required by paragraph 14 of the guidelines for completing the MR form (EB 54 Annex 34). Hence accepted and closed out.
2.	The PP has now consistently used the DD/MM/YYYY date formatting throughout the MR. Hence accepted and closed out.
3.	The PP has now mentioned on the cover page of the MR that the duration of the current monitoring period mentioned on the cover page of the MR includes the first and last days. This is in line with the MR completion guidelines. Hence accepted and closed out.
4.	The name of the authorized PP mentioned on the UNFCCC webpage of this project activity as on 06/02/2014 is "M/s Wind World (India) Limited". The name of the authorised PP was also confirmed from the Host County Approval present on the UFCCC webpage of this project activity. The change in name from "Enercon (India) Limited" to "Wind World (India) Limited" was also confirmed by checking the certification of incorporation Consequent upon Change of Name, issued by the Registrar of Companies, Ministry of Corporate Affairs (Government of India). Hence accepted and closed out.
5.	The PP has revised the estimate of ERs on the cover page of the MR by correctly considering 426 days in the current monitoring period. The calculation of the estimated ERs is correct. The value of the estimated ERs has been consistently mentioned on the cover page and in section E.5 of the MR. Hence accepted and closed out.
CAR #1 closed out.	
<b>Acceptance and Close out by Lead Assessor: Closed</b>	
<b>Date: 07/02/2014</b>	

Date:	17/01/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	#2	Reference:	MR
Lead Assessor Comment:			Date: 17/01/2014		
MR Version 1.0 dated 29/11/2013					
<div>1. The geographical coordinates mentioned in section A.2 sub-point (d) of the MR is inconsistent with the coordinates mentioned in the registered PDD page 3.</div> <div>2. The location of the sub-station as per the registered PDD page 4 is “Dambal” village. This is inconsistent with the section A.2 of the MR which mentioned that the sub-station is located at Bannikoppa village.</div> <div>3. The weblink of the methodology and the tools have not been mentioned in section A.4 of the MR.</div> <div>4. The titles of the baseline and the monitoring methodology in section A.4 of the MR are inconsistent with the titles in the methodology ACM0002 Version 6.</div> <div>5. In section B.1 of the MR the information regarding the actual operation of the project is titled “Monthly Performance Report”. Please clarify the appropriateness of this heading.</div>					
Project Participant Response:			Date: 27/01/2014		
<div>1. The inconsistency of geographical coordinates with respect to registered PDD has been resolved during first monitoring period of the project after clarification from UNFCCC. The geo-coordinates provided in MR are verified one and same has been confirmed by DOE during project site visit.</div> <div>2. The revised monitoring plan of the project specifies the substation at Bannikoppa village</div> <div>3. The web-link of the methodology and the tools are mentioned in section A.4 of the revised MR</div> <div>4. The titles of the baseline and the monitoring methodology in section A.4 of the revised MR are consistent with methodology ACM0002 (Version 6.0)</div> <div>5. The heading of table in section B.1 of the revised MR regarding the information regarding the actual operation of the project has been corrected.</div>					
Documentation Provided as Evidence by Project Participant:					
Revised monitoring report (Version 2.0)					

