VERIFICATION AND CERTIFICATION REPORT

Enercon (India) Limited

Enercon Wind Farm (Hindustan) Ltd in Karnataka

UN PA 1259

Monitoring Period 3: 01/09/2011 – 30/06/2012

(Both days inclusive)

SGS Climate Change Programme
SGS United Kingdom Ltd
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Date of Issue:	**Project Number:**
04/10/2012	CDM.VER1248
Project Title:	
Enercon Wind Farm (Hindustan) Ltd in Karnataka	
Organisation:	**Client:**
SGS United Kingdom Limited	Enercon (India) Limited
Publication of Monitoring Report:	
Monitoring Period:	01/09/2011 to 30/06/2012
First Monitoring Version and Date:	Version 01 dated 13/07/2012
Final Monitoring Version and Date:	Version 04 dated 03/10/2012

Summary:

SGS United Kingdom Ltd has performed the 3rd periodic verification of the CDM project "Enercon Wind Farm (Hindustan) Ltd in Karnataka", with UNFCCC reference number of 1259, registration date of 27/10/2008 and crediting period from 27/10/2008 to 26/10/2018. The verification includes confirming the implementation of the revised monitoring plan approved on 15/03/2011 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:

(a) The registered PDD/5/, including the monitoring plan and the corresponding validation report/8/;

(b) Monitoring report/14/, previous verification reports/12/, approved RMP/9/, validation opinion of approved RMP/10/

(c) The applied monitoring methodology/13/;

(d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;

(e) All information and references relevant to the project activity's resulting in emission reductions.

The project activity involves electricity generation by wind mills and supplying the same 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 consists of the installation of 86 windmills of 0.8 MW capacity each at Chitradurga and Tumkur districts of Karnataka, India, reaching a total installed capacity of 68.8 MW. These wind mills are of Enercon make E-48. The generated electricity is evacuated to Karnataka state grid substation.

SGS confirms that the project is implemented in accordance with the validated and registered Project Design Document. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 77,277 tCO2e emission reductions during period 01/09/2011 up to 30/06/2012.

Subject:			
CDM Verification			
Verification Team:			
Sudeep Kodialbail – Lead Assessor; Local Assessor and Expert (TA 1.2 - Wind) Ravikant Soni – Assessor			☒ No Distribution (without permission from the Client or responsible organisational unit)
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Authorised Signatory:			
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Abbreviations

BESCOM		Bangalore Electricity Supply Company
BM		Build Margin
CAR		Corrective Action Request
CDM		Clean Development Mechanism
CEA		Central Electricity Authority
CER		Certified Emission Reductions
CL		Clarification Request
CMP	or	Conference of Parties serving as the Meeting of the Parties
COP/MOP		
CMS		Central Monitoring Station
CO_2		Carbon Dioxide
CoP		Conference of the Parties
CPRI		Central Power Research Institute
CT		Current Transformer
DOE		Designated Operational Entity
DR		Document Review
EB		Executive Board
EF		Emission Factor
EIL		Enercon India Limited
ER		Emission Reduction
FAR		Forward Action Request
GHG		Greenhouse Gas(es)
ISO		International Organization for Standardization
JMR		Joint Meter Reading
KPTCL		Karnataka Power Transport Company Limited
KERC		Karnataka Electricity Regulatory Commission
kWh		Kilo watt hour
MP		Monitoring Plan
MR		Monitoring Report
MW		Mega watt
MWh		Mega Watt hour
NABL		National Accreditation Board for Testing and Calibration of Laboratories
O&M		Operation and Maintenance
OM		Operating Margin
PDD		Project Design Document
PLF		Plant Load Factor
PP		Project Participant
PPA		Power Purchase Agreement
QA/QC		Quality Assurance/Quality Control
RMP		Revised Monitoring Plan
TR		Technical Review
UNFCCC		United Nations Framework Convention on Climate Change
VVS		Validation and Verification Standard
WEG		Wind Electricity Generator

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1. Introduction

1.1 Objective

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

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

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

1.2 Scope

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

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

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

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

1.3 Project Activity and Period Covered

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

Title of Project Activity:	Enercon Wind Farm (Hindustan) Ltd in Karnataka
UNFCCC Registration Number:	1259
Monitoring Period Covered in this Report:	01/09/2011 to 30/06/2012
Project Participants:	Host Country: India
	PP: M/s Enercon (India) Limited
	Annex I Country: United Kingdom of Great Britain and Northern Ireland
	PP: Rabobank International
Location of the Project Activity:	Chikkabyaladakere, Kanubehalli, Elladakere and Arasinagundi villages in Chitradurga District of Karnataka state in India and Dasudi, Nelenuru, Ganadu, Annenhalli, Siddapura villages in Tumkur district of Karnataka state, in India.

The project activity involves electricity generation by wind mills and supplying the same 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 consists of the installation of 86 windmills, of 0.8 MW capacity each, at Chitradurga and Tumkur districts of Karnataka, India, reaching a total installed capacity of

68.8 MW. These wind mills are of Enercon make E-48. The generated electricity is evacuated to Karnataka state grid substation. The first set of WEGs were commissioned on 29/09/2006 and last WEG was commissioned on 28/12/2006 as mentioned in the registered PDD[/5/] and the commissioning certificates[/24/].

All the 86 WEGs are fully functional and this was verified by the assessment team during the site visit. Technical details of WEGs with respect to installation place and capacity have been verified during the site visit and found to be consistent with the details provided in the registered PDD[/5/].

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 (1.2 Wind)
Ravikant Soni	Assessor

2.3 Means of Verification

2.3.1 Review of Documentation

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

2.3.2 Site Visits

As part of the verification, the following on-site inspections have been performed by Sudeep Kodialbail and Ravikant Soni.

Location: Districts-Chitradurga and Tumkur; State-Karnataka; India	
Date: 08/08/2012 to 10/08/2012	
Coverage:	**Source of Information / Persons Interviewed**
• Monitoring report • Project design and implementation • Conformance with Registered PDD and approved RMP • Monitoring procedure • Emission reduction calculations	Mr. Puneet Katyal (Head – CDM; Enercon) Mr. Saujanya Kumar (Asst Manager CDM Corporate; Enercon) Mr. H Manjunath (Manager Operations; Enercon)
• Technical equipment and operation • Data collection, operations and monitoring procedure • Monitoring equipment testing and calibration • Data uncertainty • QA/QC procedures	Mr. H Manjunath (Manager Operations; Enercon) Mr. Mohammed (Assistant Executive Engineer, BESCOM) Mr. Himanshu Dutta (Sub-station in-charge, Enercon)

2.4 Reporting of Findings

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

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

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

I. Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

II. Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

III. Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

IV. Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants

The verification process may be halted until this information has been made available to comply with the requirements of the CDM Executive Board. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

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

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

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

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

2.5 Internal Quality Control

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

Technical Review Team

Name	Role
Vivek Kumar Ahirwar	Technical Reviewer and Technical Area expert scope 1 (TA 1.2 Wind)

3. Verification Findings

3.1 Project Implementation

This project activity is generation of electricity from WEGs and supplying the generated electricity to the Southern grid of India. The project, located at Chitradurga and Tumkur districts of Karnataka state in India, has an installed capacity of 68.8 MW (86 WEGs x 0.8 MW/WEG). The PP has signed a PPA[/23/] with BESCOM for sale of electricity to the grid. The project was registered as a CDM project on 27/10/2008[/4/] and the same date is the starting date of the crediting period (fixed). The PP has undertaken a revision in the monitoring plan which was approved by the EB on 15/03/2011[/4/]. This is the third verification of the project activity covering the period from 01/09/2011 to 30/06/2012.

The project has been implemented; equipment installed and is being operated as described in the registered PDD[/5/]. The monitoring plan implemented during the current monitoring period is in compliance with the revised and approved monitoring plan (RMP)[/9/] and the applied methodology[/13/]. This was verified during the site visit.

The project activity WEGs have been commissioned in 3 phases between 29/09/2006 and 28/12/2006 as mentioned in the Monitoring Report. The details of the WEGs installed are mentioned in the table below. All details mentioned in the below table have been verified against the commissioning certificates[/24/] and is found to be correct.

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

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

i. Commissioning certificates[/24/]
ii. Power Purchase Agreement[/23/]
iii. Invoices[/22/] raised by the PP to BESCOM
iv. Testing certificates[/26/] of all energy meters
v. Monthly JMR (Form B)[/16/ /17/] at 33kV metering point
vi. Monthly JMR (Form B)[/18/] at 220kV metering point (sub-station)
vii. Single line diagram[/25/] indicating all the WEGs of the project activity
viii. Transmission loss calculation summary reports[/20/] for current monitoring period

The assessment team confirms that there are no changes in the project design against the registered PDD[/5/]. The project implementation related information provided in the Monitoring Report[/14c/] is consistent with that stated in the registered PDD[/5/].

The project was checked against the applicability criteria in the applied methodology ACM0002 Version 06[/13/] and it is confirmed that the methodology[/13/] is applicable to the project activity. The data and variables provided in the Monitoring Report[/14c/] are the same as stated in the approved RMP[/9/].

The assessment team has compared the reported emission reductions with the project emission reductions in the registered PDD. A 37.70% difference was observed. Hence CAR #2 was raised requesting the PP to

clarify the same, which has been discussed later in this section. 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.