<b>Information Verified by Lead Assessor:</b>	
<p>The revised monitoring report version 2.0 dated 27/01/2014 has been checked for the revisions made by the PP.</p> <p>Validation opinion (ref. 09_452/1268 dated 11/11/2010) of the Revised Monitoring Plan issued by TUV NORD.</p> <p>Verification Report for the 1<sup>st</sup> Monitoring Period with report No. 53606309-09/452-V01 dated 21/09/2011 issued by TUV NORD.</p>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<ol style="list-style-type: none"> <li>1. The issue regarding the geographical coordinates was raised, by the DOE (TUV NORD) during the first verification of this project activity, and has been discussed in the report. This issue was closed out based on the verification by the DOE and a clarification received from the UNFCCC EB on email which has been documented in the verification report of the first monitoring period. However, the PP is requested to clarify how the requirements of the Project Standard Version 05.0 paragraph 203 and section 12.8 are met. Hence open.</li> <li>2. The validation opinion of the RMP issued by TUV NORD mentions that the 110 kV substation is at Bannikoppa village. Hence accepted and closed out.</li> <li>3. The PP has now added the web-link of the methodology and the tools in section A.4 of the revised MR. The weblinks are functional. Hence accepted and closed out.</li> <li>4. The PP has revised the titles of the baseline and the monitoring methodology in section A.4 of the revised MR to make it consistent with methodology ACM0002 (Version 6.0). Hence accepted and closed out.</li> <li>5. The heading of table in section B.1 of the revised MR regarding the information regarding the actual operation of the project has been corrected to "Project Performance Report". This is appropriate. Hence accepted and closed out.</li> </ol>	
CAR #2 open	
<b>Acceptance and Close out by Lead Assessor: Open</b>	<b>Date: 07/02/2014</b>
<b>Project Participant Response:</b>	<b>Date: 13/02/2014</b>
As Project Standard Version 05.0, section 12.8.3 requires that any correction in project information shall be documented in revised PDD, the geographical coordinates and approved revised monitoring plan has been incorporated in revised PDD (version 6.0).	
<b>Documentation Provided as Evidence by Project Participant:</b>	
Revised PDD (version 6.0).	
<b>Information Verified by Lead Assessor:</b>	
<p>The following revised PDDs submitted by the PP have been checked:</p> <ol style="list-style-type: none"> <li>1. VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</li> <li>2. Revised VVS track PDD Version 6 dated 03/03/2014 in track change mode</li> <li>3. Revised VVS track PDD Version 6 dated 03/03/2014 in clean mode</li> </ol>	
The PP has submitted all 3 PDDs in MS word and PDF format.	

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<p>In order to meet the requirements of the Project Standard Version 05.0 the PP has submitted a revised PDD. The PP has revised the geographical coordinates in the revised PDD. The issue regarding the geographical coordinates was raised, by the DOE (TUV NORD) during the first verification of this project activity, and has been discussed in the verification report. The PP had revised the geographical coordinates in the Monitoring report of the 1<sup>st</sup> monitoring period, which has already been verified by the DOE. Hence the revision to the geographical coordinates in section A.2.4 of the revised PDD is accepted.</p> <p>In addition to the revision in the geographical coordinates, the PP has also revised the name of the PP from Enercon (India) Limited or EIL to Wind World (India) Limited or WWIL throughout the revised PDD. This is due to the change in name of the PP which has been confirmed from the certification of incorporation consequent upon change of name issued by the Registrar of Companies, Ministry of Corporate Affairs (Government of India). The change in name has also been cross-checked on the UNFCCC project webpage. The PP has also revised the reference to the various "Appendixes" through the revised PDD. This revision is due to change in the PDD template.</p> <p>The assessment team has reviewed the revised PDD submitted by the PP and confirms that other than the revisions described above; no other revisions have been made in the revised PDD.</p> <p>The PDD template used is inconsistent with the PDD template on the UNFCCC webpage. The header with the UNFCCC logo and the page number is missing.</p> <p>CAR #2 open</p>	
<b>Acceptance and Close out by Lead Assessor: Open</b>	<b>Date: 13/03/2014</b>
<b>Project Participant Response:</b>	<b>Date: 13/03/2014</b>
Please find the revised set of PDDs conforming to PDD template.	
<b>Documentation Provided as Evidence by Project Participant:</b>	
Revised PDD_Version 6.0 (Clean and track change mode), PDD_version 5.0 (VVM to VVS)	
<b>Information Verified by Lead Assessor:</b>	
<p>The following revised PDDs submitted by the PP have been checked:</p> <ol style="list-style-type: none"> <li>1. VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</li> <li>2. Revised VVS track PDD Version 6 dated 13/03/2014 in track change mode</li> <li>3. Revised VVS track PDD Version 6 dated 13/03/2014 in clean mode</li> </ol> <p>The PP has submitted all 3 PDDs in MS word and PDF format.</p>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<p>The PDD template used is now consistent with the PDD template on the UNFCCC webpage. The header with the UNFCCC logo and the page number are present. Hence accepted.</p> <p>CAR #2 closed out</p>	
<b>Acceptance and Close out by Lead Assessor: Closed</b>	<b>Date: 18/04/2014</b>

Date:	17/01/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	#3	Reference:	MR
<b>Lead Assessor Comment:</b>			<b>Date:</b> 17/01/2014		
MR Version 1.0 dated 29/11/2013					
<ol style="list-style-type: none"> <li>1. Section C of the MR states that the JMR at the 33kV metering location contains "Electricity supplied to the Grid [EGexport-115%*EGimport-TE]". However it was observed that the JMR actually contains the value "EGexport – EGimport – TE".</li> <li>2. In section C of the MR it is not clear if the scenarios described under the three bullet points under the heading "If during the meter test checking" has occurred during the current monitoring period.</li> </ol>					
<b>Project Participant Response:</b>			<b>Date:</b> 27/01/2014		
<ol style="list-style-type: none"> <li>1. The electricity imported in Karnataka state is multiplied with a factor of 115% and this has been mentioned in invoices raised against state utility. This conforms to the net electricity supplied to the grid formula as mentioned in revised monitoring plan.</li> <li>2. In section C of the MR, the scenarios described under the three bullet points under the heading "If during the meter test checking" have not occurred during the current monitoring period which can be confirmed with meter calibration records provided to DOE. These scenario provide the situation specific guidelines during meter test checking.</li> </ol>					
<b>Documentation Provided as Evidence by Project Participant:</b>					
Revised monitoring report (Version 2.0)					
<b>Information Verified by Lead Assessor:</b>					
<p>The revised monitoring report version 2.0 dated 27/01/2014 has been checked for the revisions made by the PP.</p> <p>Monthly JMR (Form B) at 33kV for the period 01/09/2012 to 31/10/2013</p> <p>Monthly invoice issued by the PP to the state utility for the period 01/09/2012 to 31/10/2013</p> <p>Monthly Power Purchase Bill issued by the state utility (Mangalore Electricity Supply Company Limited i.e. MESCOM) for the period 01/09/2012 to 31/10/2013</p>					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>					
<ol style="list-style-type: none"> <li>1. The formula mentioned in the RMP for calculating the parameter E<sub>Gy</sub> is "EGexport-115%*EGimport-TE". This is consistent with the formula mentioned in the MR for the current monitoring period and is the actual practice in the state of Karnataka. However the statement in the MR and the RMP which mentions that the JMR (Form B) at the 33kV metering location contains "Electricity supplied to the Grid [EGexport-115%*EGimport-TE]" is not consistent with the Form B. Hence open.</li> <li>2. The PP has clarified that the scenarios described under the three bullet points under the heading "If during the meter test checking" in section C of the MR, have not occurred during the current monitoring. This has been confirmed from the meter calibration records for the current monitoring period. The PP has also mentioned in section C that none of the scenarios have occurred during the current monitoring period. Hence accepted and closed out.</li> </ol>					
CAR #3 open					
<b>Acceptance and Close out by Lead Assessor: Open</b>			<b>Date:</b> 07/02/2014		
<b>Project Participant Response:</b>			<b>Date:</b> 13/02/2014		
The formula mentioned in RMP and MR is as per compliance stated in Power Purchase Agreement of the project. The formula is also mentioned in invoice raised against state utility. The formula is also mentioned in the Form B (e.g. March 2012 and April 2012) of the previous monitoring period.					
<b>Documentation Provided as Evidence by Project Participant:</b>					
Power Purchase Agreement copy					
<b>Information Verified by Lead Assessor:</b>					
The Power Purchase Agreement signed with the state utility has been checked for the calculation of the electricity supplied to the grid.					