CAR #1 was raised to discuss the issues related to project implementation. The following issues were discussed:

1. It is mentioned in section C of the MR[/14a/], that the electricity generated by the project is evacuated to the grid at 220 kV. This was also confirmed during the visit to the sub-station. The same is not transparently described in section A.1 and B.1 of the MR[/14a/] as required by the guidelines[/2/] for completing the MR form. The PP was requested to clarify the same. In response, the PP has revised section A.1 and B.2 in the MR[/14b/]. It is now clearly reflected that the electricity generated by the project is stepped up to 22kV and then evacuated to the grid. This is consistent with the observations on the site visit. Hence closed.
2. The WEG performance report in appendix 2 of the MR[/14a/] mentioned the shutdown details for each WEG for the entire monitoring period. The assessment team wanted to compare the monthly downtimes with the electricity generation and hence the PP was requested to submit the monthly downtime for the project activity. In response, the PP has submitted the monthly downtime details[/27] (excel spreadsheet) of all WEGs in the project activity. The PP also has clarified that the monthly downtimes in the excel spreadsheet is mentioned under column I. This downtime is the sum of the downtime of the grid; downtime of the machines and lack of wind. The assessment team has compared the monthly downtimes with the monthly values of electricity generation. The trend observed is that months with higher downtimes have lower generation and vice versa. This is appropriate and hence accepted. It was clarified by the Enercon personnel during the site visit that the individual downtimes are directly recorded through the online system which can then be downloaded in the form of excel spreadsheets. These excel spreadsheets are generated directly from the online system of Enercon without any human interference. Hence the credibility of this data is maintained.

Thus **CAR #1** was closed out. For detailed discussions please refer CAR #1 (points 1 and 2) in section 9 of this report.

CAR #2 (point 2) was raised requesting the PP to clarify the 37.70% difference between the estimated and actual emissions reductions for the current monitoring period in section E.6 of the MR[/14a/]. In response, the PP has compared the PLF considered during the validation (26.5%) with the actual PLF (16.5%) for the current monitoring period. It has been demonstrated by the PP that the actual PLF is 37.7% less than the validation PLF, which was used for the estimated ER calculations during validation. This justifies the 37.7% decrease in the actual ERs compared to the estimated ERs. The justification given by the PP is appropriate hence accepted. The PP has calculated the actual PLF (16.5%) for the current monitoring period in the tab 'Emission Reduction calculation' of the ER excel sheet version 3[/15c/]. The PLF calculation has been checked and is found to be correct. Hence **CAR #2** (point 2) was closed. For detailed discussions please refer CAR #2 (point 2) in section 9 of this report.

CAR #6 (point 6) was raised requesting the PP to clarify the sites mentioned as CK6 and CK1-4, in Appendix 2 of the MR Version 3 i.e. the WEG Performance Report. It was not clear whether this is the 33 kV metering points KBCWP 02 or KBCWP03. In response, the PP has revised Appendix 2 in the MR version 4 dated 03/10/2012[/14d/] to correctly indicate the metering points KBCWP 02 and KBCWP03. This is appropriate and hence accepted. Thus CAR #6 (point 6) was closed out. For detailed discussions please refer CAR #6 in section 9 of this report.

Based on the requirements of paragraph 226 to 228 of the VVS version 02.0[/1/] the assessment team confirms that the project has been implemented and is being operated as described in the registered PDD[/5/].

3.2 Post registration changes

There is a correction to the project information mentioned in annex 2 of the approved RMP/9/. The detailed assessment of this correction has been described in section 3.2.2 below.

3.2.1 Temporary deviations from registered monitoring plan or applied methodology

There are no temporary deviations from registered monitoring plan or applied methodology/13/. It was verified and confirmed from the registered PDD/5/, the UNFCCC project webpage/4/, previous monitoring period MR/11/, previous monitoring period verification report/12/ and the on-site verification.

3.2.2 Corrections

The approved RMP/9/ and annex 2 of the MR/14a/ under the bullet point "Meter reading" mentions that the joint meter readings are recorded at 56.8 MW and 33 MW at 33 kV metering point. The 33 MW is a typographical error which should actually be 12 MW. It has been consistently mentioned in section B.7.1 and B.7.2 of the approved RMP/9/ that the JMR (Form B)/16/ is recorded at 56.8 MW and 12 MW at the 33kV metering point. It has been confirmed during the site visit that there are 15 machines of 0.8 MW each (i.e. 15 * 0.8 = 12 MW) connected to the metering point under discussion. This was also confirmed by interviewing the Enercon site in-charge at the site; interviewing the officials of BESCOM (state utility) and from the electronic display at the Central Monitoring Station of Enercon at the site. The value of 12 MW is also reflected in the monthly JMR (Form B)/16/ for the entire monitoring period.

Hence the assessment team is of the opinion that this is a typographical error in annex 4 of the RMP/9/, which requires a correction to the project information mentioned in the approved RMP/9/. This correction does not affect the design of the project activity and it is an accurate reflection of actual project information. As per paragraph 1 of Appendix 1 of the Project Standard version 01.1/3/ (EB 65 Annex 5), this change does not require prior approval from the EB and will be submitted along with the request for issuance for the current monitoring period. A revised PDD/6/ and request for approval of post-registration changes form/7/ (F-CDM-PRC) reflecting this correction is also being submitted as per procedure.

In line with this guidance, the PP has submitted a revised PDD/6/ which will be submitted along with the verification report for the current monitoring period with the request for issuance. The revised PDD/6/ has been checked to confirm that, the details in section B.7.1; B.7.2 and annex 4 of the registered PDD/5/ have been made consistent with the details in the approved RMP/9/; and the revision in annex 4 (i.e. 12 MW instead of 33 MW) has been indicated in track change. The assessment team confirms that the revisions made by the PP in the revised PDD/6/ are limited to the correction (i.e. 12 MW instead of 33 MW) to the approved RMP/9/. The remaining aspects of the registered monitoring plan remain the same.

CL #5 (point 2) was raised to discuss the following issue: The approved RMP/9/ and annex 2 of the MR version 01 under the bullet point "Meter reading" mentions that the joint meter readings are recorded at 56.8 MW and 33 MW at 33 kV metering point. This is found inconsistent with that observed on the site and the rest of the MR which mentions 56.8 MW and 12 MW at 33 kV metering point. The PP was requested to clarify this inconsistency. In response, the PP stated that they would like to submit a correction to the information in the approved RMP/9/ along with the request for issuance for the current monitoring period. The PP has submitted a revised PDD/6/ reflecting this correction. The assessment team has verified that the revisions made by the PP in the revised PDD/6/ are appropriate. The above described correction has been reflected in section B.2.2 of the MR/14b/ as required by the guidelines for completing the MR form. Hence **CL #5** (point 2) is closed out. For detailed discussion please refer CL #5 in section 9 of this report.

Based on the requirements of paragraph 257 to 259 of the VVS version 02.0/1/ the assessment team confirms that the correction to project information, as described in the approved RMP, made by the PP complies with the requirements of the Project Standard. As per paragraph 1 of Appendix 1 of the Project Standard version 01.1/3/ (EB 65 Annex 5), this correction does not require prior approval from the EB and will be submitted along with the request for issuance for the current monitoring period.

3.2.3 Permanent changes from registered monitoring plan or applied methodology

There are no permanent changes from the approved RMP[/9/] or applied methodology[/13/]. This was verified and confirmed from the approved RMP[/9/], the UNFCCC project webpage[/4/], previous monitoring period MR[/11/], previous monitoring period verification report[/12/]; applied methodology[/13/] and on-site verification.

3.2.4 Changes to project design of registered project activity

There are no changes to project design of the registered project activity or applied methodology[/13/]. It was verified and confirmed from the registered PDD[/5/], the UNFCCC project webpage[/4/], previous monitoring period MR[/11/], previous monitoring period verification report[/12/] and on-site verification.

3.2.5 Changes to start date of crediting period

There is no change to the start date of the crediting period. It was verified and confirmed from the UNFCCC project webpage[/4/].

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

The verification report[/12/] for MP2 (previous verification) was checked to confirm that there are no outstanding issues from the previous verification.

3.4 Compliance of the monitoring plan with the monitoring methodology.

The project has been registered with the "Consolidated baseline methodology for grid connected electricity generation from renewable resources" ACM0002 version 06[/13/], dated 19/05/2006.The assessment team verified the revised monitoring plan against ACM0002 version 06[/13/], and confirms that the revised monitoring plan[/9/] approved by the CDM EB on 15/03/2011 is in accordance with the approved methodology[/13/] applied by the project activity.

The monitoring parameter relevant to this project activity listed in the applied methodology[/13/] is:

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

The monitoring parameters defined by in the approved RMP[/9/] are:

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

As per the actual situation on the site, the parameter EGy is calculated using the parameters EGexport; EGimport and T_E. Hence, the PP has defined these parameters in the approved RMP[/9/] in addition to the parameter EGy. The approved RMP has been implemented from the 1st Monitoring period. This was checked from the verification report for the 1st Monitoring period available on the UN webpage[/4/] of this project. Hence, the monitoring plan (approved RMP[/9/]) of the registered project is in accordance with the applied methodology[/13/].