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>					
1. The assessment team has checked the Form B for the current and previous monitoring periods. In the Form B for some months the net electricity to be billed i.e. "EG <sub>export</sub> -115%*EG <sub>import</sub> -TE" has been reported while in some the net energy exported i.e. "EG <sub>export</sub> -EG <sub>import</sub> -TE" has been reported. This Form B is prepared and issued by the state utility and the PP has no role in the same. Hence, as per the PPA signed specifically for the project activity and the actual practice in the state of Karnataka, the statement in the revised PDD is accepted. Hence closed out.					
CAR #3 closed out					
<b>Acceptance and Close out by Lead Assessor: Closed</b>					<b>Date: 13/03/2014</b>

Date:	17/01/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	#4	Reference:	MR
<b>Lead Assessor Comment:</b>				<b>Date: 17/01/2014</b>	
MR Version 1.0 dated 29/11/2013					
1. The monitoring of the parameters in section D.2 of the MR has been described in future tense. It is not clear from the MR the monitoring during the current period.					
2. The notation of the parameters "EG <sub>export</sub> "; "EG <sub>import</sub> " and "TE" in section D.2 of the MR is inconsistent with the RMP.					
3. As per the requirements of the guidelines for completing the MR form the meter type; date of last calibration and validity has not been mentioned for the "EG <sub>export</sub> " and "EG <sub>import</sub> " in section D.2 of the MR.					
4. As per the requirements of the guidelines for completing the MR form the reading/measuring frequency has not been mentioned for the "EG <sub>export</sub> " and "EG <sub>import</sub> " in section D.2 of the MR.					
<b>Project Participant Response:</b>				<b>Date: 27/01/2014</b>	
1. Section D.2 has been revised appropriately to conform the requirement of current monitoring period					
2. The notation of the parameters "EG <sub>export</sub> "; "EG <sub>import</sub> " and "TE" in section D.2 has been revised to conform with RMP					
3. Section D.2 has been revised appropriately					
4. Section D.2 has been revised to include the frequency of reading and recording data					
<b>Documentation Provided as Evidence by Project Participant:</b>					
Revised monitoring report (Version 2.0)					
<b>Information Verified by Lead Assessor:</b>					
The revised monitoring report version 2.0 dated 27/01/2014 has been checked for the revisions made by the PP.					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>					
1. The PP has correctly revised the language in section D.2 of the MR to describe the monitoring of the parameters during the current monitoring period. This is appropriate and hence closed out.					
2. The PP has revised the notation of the parameters "EG <sub>export</sub> "; "EG <sub>import</sub> " and "TE" in section D.2 of the MR to make it consistent with the RMP. Hence accepted and closed out.					
3. For the parameters "EG <sub>export</sub> " and "EG <sub>import</sub> " in section D.2 of the MR, the PP has now mentioned that the Details of the metering equipment are mentioned in Section C. The table in section C of the MR has been checked to confirm that all detail as required by the guidelines for completing the MR form is present. The meter details are consistent with the meter calibration certificates and the actual meter details as observed during the site visit. Hence accepted and closed out.					
4. For the parameters "EG <sub>export</sub> " and "EG <sub>import</sub> " in section D.2 of the MR the PP has now mentioned a reading frequency of half hourly. This is consistent with the RMP and meets the requirements of the MR completion guidelines. Hence accepted and closed out.					
CAR #4 closed out					
<b>Acceptance and Close out by Lead Assessor: Closed</b>					<b>Date: 07/02/2014</b>



Date:	17/01/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	#5	Reference:	MR & ER
Lead Assessor Comment:			Date: 17/01/2014		
MR Version 1.0 dated 29/11/2013 and ER spreadsheet Version 1.0 dated 29/11/2013					
<div>1. PP is requested to clarify the baseline emissions of 51469 calculated in section E.1 of the MR.</div> <div>2. The PP is requested to substantiate the “low plant load factor” mentioned in section E.6 of the MR.</div> <div>3. During the site visit only one transformer was observed at the project site. This is inconsistent with the line diagram in Appendix 1 of the MR which indicates two transformers. Please clarify this inconsistency.</div> <div>4. Please clarify the information in columns A, B and C in the tab “Generation and ER Calculation” of the ER spreadsheet.</div>					
Project Participant Response:			Date: 27/01/2014		
<div>1. The baseline emission calculation of <math>EG_y * EF_y</math> gives a result of 51,472 numbers (approx.), but actual baseline emission reduction achieved has been considered as 51,466 numbers as this was a conservative number arrived after round down the baseline emission calculation for each month against the application of above calculation on lump sum of net electricity supplied to the grid in complete monitoring period</div> <div>2. Plant load factor value has been mentioned in section E.6</div> <div>3. The number of transformers attached to the project is related with total load connected with substation and may vary time to time.</div> <div>4. ER sheet has been revised accordingly.</div>					
Documentation Provided as Evidence by Project Participant:					
Revised monitoring report (Version 2.0)					
Revised ER sheet (Version 2.0)					
Information Verified by Lead Assessor:					
The revised monitoring report version 2.0 dated 27/01/2014 and revised ER excel spreadsheet version 2.0 dated 27/01/2014 has been checked for the revisions made by the PP.					
Reasoning for not Acceptance or Acceptance and Close Out:					
<div>1. The PP has added a statement in Section E.1 of the MR clarifying the difference between the value of baseline emission obtained using the formula mentioned in section E.1 (i.e. 51,472) and the actual value of baseline emissions considered for the ER calculations (i.e. 51,466). The assessment team has verified the ER excel spreadsheet to confirm the clarification issued by the PP. In the ER sheet the baseline emissions for the current monitoring period has been obtained by (i) calculating the rounded down value of baseline emissions for each month and summing the monthly rounded down values (ii) by using a three decimal (i.e. 0.932 tCO<sub>2</sub>e/MWh) emission factor instead of 0.93204 tCO<sub>2</sub>e/MWh. Hence the value of baseline emission used for the ER calculations is lesser (more conservative) than the baseline emission obtained using the formula in section E.1 of the MR. Hence accepted and closed out.</div> <div>2. The PP has substantiated the “low plant load factor” mentioned in section E.6 of the MR by comparing the actual PLF for the current monitoring period and the PLF estimated during the validation. The calculation of the actual PLF is present in the ER excel spreadsheet and is correct. The actual PLF is lower than the estimated PLF. This clarifies the difference between the actual and estimated values of emission reductions. Hence accepted and closed out.</div> <div>3. The PP has clarified that the numbers of transformer at the substations depends on the load connected to the substation and will vary with time. The assessment team confirmed the same during the discussion with the site in-charge during the site visit for this project activity. This has no affect on the project activity. Hence accepted and closed out.</div> <div>4. The PP has revised the ER excel spreadsheet by deleting the previously present tabs and has presented all relevant information in the “CER Calculation” tab. The information present in the ER excel spreadsheet is correct. Hence accepted and closed out.</div>					
CAR #5 closed out					
Acceptance and Close out by Lead Assessor: Closed			Date: 07/02/2014		



Date:	27/04/2014		Raised by:	Assessment Team	
Type:	CAR	Number:	#6	Reference:	TR comments
<b>Lead Assessor Comment:</b>				<b>Date:</b> 27/04/2014	
MR Version 2.0 dated 27/01/2014; ER spreadsheet Version 2.0 dated 27/01/2014 and Revised PDD Version 6.0 dated 13/03/2014					
<ol style="list-style-type: none"> <li>1. Section B.2.2 of the MR Version 2 dated 27/01/2014 has been mentioned as “not applicable”. Please clarify if this is appropriate.</li> <li>2. The value of EF is used inconsistently in the MR and ER sheet. It is not clarified why only three decimal places are considered for ER calculations.</li> <li>3. In the revised PDD Appendix 3 of is blank and Appendix 6 does not include all the changes made in the PDD. Please clarify.</li> <li>4. The format used for the presentation of values in the MR has not been reported in line with paragraph 14 of the guidelines for completing the MR form.</li> <li>5. The latest version of the VVS has not been referred in the MR.</li> </ol>					
<b>Project Participant Response:</b>				<b>Date:</b> 05/05/2014	
<ol style="list-style-type: none"> <li>1. Section B.2.2 of the MR mentions corrections applied in PDD.</li> <li>2. Three decimal places leads to conservative ER calculations. This is mentioned in section E.1 and ER sheet.</li> <li>3. Appendix 3 and 6 of revised PDD has been modified accordingly.</li> <li>4. Number format corrected.</li> <li>5. Version 6.0 of the VVS has now been referred.</li> </ol>					
<b>Documentation Provided as Evidence by Project Participant:</b>					
Revised MR (version 3.0)					
Revised PDD (Track change, Clean mode, VVM to VVS)					
Revised ER sheet (version 3.0)					
<b>Information Verified by Lead Assessor:</b>					
<p>The revised MR Version 3.0 dated 05/05/2014; revised ER spreadsheet Version 3.0 dated 05/05/2014 and the revised PDD version 6.0 dated 05/05/2014 has been checked for the revisions made by the PP.</p> <p>The assessment team has noted that the PP has retained the version no. of the revised PDD and has changed the date only.</p> <p>The following revised PDDs submitted by the PP have been checked:</p> <ol style="list-style-type: none"> <li>1. VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</li> <li>2. Revised VVS track PDD Version 6 dated 05/05/2014 in track change mode</li> <li>3. Revised VVS track PDD Version 6 dated 05/05/2014 in clean mode</li> </ol>					