A comparison between the requirement of the methodology[/13/], for the parameter EGy, and the description of the same parameter in the approved RMP[/9/] is in the table below:

Registered PDD / Approved Methodology	Requirement in the applicable methodology and relevant EB documents	Requirement in the approved RMP	Conclusion on the compliance of the monitoring plan in the PDD with the methodology
Data/Parameter	EGy	EGy	In compliance with the applicable methodology.
Description	Electricity supplied to the grid by the project	Net electricity supplied to the grid by the Project	In compliance with the applicable methodology.
Measured/Calculated /Default	Directly measured	Calculated	This parameter is calculated using the directly measured values of import and export as per the actual practice on site by the state utility (BESCOM), which is governed by the PPA signed specifically for this project activity. This approached has been described in the RMP approved by the EB on 15/03/2011. Hence accepted.
Source of data	Not Specified	JMR (Form B)	This is as per the actual practice on site by the state utility, governed by the PPA signed for this project activity. Hence accepted.
Monitoring equipment	Not Specified	Not Applicable since this is a calculated parameter	This parameter is calculated using the directly measured values of EGimport and EGexport. Hence accepted.
Measuring/Reading/ Recording frequency	Hourly measurement and monthly Recording	Recording Frequency: Monthly	The Hourly measurement and monthly Recording is for the directly measured EGy as per the applicable methodology. But since this parameter is calculated as justified in the row "Measured/Calculated /Default" above, hence the monthly recording frequency is acceptable since it is as per the actual practice on site by the state utility. Hence accepted.
Calculation method (if applicable)	Not Applicable	EGy = EGexport – 115%*EGimport – 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.
QA/QC procedures	Electricity supplied by the project activity to the grid. Double check by receipt of sales.	The values EGy mentioned in the JMR (Form B) will be cross-checked against values mentioned in the invoice raised on the state utility	This is in compliance with the applicable methodology.

Based on the above discussion, the assessment team is of the opinion that the monitoring plan (approved RMP[/9/]) of the registered project is in accordance with the applied methodology[/13/].

Based on the requirements of paragraph 229 to 232 of the VVS version 02.0[/1/] the assessment team confirms that the monitoring plan in the approved RMP[/9/] is in compliance with the monitoring methodology[/13/].

3.5 Completeness and accuracy of Monitoring

3.5.1 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 revised monitoring plan[/9/] approved by the CDM EB on 15/03/2011. The monitoring mechanism, including the data collection system, is effective and reliable.

During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the plant personnel are conscious of the importance of monitoring

activities. On-site verification of plant records also substantiate consistency in recording and reporting of monitored data.

The monitoring parameters defined by in the approved RMP/9/ are:

i. EGy – Net electricity Supplied to the grid by the project

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

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

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

The line diagram of the metering system of the project activity is indicated in Appendix 1 of the MR/14c/. There are two 33 kV metering points to which 71 WEGs (i.e. 56.8 MW) and 15 WEGs (i.e. 12 MW) respectively, are connected. Each metering point consists of two meters i.e. a main meter and a check meter. All 86 WEGs, through the 33 kV metering point, are connected to the 220 kV metering point at the sub-station. For the entire duration of the current monitoring period, only WEGs belonging to the project activity were connected to the 220 kV metering point at the sub-station. The WEGs belonging to other owners, which were earlier connected to the sub-station, have been dismantled. The details of the metering systems have been verified through the following means:

i. Physical inspection of the site

ii. Interviewing the staff at the sub-station

iii. Interviewing the officials of BESCOM (state utility)

iv. The CMS of the O&M service provider located at the site

v. JMR (Form B) for the current/16/ /17/ /18/ and previous/19/ monitoring periods

vi. Transmission loss calculation sheet for the current/20/ and previous/21/ monitoring periods

EGy – Net electricity Supplied to the grid by the project

The analysis of the compliance of the actual monitoring, of the parameter EGy, with the approved RMP/9/ is shown in the table below.

Monitoring Report, onsite checks / Registered Monitoring Plan & Approved Methodology	**Requirement in the approved RMP**	**Implementation of the project**	**Conclusion on the compliance of the implementation with the monitoring plan**
Data/Parameter	EGy	EGy	In compliance
Description	Net electricity supplied to the grid by the Project	Net electricity supplied to the grid by the Project	In compliance
Measured/Calculated /Default	Calculated	Calculated	In compliance
Source of data	JMR (Form B)	JMR (Form B)	In compliance
Monitoring equipment	Not Applicable since this is a calculated parameter	Not Applicable since this is a calculated parameter	In compliance
Measuring/Reading/	Recording Frequency: Monthly	Recording Frequency: Monthly	In compliance

Recording frequency			
Calculation method (if applicable)	EGy = EGexport – 115%*EGimport – T_E	EGy = EGexport – 115%*EGimport – T_E	In compliance
QA/QC procedures	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	In compliance

In summary, the actual of monitoring for EGy is in compliance with the approved RMP[/9/].

EGy is a calculated parameter, as indicated in the table above. This calculation is carried out by the state utility (BESCOM). The PP has no role in the calculation. This was verified by interviewing the BESCOM officials during the site visit. The calculated monthly values of EGy are directly sourced from two Form B[/16/ /17/] (JMRs) prepared by BESCOM at two separate 33 kV metering points i.e. for 56.8 MW and 12 MW. The PP has correctly reported the monthly values from the Form B (JMR) in the emission reduction spreadsheet[/15c/]. These monthly value of EGy has been checked with the monthly invoices[/22/] raised by the PP and are found to be consistent. The monthly values of EGy have also been checked against the daily generation data[/30/] recorded by the personnel of the O&M service provider (Enercon) at the 220 kV metering point at the sub-station. The values are found to be comparable and acceptable.

The value of EGy for the current monitoring period is 82,918.672 MWh. This parameter is used for the emission reduction calculations.

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

The analysis of the compliance of the actual monitoring, of the parameter EGexport, with the approved RMP[/9/] is shown in the table below.

Monitoring Report, onsite checks / Registered Monitoring Plan & Approved Methodology	**Requirement in the approved RMP**	**Implementation of the project**	**Conclusion on the compliance of the implementation with the monitoring plan**
Data/Parameter	EGexport	EGexport	In compliance
Description	Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point.	Summation of electricity Export recorded at meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point.	In compliance
Measured/Calculated /Default	Measured	Measured	In compliance
Source of data	JMR (Form B)	JMR (Form B)	In compliance
Monitoring equipment	Two way trivector energy meters	Two way trivector energy meters	In compliance
Measuring/Reading/ Recording frequency	Recording Frequency: Monthly The meters are capable of recording and storing half hourly readings.	Recording Frequency: Monthly The meters are capable of recording and storing half hourly readings.	In compliance
Calculation method (if	Not applicable	Not applicable	In compliance

applicable)			
QA/QC procedures	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	In compliance

In summary, the actual of monitoring for EGexport is in compliance with the approved RMP[/9/].

EGexport is the summation of the energy exported to the grid, measured at the two 33 kV metering points (i.e. for 56.8 MW and 12 MW), as indicated in the table above. The electricity exported to the grid is monitored through the main meter, at the metering point. Apart from the main meter, the metering point also consists of a check meter. Both tri-vector energy meters have the capability of continuous measurement, which was verified during the site visit. A joint meter reading (Form B) is taken by the officials of BESCOM in the presence of the EIL representative at the two metering points. The Form B records the readings of both the main and check meter. Both values have been checked and are found to be comparable. The monthly values of electricity exported are directly sourced from two Form B[/16/ /17/] (JMRs) prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet[/15c/].

The value of EGexport for the current monitoring period is 83,983.095 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of EGexport in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

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

The analysis of the compliance of the actual monitoring, of the parameter EGimport, with the approved RMP[/9/] is shown in the table below.

Monitoring Report, onsite checks / Registered Monitoring Plan & Approved Methodology	**Requirement in the approved RMP**	**Implementation of the project**	**Conclusion on the compliance of the implementation with the monitoring plan**
Data/Parameter	EGimport	EGimport	In compliance
Description	Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point.	Summation of electricity Import recorded at the meters (two main and two check) connecting 86 machines of the project activity and can be sourced from two JMR issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point.	In compliance
Measured/Calculated /Default	Measured	Measured	In compliance
Source of data	JMR (Form B)	JMR (Form B)	In compliance
Monitoring equipment	Two way trivector energy meters	Two way trivector energy meters	In compliance
Measuring/Reading/ Recording frequency	Recording Frequency: Monthly The meters are capable of recording and storing half hourly readings.	Recording Frequency: Monthly The meters are capable of recording and storing half hourly readings.	In compliance
Calculation method (if	Not applicable	Not applicable	In compliance

applicable)			
QA/QC procedures	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	In compliance

In summary, the actual of monitoring for EGimport is in compliance with the approved RMP[/9/].

EGimport is the summation of the energy imported from the grid, measured at the two 33 kV metering points (i.e. for 56.8 MW and 12 MW), as indicated in the table above. The electricity imported from the grid is monitored through the main meter, at the metering point. Apart from the main meter, the metering point also consists of a check meter. Both tri-vector energy meters have the capability of continuous measurement, which was verified during the site visit. A joint meter reading is taken by the officials of BESCOM in the presence of the EIL representative at the two metering points. The Form B records the readings of both, the main and check meter. Both values have been checked and are found to be comparable. The monthly values of electricity imported are directly sourced from two Form B[/16/ /17/] (JMRs) prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet[/15c/].

The value of EGimport for the current monitoring period is 32.400 MWh. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of EGimport in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

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

The analysis of the compliance of the actual monitoring, of the parameter T_E, with the approved RMP[/9/] is shown in the table below.

Monitoring Report, onsite checks / Registered Monitoring Plan & Approved Methodology	**Requirement in the approved RMP**	**Implementation of the project**	**Conclusion on the compliance of the implementation with the monitoring plan**
Data/Parameter	T_E	T_E	In compliance
Description	Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the Enercon substation.	Transmission loss for export between the metering location at 33 kV point and the metering location at 220 kV at the Enercon substation.	In compliance
Measured/Calculated /Default	Calculated (by the state utility)	Calculated (by the state utility)	In compliance
Source of data	JMR (Form B)	JMR (Form B)	In compliance
Monitoring equipment	Not Applicable	Not Applicable	In compliance
Measuring/Reading/ Recording frequency	Monthly recording frequency	Monthly recording frequency	In compliance
Calculation method (if applicable)	Calculation method is described in section B.7.2 of the approved RMP and is from the signed PPA	Calculation method is described in section B.7.2 of the approved RMP and is from the signed PPA	In compliance
QA/QC procedures	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	QA/QC procedures are mentioned in Annex 4 of the approved RMP.	In compliance

In summary, the actual of monitoring for T_E is in compliance with the approved RMP[/9/].

Transmission losses refer to the energy loss incurred between the 2 metering points for the project WEGs connected at 33 kV substations and the receiving substation at Dasudi village where voltage is stepped up to 220 KV and exported to the grid. The transmission losses are calculated by the state utility considering the export readings of the meter at the 220 kV substation as well as the export readings at the 33 kV metering point. The monthly values of transmission loss are directly sourced from two Form B/16/ /17/ (JMRs) prepared by BESCOM for the two metering points. The PP has correctly reported the monthly values in the emission reduction spreadsheet/15c/. These monthly values are cross-checked with the values in the monthly Line loss calculation sheet/20/ issued by BESCOM and are found to be consistent. This value has also been checked with the invoices/22/ raised to the state utility and are found to be consistent.

The value of this parameter is 1,027.161 MWh for the current monitoring period. This parameter is used for calculating the parameter EGy. This calculation is carried out by the state utility (BESCOM). The entire process of arriving at the value of EGimport in the JMR (Form B) is in the control of BESCOM. The PP has no role in this process. This was verified by interviewing the BESCOM officials during the site visit.

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.

CAR #2 (point 3) was raised to discuss the following issue: Language used in section D.2 of the MR is in future tense i.e. "will be". The PP was requested to clarify if the same procedures were followed in the current monitoring period. In response, the PP has revised the language in section D.2 of the MR. The details mentioned in section D.2 now confirms that all procedures were followed in the current monitoring period. This was verified and confirmed during the site visit. Hence **CAR #2** (point 3) is closed out.

The following issues were raised and discussed under **CL #5**:

1. The JMR (Form B)/16/ (12 MW – KBCWP-03), for the month of June 2012 mentions the energy imported (row no. 07) as 0 kWh. The same parameter in the invoice/22/ for June 2012 is verified as 900 kWh. The PP was requested to clarify this inconsistency. The JMR (Form B)/16/ (12 MW – KBCWP-03) issued by BESCOM, for the month of June 2012 mentions the energy imported (row no. 07) as 0 kWh for the main meter reading and 900 kWh for the check meter reading. This is due to the CT failure at the metering point KBCWP-03. This was confirmed from the meter test certificate for KBCWP-03 dated 25/06/2012 and the internal communication/28/ from BESCOM office in Chitradurga (at the site) to the BESCOM Corporate office in Bangalore. This incident was also confirmed by the sub-station personnel during the site visit. Hence the PP has used the check meter import value of 900 kWh in the invoice/22/ and the ER calculations (spreadsheet version 2/15b/; tab "generation Details" cell H13). The use of the import value for the ER calculations leads to lower value of the ERs which is conservative and hence accepted. It decreases the total amount of ERs for the current monitoring period to 77,277 tCO_{2e}. This is consistently reflected in the ER spreadsheet/15b/ and the MR/14b/. Hence accepted and closed out.
2. The JMR (Form B)/18/, for the period September 2011 to March 2012, prepared at the 220 kV metering point (sub-station) indicates the capacity as 88 MW. The line loss calculation sheet/20/, for the same period, indicates only the machines of the PP (i.e. 68.8 MW) connected to the metering point. The PP was requested to clarify the inconsistency in the capacity with supporting evidence. The JMR (Form B)/18/, for the period September 2011 to March 2012, prepared at the 220 kV metering point (sub-station) indicates the capacity as 88 MW while the JMR (Form B)/18/ for the period from April 2012 to June 2012 mentions the capacity as 68.8 MW. There is a discrepancy in the capacity mentioned in the JMR (Form B) for the current monitoring period. The assessment team was informed by BESCOM and the personnel at the sub-station that there were additional WEGs belonging to other investors which were connected to the sub-station but have been dismantled due to financial reasons. The presence of other WEGs belonging to other owners were also confirmed from the line loss sheets for the previous monitoring period/21/ which show additional WEG owners. The JMR (Form B), for the previous monitoring period/19/ also indicates a capacity of 88 MW. The PP has also clarified that the format of the JMR (Form B) is the property of BESCOM (state utility) who has the sole authority to revise the format. This was confirmed during the site visit while interviewing the authorized personnel from BESCOM. The PP has no control in revising the JMR (Form B). Hence the discrepancy in the capacity in the JMR (Form B) was accepted and closed out.

3. Both tables with meter descriptions in section C of the MR/14a/ indicate the capacity against KBCWP-01 i.e. at the sub-station, as 88 MW. It was observed during the site visit that the capacity connected to the sub-station is 68.8 MW. The PP was requested to clarify this inconsistency. In response, the PP has revised the tables in section C of the MR/14b/ to correctly indicate the capacity against KBCWP-01 i.e. at the sub-station, as 68.8 MW. This is consistent with the observations of the assessment team during the site visit and interview with the personnel at the sub-station. This was also checked from the JMR (Form B)/16/ /17/ /18/ for the current monitoring period and the transmission loss calculation sheets/20/ issued by BESCOM. Hence accepted and closed out.

Thus **CL #5** was closed out. For detailed discussions please refer CL #5 (points 3, 4 and 5) in section 9 of this report.

CAR #6 was raised requesting the PP to clarify the following issues:

1. The applied methodology ACM0002 Version 6 mentions the recording frequency as "hourly measurement and monthly recording". The monthly recording of the parameters is mentioned in section D.2 of the MR Version 3; but the "hourly measurement" is not mentioned. The PP was requested to clarify the same. In response, the PP has clarified that the parameters EGexport and EGimport have been recorded on a monthly basis in the (JMR) Form B issued by the state utility. Accordingly, the monthly frequency of data recording has been mentioned in the MR which is as per the approved RMP. In section D.2 of the MR Version 4 dated 03/10/2012/14d/ for parameters EGexport and EGimport the PP has additionally mentioned that the tri-vector energy meters used in the project activity have the capability of continuous measurement. The continuous measurement capability of the tri-vector energy meters was verified during the site visit. Hence, accepted and closed out.
2. In section D.1 of the MR Version 3, for the parameter EGy it has been mentioned that the values of net electricity supplied to the grid mentioned in the two joint meter readings (Form B) can be cross checked with values mentioned in the invoice raised on the state utility. The PP was requested to clarify if any difference was observed during the cross-check for the current monitoring period. In response, the PP has revised section D.1 of the MR for the parameter EGy. The PP has now mentioned that no inconsistency was found between the values mentioned in JMR (Form B) & invoices raised on state utility during the current monitoring period. This was verified by the assessment team during the site visit and hence accepted.
3. In section D.2 of the MR for parameters EGexport and EGimport in the row "Value(s) of monitored parameter" it has been mentioned that "(This value is taken from joint meter readings (Form B))". The PP was requested to clarify if the EGexport value 83983.095 MWh is mentioned in the JMR or is it the sum of two value from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point as mentioned in the row "Description". Please clarify the same for the parameter EGimport. The PP has correctly confirmed that the values of the parameters EGexport and EGimport is the sum of two values from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point as mentioned in the row "Description" in section D.2 of the MR Version 4 dated 03/10/2012/14d/. The PP has removed the statement "(This value is taken from joint meter readings (Form B))" since it is already mentioned in the row "Description". Hence accepted and closed out.
4. The transmission loss T_E has been included as a monitoring parameter in the monitoring plan and the formula to calculate the same has been mentioned in section C of the MR Version 3. Hence, the PP was requested to clarify why the calculation of the transmission loss is not reflected in the excel spreadsheet. In response, the PP has revised the ER excel spreadsheet/15d/ to include the transmission loss calculations in the tab "Generation details". The formula used to calculate the percentage loss in the spreadsheet is consistent with the formula mentioned in section C of the MR; approved RMP and the PPA signed specifically for the project activity. The value of "Energy Exported to grid (as per 220kV bulk meters) (kWh)" i.e. Y, has been sourced from the JMR (Form B) prepared at the 220 kV sub-station. This value was cross checked with the line loss calculation sheet issued by the state utility and was found to be consistent. The PP has also correctly linked all values in the tab "Generation details" in the ER spreadsheet/15d/. Hence accepted and closed out.
5. The parameter EGy is calculated using the directly measured values of EGimport and EGexport. But the row "Monitoring equipment" in section D.2 of the MR mentions details of the meters. PP is requested

to clarify the same. In response, the PP has revised the table for the parameter EGy in section D.2 of the MR Version 4 dated 03/10/2012[/14d/]. The details in the row "Monitoring equipment" have been deleted since the parameter is a calculated value and not a measured value. This is appropriate and hence accepted.