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<ol style="list-style-type: none"> <li>1. The PP has revised section B.2.2 in the revised MR. The PP has correctly described the corrections in section B.2.2. This correction has already been discussed under CAR #2. Hence accepted and closed out.</li> <li>2. The PP has used 0.932 tCO<sub>2</sub>e/MWh as the value of emission factor in the ER calculations even though the value in the PDD is 0.93204 tCO<sub>2</sub>e/MWh. The PP has now stated in section E.1 that use of 3 decimal places leads to conservative value of Emission Reductions. The same has also been mentioned as a comment in cell H5 of ER excel spreadsheet. This statement is correct. Hence accepted and closed out.</li> <li>3. The PP has now correctly filled Appendix 3 of the PDD. The PP has revised Appendix 6 of the PDD and it now contains all change made to the registered PDD, namely (i) Correction in the geographical coordinates (ii) Change in PP name (iii) Insertion of the approved RMP in the PDD. Hence accepted and closed out.</li> <li>4. The PP has revised the format used for the presentation of values in the MR to make it in line with the requirement of paragraph 14 of the guidelines for completing the MR form.</li> <li>5. The PP has now referred to Version 6.0 of the VVS in the MR, which is the latest available version. Hence accepted and closed out.</li> </ol>	
CAR #6 closed out	
<b>Acceptance and Close out by Lead Assessor: Closed</b>	<b>Date:</b> 05/05/2014 Re-opened on 04/06/2014 to address comments raised during the UK Completeness Check
<b>Lead Assessor Comment:</b>	<b>Date:</b> 04/06/2014
<ol style="list-style-type: none"> <li>1. The date of the revised PDD version 6 mentioned in the revised PDD is inconsistent with the date mentioned in section B.2.2 of the MR version 3.0 dated 05/05/2014.</li> </ol> <p>VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</p> <ol style="list-style-type: none"> <li>2. The details on Page 26 (Appendix 1) is inconsistent with the details in the original VVM registered PDD.</li> <li>3. Page 41 is blank.</li> </ol> <p>Revised PDD Version 6 dated 05/05/2014</p> <ol style="list-style-type: none"> <li>4. Page 43 in the track change revised PDD and page 42 in the clean mode revised PDD are blank.</li> </ol>	
<b>Project Participant Response:</b>	<b>Date:</b> 04/06/2014
<ol style="list-style-type: none"> <li>1. The date of the revised PDD in section B.2.2 of the MR has been corrected.</li> <li>2. Details have now been made consistent with registered VVM PDD.</li> <li>3. Blank page 41 in PDD removed.</li> <li>4. Blank page 43 in the track change revised PDD and blank page 42 in the clean mode revised PDD removed.</li> </ol>	
<b>Documentation Provided as Evidence by Project Participant:</b>	
Revised MR (version 4.0) Revised PDD (Track change, Clean mode, VVM to VVS)	
<b>Information Verified by Lead Assessor:</b>	
<p>The revised MR Version 4.0 dated 04/06/2014 has been checked for the revisions made by the PP.</p> <p>The following revised PDDs (MS Word and PDF formats) submitted by the PP have been checked:</p> <ol style="list-style-type: none"> <li>1. VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</li> <li>2. Revised VVS track PDD Version 6 dated 04/06/2014 in track change mode</li> <li>3. Revised VVS track PDD Version 6 dated 04/06/2014 in clean mode</li> </ol> <p>The assessment team has noted that the PP has retained the version no. of the revised PDD and has changed the date only.</p>	