Thus **CAR #6** was closed out. For detailed discussions please refer CAR #6 (points 1, 2, 4, 7 and 8) in section 9 of this report.

In accordance with paragraphs 233-236 of the VVS version 02.0[/1/], the assessment team confirms that the actual monitoring activities observed on site is in compliance with the approved RMP[/9/]. The applicable parameters stated in the approved RMP[/9/] and the applied methodology[/13/] have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the approved RMP[/9/]. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameter to be monitored including its values in the final version MR[/14c/] have been correctly reported and confirmed by the assessment team.

3.5.2 Verification of implementation of sampling plan

Not Applicable

3.6 Accuracy of Equipment

The line diagram of the metering system of the project activity is indicated in Appendix 1 of the MR[/14c/]. There are two 33 kV metering points to which 71 WEGs (i.e. 56.8 MW) and 15 WEGs (i.e. 12 MW) respectively, are connected. All 86 WEGs, through the 33 kV metering point, are connected to the 220 kV metering point at the sub-station. Each metering point consists of two meters i.e. a main meter and a check meter. For the entire duration of the current monitoring period, only WEGs belonging to the project activity were connected to the 220 kV metering point at the sub-station.

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

Metering Point Identification	KBCWP-02 (56.8 MW) at 33 kV	KBCWP-03 (12 MW) at 33 kV	KBCWP-01 (68.8 MW) at 220 kV sub-station
Monitoring equipment	Trivector Energy Meter	Trivector Energy Meter	Trivector Energy Meter
Monitoring parameter	EGexport	EGimport	N/A
S/N	5389967 (Main Meter) 5389970 (Check Meter)	5463844 (Main Meter) 5463845 (Check Meter)	6605121 (Main Meter) 6605122 (Check Meter)
Type	L&T	L&T	L&T
Level	0.2	0.2	0.2
Meter Testing frequency requirement	Annual	Annual	Annual
Meter Testing date	25/08/2011; 24/01/2012	25/08/2011; 24/01/2012; 25/06/2012	23/09/2011; 08/12/2011
Validity	One year	One year	One year
Are there delays in testing/calibration?	No	No	No

Testing / Calibration Entity	KPTCL or BESCOM as per approved RMP. This has been mentioned as state utility in the MR.
Accreditation Certificate for the calibration entity	As per PPA, the periodic calibration is being done by state utility (BESCOM) and PP has no involvement in the calibration process. The calibration of the reference meter is carried out at the laboratory of The Central Power Research Institute, Government of India. The laboratories of CPRI are accredited under National Accreditation Board for Testing and Calibration of Laboratories (NABL), which is the National body for accreditation of Laboratories

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

i. Physical inspection of the meters during the site visit
ii. Interviewing the staff at the sub-station
iii. Interviewing the officials of BESCOM (state utility)
iv. The CMS of the O&M service provider located at the site
v. JMR (Form B) for the current/16/ /17/ /18/ and previous/19/ monitoring periods
vi. Meter test certificates/26/ for the entire monitoring period
vii. Transmission loss calculation sheet for the current/20/ and previous/21/ monitoring periods

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

- The meter details are correctly mentioned in the MR/14c/
- 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 on the same
- The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the approved RMP/9/.
- 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 approved RMP/9/

The testing/calibration of the reference meter (No. IDCAL 1213C0002) was also discussed during the interview with the Assistant Executive Engineer from the state utility (BESCOM). The assessment team was shown the original meter test certificate of the reference meter issued by CPRI. The reference test meter has an accuracy class of 0.1%, which is greater than that of the meters installed at the metering points. The testing of the reference test meter is the responsibility of BESCOM. It has an annual testing frequency. The latest date of calibration of the reference meter is 10/04/2012 and the due date is 09/04/2013.

CAR #3 was raised to discuss issues related to meter testing and calibration. The following issues were raised and discussed:

1. Section C of the MR/14a/ mentions that "The main and check meters are tested and in case of error, are calibrated by the state utility." The table in section C of the MR/14a/ above this statement indicates the 'calibration frequency'; 'last dates of calibration before monitoring period'; 'calibration date during monitoring period' and 'due date of calibration'. The PP was requested to clarify with supporting evidence if any errors were observed during testing of the meters during the current monitoring period which necessitated the calibration of the meters. In response, the PP has clarified that the meters were tested during the current monitoring period and were found to be within permissible limits. This was confirmed from the meter test certificates submitted by the PP. The PP has also revised the headings of the table in the MR/14b/ to: 'Meter test checking frequency'; 'Meter test checking detail before monitoring period'; 'Meter test checking during current monitoring period' and 'due date of meter test checking'. The

usage of the word 'test' instead of 'calibration', in the table headings is appropriate. Hence accepted and closed out.

2. The relevant Calibration certificates for the current monitoring period were not made available during the site visit. The PP was requested to submit the same. In response, the PP has submitted the meter test certificates for the current monitoring period covering all the three metering points i.e. 3 main and 3 check meters. The meter serial numbers; testing dates; type; and accuracy class mentioned in the test certificates[/26/] are consistent with the details mentioned in the table in section C of the MR[/14b/]. These details are consistent with that observed during the site visit. All the meter test certificates[/26/] mention that errors observed in the meter were within permissible limits. It is confirmed that the meters have been tested for the entire duration of the current monitoring period. By checking the dates of the previous testing, it was also confirmed that there is no delay in meter testing/calibration. Hence accepted and closed out.
3. The "Due date of calibration" for the metering point KBCWP-02 and 03 are found inappropriate. The PP was requested to clarify the same. In response, the PP has revised the 'due date of meter test checking' of the metering points KBCWP-02 and 03 to 23/01/2013 and 24/06/2013 respectively. These dates are one year after the dates of the last testing and hence are appropriate. Hence accepted and closed out.

Thus **CAR #3** was closed out. For detailed discussions please refer CAR #3 (points 1, 2 and 3) in section 9 of this report.

CAR #6 (point 3) was raised requesting the PP to clarify if the meters were calibrated during the current monitoring period and mention the same in the MR. Section C and D.2 of the MR Version 3 gives reference to the meter testing and states that the meters will be tested and in case of errors, will be calibrated. Annex 1 of the MR mentions that none of the meters were found faulty during the current monitoring period. The PP was requested to clarify the same. In response, the PP has clarified that, during the current monitoring period the meters were tested and found to be within permissible limits. Hence no meter calibration was carried out in the current monitoring period. This was confirmed by the assessment team by checking the meter test certificates for the current monitoring period. The PP has consistently mentioned the same in Section C, D.2 and Annex 2 of the MR Version 4 dated 03/10/2012[/14d/]. This has been checked and confirmed. Thus **CAR #6** (point 3) is closed out. For detailed discussions please refer CAR #6 (point 3) in section 9 of this report.

As per paragraph 234 (c) to (e) of the VVS, version 02.0[/1/], the verification team confirms that

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

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

The calibration of all meters is in the control of BESCOM / KPTCL. The PP has no control over the same. The actual testing of the meters is carried out by the officials of BESCOM / KPTCL on a quarterly basis which varies based on the availability of staff; weather conditions; etc. This was confirmed during the interview with the officials at BESCOM. As per the approved RMP[/9/] the meters are to be tested annually. This testing frequency has been followed for the present as well as the previous monitoring period. Hence the assessment team has confirmed that the testing of the meters cover the entire monitoring period. The meter test reports[/26/] have been checked to confirm that the errors observed were within permissible limits.

There is no delay in meter testing during the current monitoring period. The meter test certificates[/26/] have been checked to confirm the same. Hence paragraph 4 (a) of EB 52 Annex 60 i.e. Guidelines for assessing compliance with the calibration frequency requirements is not applicable for the current monitoring period.

3.8 Accuracy of Emission Reduction Calculations

The calculation of emission reductions in the latest excel spreadsheet[/15c/] submitted by the PP is found to be correct. The findings and the satisfactory responses regarding the ER calculations has been discussed later

in this section. The details of the reported and the verified values for all parameters are listed in section 4, 'Calculation of Emission Reductions'.

The parameter EGy is used for the emission reduction calculations. The parameters EGexport; EGimport and T_E are used to calculate EGy. The PP has provided the complete set of data for the parameter EGexport; EGimport and T_E in the ER spreadsheet[/15c/]. This data has been verified as described in section 3.5.1 above. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved methodology ACM0002 version 6[/13/].

The baseline emission factor has been calculated as per the guidance provided in ACM0002 version 6[/13/]. The Grid Emission Factor 0.93204 tCO_2/MWh has been taken from the Central Electricity Authority[/29/] (Ministry of Power, Government of India) and the same is reported in registered PDD[/5/]. This is an ex-ante parameter and remains constant throughout the crediting period.

As per CER excel spreadsheet[/15c/] submitted by the PP, the net emission reductions for current monitoring period was verified as 77,277 tCO2 for current monitoring period. The difference between the estimated and verified ERs has been discussed under 3.1 of this report.

CAR #4 was raised to discuss issues related to the ER spreadsheet. The following issues were raised and discussed:

1. The complete formula to calculate the ER in the excel spreadsheet[/15a/] is not consistent with the adopted methodological choice formulae as mentioned in section B.6.1 of the registered PDD[/5/]. The PP was requested to clarify this inconsistency. In response, the PP has revised the tab "Emission Reduction calculation" in the ER excel spreadsheet[/15b/]. The PP has included a column titled "Leakage" and has revised the formula to [ERy] = [BEy]-[PEy]-[Ly] in column H. This formula is consistent with the adopted methodological choice formula mentioned in section B.6.1 of the registered PDD[/5/]. Hence accepted and closed out.

2. EGy is a calculated parameter as per section D.2 of the MR. The ER excel spreadsheet[/15a/] does not reflect any formula to calculate EGy. Please clarify this inconsistency as per the requirement of paragraph 10(b) (ii) of EB 48 Annex 60. In response, the PP has revised the tab "Generation Details" in the ER excel spreadsheet[/15b/]. The PP has now included the formula to calculated EGy in columns F and J; i.e. [EGy] = [EGexport] – 115%* [EGimport] – [T_E]. This formula is consistent with the formula mentioned in the registered PDD[/5/] and the JMR (Form B)[/16/ /17/ /18/] issued by BESCOM (state utility). PP has also mentioned that this calculation is carried out by BESCOM. This was confirmed by interviewing the BESCOM officials during the site visit. Hence accepted and closed out.

Thus **CAR #4** was closed out. For detailed discussions please refer CAR #4 (points 1 and 2) in section 9 of this report.

CAR #6 (point 5) was raised requesting the PP to clarify the inconsistency in the value of net electricity supplied in section E.1 of the MR version 3 (82919.707 MWh) and in the ER spread sheet version 03 (82918.672 MWh). In response, the PP has correctly revised the value of net electricity supplied in section E.1 of the MR Version 4 dated 03/10/2012[/14d/] to 82918.672 MWh, which is consistent with the ER spreadsheet. Hence accepted and closed out. The PP has also revised the values of the parameter EGy in section E.1 of the MR Version 4[/14d/] to consistently mention 3 decimal places. These values have been checked against the ER excel spreadsheet and are found to be consistent. Thus **CAR #6** (point 5) was closed out. For detailed discussions please refer CAR #6 (point 5) in section 9 of this report.

According to the assessment in section 3.5, 3.7, 3.11; and as per the requirements of paragraphs 244 to 246 of the VVS version 02.0[/1/] it has been confirmed by the assessment team that in the final version of the MR and the ER calculation spreadsheet:

(a) All the data requested for the ER calculation in this monitoring period were monitored and recorded in a complete manner

(b) All the reported data have been checked against the original data source where they were quoted from

(c) The methods and formulae for calculation of baseline emissions, project emissions and leakage specified in the registered PDD[/5/] have been followed

(d) The emission factors and default values have been applied correctly in accordance with the registered PDD[/5/]

3.9 Quality of Evidence to Determine Emission Reductions

Critical parameters used for the determination of the Emission Reductions are discussed in section 3.4 above. All the data recorded is in compliance with the Monitoring Report.

3.10 Management and operational System and Quality Assurance

The companies involved in the project have ISO 9001:2008, and ISO14001:2004 quality assurance system implemented, therefore we can affirm that the management system of the CDM project is in place, with the responsibilities properly identified and in place. The Head (CDM) and site in-charge of the PP were interviewed during the site visit to confirm the same.

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

CAR #2 was raised to discuss the following issues:

1. Annex 2 of the MR mentions the 'monitoring information' for this project activity. The actual situation during the current monitoring period (e.g. occurrence of any emergency event) has not been concluded. The PP was requested to clarify the same. In response, the PP has concluded in annex 2 of the MR that during the current monitoring period no meters were found faulty and there was no occurrence of emergency events. This is consistent with what was observed on the site while interviewing the personnel and from the meter test certificates for the current monitoring period. Hence the justification is accepted and CAR #2 (point 1) is closed out.
2. The operational and management structure mentioned in section C of the MR[/14a/], which was discussed during the site visit, does not indicate the data flow. Hence, the PP was requested to clarify the same. In response, the PP has revised the operational and management structure in section C of the MR[/14c/] to reflect the data flow. This data flow is consistent with the discussions during the site visit. Hence accepted.

Thus **CAR #2** was closed out. For detailed discussions please refer CAR #2 (points 1 and 4) in section 9 of this report.

3.11 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[/5/]. Emission factor was calculated by the combined margin approach with 75% and 25% weights for OM & BM respectively, using data available in CO2 Baseline Database for the Indian Power Sector version 1.1 published by Central Electricity Authority[/29/] (CEA).

The value of baseline emission factor used in emission reduction calculations for current monitoring period is 0.93204 tCO_2/MWh as reported in the Monitoring Report. It is found to be consistent with the value of EF mentioned in the registered PDD version 05 dated 01/10/2008[/5/].

CL #5 (point 1) was raised requesting the PP to clarify the inconsistency in the "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR[/14a/] and the corresponding values as mentioned in Annex 1 of MR[/14a/]. In response, the PP has revised section D.1 of the MR[/14b/]. The "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR[/14b/] is now consistent with the corresponding values in annex 1 of the MR[/14b/]. The values are also consistent with that mentioned in annex 3 of the registered PDD[/5/]. Hence accepted and **CL #5** (point 1) is closed out. For detailed discussions please refer CL #5 (point 1) in section 9 of this report.

4. Calculation of Emission Reductions

Parameter	Reported Value MR Version 01	Verified Value MR Version 02
EGexport (MWh)	83,983.095	83,983.095
EGimport (MWh)	31.500	32.400
T_E (MWh)	1,027.161	1,027.161
EGy (MWh)	82,919.707	82,918.672
Grid Emission Factor (tCO_{2e}/MWh)	0.93204	0.93204

The baseline emissions (BEy) are calculated as follows:

BEy = EGy (MWh) x Grid emission Factor (t CO_{2e}/MWh)

= 77,277 tCO2e

BEy has been calculated on a monthly basis using monthly values of EGy and has been rounded down in the excel spreadsheet which results in conservative emission reductions as compared to calculating BEy using the summation of EGy for the entire monitoring period. For detailed calculations, please refer the emission reduction excel spreadsheet.

As per methodology and as described in section B.6.1 of the registered PDD, Project emissions (PEy) and leakage (Ly) and are zero.

Thus emission reductions are calculated as follow:

ERy = BEy – PEy – Ly

= 77,277 – 0 – 0

= 77,277 tCO_{2e}

5. Recommendations for Changes in the Monitoring Plan

Recommendation for changes in the monitoring plan was made during first verification and the revised monitoring plan has been approved by the CDM EB on 15/03/2011. No recommendation is made for changes in the approved revised monitoring plan during the current monitoring period.

6. Overview of Results

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

Is the project documentation in accordance with the requirements of the 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. Sudeep Kodialbail and Ravikant Soni visited the sites and undertook interviews, collected data, audited the implementation of procedures, checked calibration certificates and checked data, inter alia.

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

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

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

Emission Factor of the Grid used for emission reduction calculation has been determined ex-ante from version 1.1 of CO_2 baseline database for the Indian power sector published by Central Electricity Authority (CEA), Ministry of Power, Government of India. The value used is 0.93204 tCO_2/MWh fixed for the entire crediting period. This data is publicly available and verified to be acceptable.

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

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

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

No.

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

The data used in anthropogenic emission reduction calculation is consistent with those contained in the registered PDD and monitoring plan. The emission reduction was 124,048 tCO2 for the period 01/09/2011 to 30/06/2012 as per the estimation made in the registered PDD. The actual emission reduction has been verified as 77,277 tCO2 for the same period.

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

No such non conformity of the actual project activity and its operation with the registered project design document has been observed. A correction (due to a

typographical error) in the revised RMP has been observed as discussed in section 3.2.2 of this report.

Post monitoring report on UNFCCC website

Yes, the monitoring report is available at ref. 1259 on UNFCCC website

(http://cdm.unfccc.int/Projects/DB/DNV-CUK1185356859.49/view)

7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by 'Enercon (India) Limited' to perform the verification of the emission reductions reported for the CDM project 'Enercon Wind Farm (Hindustan) Ltd in Karnataka' and UNFCC Reference Number 1259 in the period 01/09/2011 to 30/06/2012.

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 03/10/2012.