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<p>1. The PP has now updated the date of the revised PDD to 04/06/2014 in section B.2.2 of the revised MR. This is now consistent with the date in the revised PDD. Hence accepted and closed out.</p> <p>VVS track PDD Version 5 dated 01/10/2008 (details from registered PDD VVM track PDD transferred to VVS track PDD template)</p> <p>2. The PP has revised the details on page 26 (Appendix 1). The details are now consistent with the details in the original VVM registered PDD. Hence accepted and closed out.</p> <p>3. The blank page 41 has now been removed. Hence accepted and closed out.</p> <p>Revised PDD Version 6 dated 04/06/2014</p> <p>4. The blank Page 43 in the track change revised PDD and page 42 in the clean mode revised PDD have now been removed. Hence accepted and closed out. Also, the track changes in Appendix 1 of the revised PDD now reflects that the revisions have been made to the information in the registered PDD. Hence accepted.</p> <p>CAR #6 closed out.</p>	
<b>Acceptance and Close out by Lead Assessor: Closed</b>	<b>Date: 04/06/2014</b>

## 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

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

Approved Member of Staff by: Siddharth Yadav Date: 06/02/2012

## Statement of Competence

Name: Vijaybhai Shankarbhai Patel

### Status

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

### Scopes of Expertise

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

Approved Member of Staff by: Siddharth Yadav Date: 23/01/2014

## Statement of Competence

Name: **Vikas Bankar**

### Status

- Lead Assessor	<b>x</b>	- Expert	<b>x</b>
- Assessor	<b>x</b>	- Financial Expert	
- Local Assessor	<b>India</b>	- Technical Reviewer	<b>x</b>

### 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:

**17/07/2012**

## 11. Photographic Evidence

**Unique reference number:**

33 kV metering point (Main Meter - 6767626)

**Name of equipment:** Trivector Energy Meter

**Parameter:**

EGimport and EGexport

**Date:** 17/01/2014



**Unique reference number:**

33 kV metering point (Check Meter - 6767637)

**Name of equipment:** Trivector Energy Meter

**Parameter:**

EGimport and EGexport

**Date:** 17/01/2014





**Unique reference number:**

Bulk Meter I - Bannikoppa sub-station (Main Meter - 6607369)

**Parameter:**

This meter is used by the state utility to calculate transmission loss

**Name of equipment:** Trivector Energy Meter

**Date:** 17/01/2014



**Unique reference number:**

Bulk Meter I – Bannikoppa sub-station (Check Meter - 6606801)

**Parameter:**

This meter is used by the state utility to calculate transmission loss

**Name of equipment:** Trivector Energy Meter

**Date:** 17/01/2014



**Unique reference number:**

Bulk Meter II – Bannikoppa sub-station (Main Meter - 6605135)

**Parameter:**

This meter is used by the state utility to calculate transmission loss

**Name of equipment:** Trivector Energy Meter

**Date:** 17/01/2014



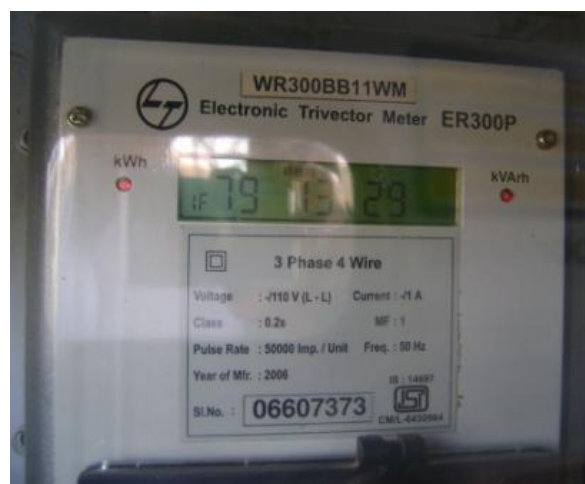
**Unique reference number:**

Bulk Meter II – Bannikoppa sub-station (Check Meter - 6607373)

**Parameter:** This meter is used by the state utility to calculate transmission loss

**Name of equipment:** Trivector Energy Meter

**Date:** 17/01/2014



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