The management of Enercon (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 01/09/2011 to 30/06/2012 based on the reported emission reductions in the Monitoring Report 04 dated 03/10/2012 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, SGS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

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

Project Title:	Enercon Wind Farm (Hindustan) Ltd in Karnataka
UNFCCC Reference Number:	1259
Registered PDD and Approved Used for Verification:	PDD Version 05 dated 01/10/2008 RMP approved 15/03/2011
Methodology Used for Verification:	ACM0002 version 06 dated 19/05/2006
Applicable Period:	01/09/2011 to 30/06/2012
Total GHG Emission Reductions Verified:	77,277

Signed on behalf of the Verification Body by Authorized Signatory

Signature: Siddharth

Name: Siddharth Yadav

Date: 19/10/2012

8. Document References

1.	Clean Development Mechanism Validation and Verification Standard version 02.0
2.	Guidelines for completing the monitoring report form version 02.0
3.	Clean Development Mechanism Project Standard version 01.0
4.	UNFCCC web link of the CDM project activity (UN No. 1259)
5.	Registered PDD (Version 5 dated 01/10/2008)
6.	Revised PDD Version 6.0 dated 03/09/2012 (Submitted with this verification report for RFI)
7.	Post-registration changes request form version 01.0 – Filled by PP (Submitted with this verification report for RFI)
8.	Validation Report of the registered CDM project activity (Report No. 2007-1021 Revision No. 03 dated 24/01/2008 issued by DNV)
9.	Approved RMP (Date of CDM EB approval: 15/03/2011)
10.	RMP validation opinion issued by TUV Nord dated 24/02/2011
11.	MP2 – Final MR (Version 3 dated 31/10/2011)
12.	MP2 – Verification Report (Dated 05/11/2011)
13.	ACM0002 version 06 dated 19/05/2006
14.	Monitoring Report covering monitoring period 01/09/2011 to 30/06/2012 a) Version 1, dated 13/07/2012 (Uploaded MR) b) Version 2, dated 18/08/2012 (Intermediate) c) Version 3, dated 04/09/2012 (Intermediate) d) Version 4, dated 03/10/2012 (Final)
15.	Emission Reduction Spreadsheet a) Version 1 dated 13/07/2012 b) Version 2 dated 18/08/2012 c) Version 3 dated 04/09/2012 d) Version 4 dated 03/10/2012
16.	Form B – 33 kV (12 MW; KBCWP-03) – September 2011 to June 2012
17.	Form B – 33 kV (56.8 MW; KBCWP-02) – September 2011 to June 2012
18.	Form B – 220 kV (sub-station; KBCWP-01) – September 2011 to June 2012
19.	Form B – Previous MP (December 2009 to August 2011)
20.	Line loss calculation sheet – Current MP (September 2011 to June 2012)
21.	Line loss calculation sheet – Previous MP (December 2009 to August 2011)
22.	Monthly invoices issued by PP to BESCOM (September 2011 to June 2012)
23.	PPA dated 01/03/2006 between BESCOM and M/s Enercon Wind Farms (Hindustan) Private Limited

24. Commissioning Certificates of all WEGs commissioned from 29/09/2006 to 28/12/2006
25. Single Line diagram indicating WEG location and sub-station
26. Meter test certificates: a) Location KBCWP-01 issued by KPTCL with date of testing 23/09/2011 b) Location KBCWP-01 issued by KPTCL with date of testing 08/12/2011 c) Location KBCWP-02 issued by BESCOM with date of testing 25/08/2011 d) Location KBCWP-02 issued by BESCOM with date of testing 24/01/2012 e) Location KBCWP-03 issued by BESCOM with date of testing 25/08/2011 f) Location KBCWP-03 issued by BESCOM with date of testing 24/01/2012 g) Location KBCWP-03 issued by BESCOM with date of testing 25/06/2012
27. Monthly shutdown details for the project activity for the period from September 2011 to June 2012 (Excel document)
28. Letter dated 04/072012 with ref. AEE//NCE/HT/MT/CTA//921 issued by BESCOM office in Chitradurga (at the site) to the BESCOM Corporate office in Bangalore (CT failure)
29. CEA CO_2 Baseline Database for the Indian Power Sector Version 1.1 http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm
30. Daily Generation Data recorded by the Enercon Personnel at the sub-station (September 2011 to June 2012)

9. Findings Overview

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	5	1	-

Date:	10/08/2012		Raised by:	Assessment Team		
Type:	CAR	Number:	#1		Reference:	Section 2 Point 2.1

Lead Assessor Comment: **Date:** 10/08/2012

Project Implementation related (Ref: VVS version 2 paragraph 225)

1. It is mentioned in section C of the MR Version 1 dated 13/07/2012, that the electricity generated by the project is evacuated to the grid at 220 kV. This was also confirmed during the visit to the sub-station during the site visit. But the same is not transparently described in section A.1 and B.1 of the MR Version 1 dated 13/07/2012 as required by the guidelines for completing the MR form. Please clarify.
2. The shut down details provided in appendix 2 of the MR Version 1 dated 13/07/2012 is based on the WEG number. Please submit the month wise shut down details of the project activity with supporting evidence.

Project Participant Response: **Date:** 18/08/2012

1. Section A.1 and B.2 of MR Version 1 dated 13/07/2012 has been revised based on electricity evacuation procedure as followed on site.
2. Month wise shut down detail of the project activity has been submitted to DOE as a separate attachment.

Documentation Provided as Evidence by Project Participant:

Shut down details data as provided by Enercon (India) Limited. September 2011 to June 2012 (Excel document)

Information Verified by Lead Assessor:

Revised MR version 2 dated 18/08/2012
Monthly shutdown details for the project activity for the period from September 2011 to June 2012 (Excel document)

Reasoning for not Acceptance or Acceptance and Close Out:

1. PP has revised section A.1 and B.2 in the MR Version 2 dated 18/08/2012. It is now clearly reflected that the electricity generated by the project is stepped up to 220kV and then evacuated to the grid. This is consistent with the observations on the site visit. Hence closed.
2. PP has submitted the shut down details (excel spreadsheet) of all WEGs in the project activity month wise. It is not clear from the excel sheet, what is the total shutdown period for any particular month. PP is requested to clarify the same. Hence open.

CAR #1 is open

Acceptance and Close out by Lead Assessor: Open **Date:** 28/08/2012

Project Participant Response: **Date:** 04/09/2012

2. We would like to clarify to DOE that, in the shut down details (excel spreadsheet) column 'I' provides the total details of WEG performance on monthly basis which is the sum of 'Down Time' of WEGs (including both due to Machine & Grid) and 'Lack of Wind'.

Documentation Provided as Evidence by Project Participant:

-

Information Verified by Lead Assessor:

Monthly downtime details for the project activity for the period from September 2011 to June 2012 (Excel document) were checked based on the above PP response

Reasoning for not Acceptance or Acceptance and Close Out:

The PP has clarified that the monthly downtimes in the excel spreadsheet is mentioned under column I. This downtime is the sum of the downtime of the grid; downtime of the machines and lack of wind. The assessment team has compared the monthly downtimes with the monthly values of electricity generation. The trend observed is that months with higher downtimes have lower generation and vice versa. This is appropriate and hence accepted. It was clarified by the ENERCON personnel during the site visit that the individual downtimes are directly recorded through the online system which can then be downloaded in the form of excel spreadsheets. These excels spreadsheets are generated directly from the online system of ENERCON without any human interference. Hence the credibility of this data is maintained. CAR #1 closed out.
Acceptance and Close out by Lead Assessor: **Date:** 18/09/2012

Date:	10/08/2012		Raised by:	Assessment Team	
Type:	CAR	Number:	#2	Reference:	Section 2 Point 10.1; Section 5

Lead Assessor Comment:	**Date:** 10/08/2012

Monitoring related (VVS version 2 paragraph 234)

1. Annex 2 of the MR Version 1 dated 13/07/2012 mentions the 'monitoring information' for this project activity. But the actual situation during the current monitoring period (e.g. occurrence of any emergency event) has not been concluded. Please clarify the same.
2. PP is requested to clarify the 37.70% difference between the estimated and actual emissions reductions for the current monitoring period in section E.6 of the MR Version 1 dated 13/07/2012.
3. Language used in section D.2 of the MR Version 1 dated 13/07/2012 is in future tense i.e. will be. Please clarify if the same procedures were followed in the current monitoring period.
4. The operational and management structure mentioned in section C of the MR Version 1 dated 13/07/2012, which was discussed during the site visit, does not indicate the data flow. Please clarify.

Project Participant Response:	**Date:** 18/08/2012

1. There was no occurrence of emergency events during the monitoring period and same has been mentioned in MR Version 2 dated 18/08/2012.
2. At the time of validation of project activity, PLF of 26.5% as sourced from KERC order was considered. At present PLF for project activity during the monitoring period is 16.5% which is 37.7% lower than the estimated PLF in registered PDD, which lead to change of 37.70% (downside) in the expected and actual emission reductions achieved during this monitoring period. The difference in the total CERs/ PLF is due to considerably low monsoon availability and low wind availability leading to low plant load factor.
3. This is to confirm that all the procedures as mentioned in section D.2 of MR were followed during the monitoring period. Language in section D.2 has been corrected.
4. Data flow has been mentioned in revised operational and management structure under section C of MR Version 2 dated 18/08/2012.

Documentation Provided as Evidence by Project Participant:

Revised MR Version 2 dated 18/08/2012

Information Verified by Lead Assessor:

1. Annex 2 of the MR (version 2 dated 18/08/2012) was checked for the revision made by the PP
2. The PP response was verified
3. Section D.2 of the MR (version 2 dated 18/08/2012) was checked for the language used by the PP
4. The operational and management structure in section C of the MR (version 2 dated 18/08/2012) has been checked for the data flow

Reasoning for not Acceptance or Acceptance and Close Out:

1. PP has concluded in annex 2 of the MR Version 2 dated 18/08/2012 that during the current monitoring period no meters were found faulty and there was no occurrence of emergency events. This is consistent with what was observed on the site while interviewing the personnel and from the meter test certificates for the current monitoring period. Hence accepted and closed out. 2. PP has compared the PLF considered during the validation (26.5%) with the actual PLF (16.5%) for the current monitoring period. It has been demonstrated by the PP that the actual PLF is 37.7% lesser than the validation PLF, which was used for the estimated ER calculations during validation. This justifies the 37.7% decrease in the actual ERs compared to the estimated ERs. The justification given by the PP is appropriate hence accepted. But PP is requested to clarify how the 16.5% PLF for the current monitoring period has been obtained. Hence open. 3. PP has revised the language in section D.2 of the MR Version 2 dated 18/08/2012. The details mentioned in section D.2 now confirms that all procedures were followed in the current monitoring period. This was verified and confirmed during the site visit. Hence closed out. 4. The operational and management structure in section C of the MR Version 2 dated 18/08/2012 does not indicate the data flow as mentioned in the PP response. Please clarify. Hence open. CAR #2 is open.	
Acceptance and Close out by Lead Assessor: Open	**Date:** 28/08/2012
Project Participant Response:	**Date:** 04/09/2012
2. Calculation of PLF of 16.5 % has been shown in revised CER calculation sheet. 4. Data flow has been mentioned in operational and management structure in Section C of MR	
Documentation Provided as Evidence by Project Participant:	
Revised CER calculation sheet, version 3.0 Revised Monitoring Report version 3.0	
Information Verified by Lead Assessor:	
Version 3 of the excel spreadsheet was checked for the PLF calculations Section C of the Monitoring report version 3 dated 04/09/2012 was checked for the data flow in the operational and management structure	
Reasoning for not Acceptance or Acceptance and Close Out:	
2. PP has calculated the actual PLF for the current monitoring period in the tab 'Emission Reduction calculation' of the ER excel sheet version 3. The PLF calculation has been checked and is found to be correct. Hence accepted. 4. PP has revised the operational and management structure in section C of the MR to reflect the data flow. This data flow is consistent with the discussions during the site visit. Hence accepted. CAR #2 closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 18/09/2012

Date:	10/08/2012		Raised by:	Assessment Team	
Type:	CAR	Number:	#3	Reference:	Section 2 Point 8.1

Lead Assessor Comment: **Date:** 10/08/2012

Calibration related (VVS version 2 paragraph 234 and 237)

1. Section C of the MR Version 1 dated 13/07/2012 mentions that "The main and check meters are tested and in case of error, are calibrated by the state utility." And the table in section C of the MR Version 1 dated 13/07/2012 above this statement indicates the 'calibration frequency'; 'last dates of calibration before monitoring period'; 'calibration date during monitoring period' and 'due date of calibration'. Please clarify with supporting evidence if any errors were observed during testing of the meters during the current monitoring period which necessitated the calibration of the meters.
2. The relevant Calibration certificates for the current monitoring period were not made available during the site visit. Please submit the same.
3. The "Due date of calibration" for the metering point KBCWP-02 and 03 are found unrealistic. Please clarify the same.

Project Participant Response: **Date:** 18/08/2012

1. This is to confirm that during the monitoring period the main and check meters are tested for accuracy on annual basis by state utility. Further no errors were observed during testing of the meters. Meter test checking certificates have been provided for evidence according to which all the meters were working under permissible limit of error.
2. During the annual meter test checking all the meters were working under permissible limit of error and calibration of meter was not required as per PPA. Completed set of meter test checking certificates for monitoring period is being submitted to DOE and details of same has been mentioned in section C of MR.
3. Due date of meter test checking for the metering point KBCWP-02 and 03 has been corrected.

Documentation Provided as Evidence by Project Participant:

Meter test checking certificates.

Information Verified by Lead Assessor:

1. Meter test certificates:
    a. Location KBCWP-01 dated 23/09/2011 issued by KPTCL
    b. Location KBCWP-01 dated 08/12/2011 issued by KPTCL
    c. Location KBCWP-02 dated 25/08/2011 issued by BESCOM
    d. Location KBCWP-02 dated 24/01/2012 issued by BESCOM
    e. Location KBCWP-03 dated 25/08/2011 issued by BESCOM
    f. Location KBCWP-03 dated 24/01/2012 issued by BESCOM
    g. Location KBCWP-03 dated 25/06/2012 issued by BESCOM
2. Section C of the revised MR (version 2 dated 18/08/2012) was checked for the due date of meter test checking for the metering points KBCWP-02 and 03.

Reasoning for not Acceptance or Acceptance and Close Out:

1. PP has clarified that the meter were tested during the current monitoring period and were found to be within permissible limits. This was confirmed from the meter test certificates submitted by the PP and referenced above. PP has also revised the headings of the table to: 'Meter test checking frequency'; 'Meter test checking detail before monitoring period'; 'Meter test checking during current monitoring period' and 'due date of meter test checking'. The usage of the word 'test' instead of 'calibration', in the table headings is appropriate. Hence accepted and closed out. 2. PP has submitted the meter test certificates for the current monitoring period covering all the three metering points i.e. 3 main and 3 check meters. The meter serial numbers; testing dates; type; and accuracy class mentioned in the test certificates are consistent with the details mentioned in the table in section C of the MR Version 2 dated 18/08/2012. These details are consistent with that observed during the site visit. All the meter test certificates mention that errors observed in the meter were within permissible limits. It is confirmed that the meters have been tested for the entire duration of the current monitoring period. By checking the dates of the previous testing, it was also confirmed that there is no delay in meter testing/calibration. Hence accepted and closed out. 3. PP has revised the 'due date of meter test checking' of the metering points KBCWP-02 and 03 to 23/01/2013 and 24/06/2013 respectively. These dates are one year after the dates of the last testing and hence are appropriate. Hence accepted and closed out. CAR #3 closed out.
Acceptance and Close out by Lead Assessor: Closed **Date:** 28/08/2012

Date:	10/08/2012		Raised by:	Assessment Team	
Type:	CAR	Number:	#4	Reference:	Section 5

Lead Assessor Comment: **Date:** 10/08/2012

ER spreadsheet related (VVS version 2 paragraph 245)

1. The complete Formula to calculate the ER in the excel sheet is not consistent with the adopted methodological choice formulae as mentioned in section B.6.1 of the registered PDD. Please clarify this inconsistency.
2. EGy is a calculated parameter as per section D.2 of the MR Version 1 dated 13/07/2012. The ER excel spreadsheet does not reflect any formula to calculate EGy. Please clarify this inconsistency as per the requirement of paragraph 10(b) (ii) of EB 48 Annex 60.

Project Participant Response: **Date:** 18/08/2012

1. Inconsistency has been corrected incomplete Formula to calculate the ER in the excel sheet as per adopted methodological choice formulae as mentioned in section B.6.1 of the registered PDD.
2. Formula to calculate EGy has been mentioned in ER excel spreadsheet. Further we would like to clarify to DOE that even the formula to calculate EGy has been mentioned in excel spreadsheet though in practice values of export, import, line loss & net electricity generation is sourced from Form B issued by state utility. Further value of export, import, line loss & net electricity generation calculation will be done by BESCOM officials and there is no control of PP in calculation.

Documentation Provided as Evidence by Project Participant:

ER sheet version 2

Information Verified by Lead Assessor:

1. The formula to calculate ERs in the excel spreadsheet version 2 dated 18/08/2012 was checked against the registered PDD (version 5 dated 01/10/2008)
2. The formula to calculate EGy was verified in the excel spreadsheet version 2 dated 18/08/2012

Reasoning for not Acceptance or Acceptance and Close Out:

1. PP has revised the tab “Emission Reduction calculation” in the ER excel spreadsheet Version 2. PP has included a column titled “Leakage” and has revised the formula to [ERy] = [BEy]-[PEy]-[Ly] in column H. This formula is consistent with the adopted methodological choice formula mentioned in section B.6.1 of the registered PDD. Hence accepted and closed out.
2. PP has revised the tab “Generation Details” in the ER excel spreadsheet Version 2. PP has now included the formula to calculated EGy in columns F and J; i.e. [EGy] = [EGexport] – 115%* [EGimport] – [TE]. This formula is consistent with the formula mentioned in the registered PDD and the JMR (Form B) issued by BESCOM (state utility). PP has also mentioned that this calculation is carried out by BESCOM. This was confirmed by interviewing the BESCOM officials during the site visit. Hence accepted and closed out.

CAR #4 closed out.

Acceptance and Close out by Lead Assessor: Closed **Date:** 28/08/2012

Date:	10/08/2012		Raised by:	Assessment Team	
Type:	CL	Number:	#5	Reference:	Section 2 and 4

Lead Assessor Comment: **Date:** 10/08/2012

1. The "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR Version 1 dated 13/07/2012 are found inconsistent with the corresponding values as mentioned in Annex 1 of MR Version 1 dated 13/07/2012.
2. The approved RMP and annex 2 of the MR Version 1 dated 13/07/2012 under the bullet point "Meter reading" mentions that the joint meter readings are recorded at 56.8 MW and 33 MW at 33 kV metering point. This is found inconsistent with that observed on the site and the rest of the MR which mentions 56.8 MW and 12 MW at 33 kV metering point. Please clarify this inconsistency.
3. The JMR (Form B) (12 MW – KBCWP-03), for the month of June 2012 mentions the energy imported (row no. 07) as 0 kWh. The same parameter in the invoice for June 2012 is verified as 900 kWh. Please clarify this inconsistency.
4. The JMR (Form B), for the period September 2011 to March 2012, prepared at the 220 kV metering point (sub-station) indicates the capacity as 88 MW. The line loss calculation sheet, for the same period, indicates only the machines of the PP (i.e. 68.8 MW) connected to the metering point. PP is requested to clarify the inconsistency in the capacity with supporting evidence.
5. Both tables with meter descriptions in section C of the MR Version 1 dated 13/07/2012 indicate the capacity against KBCWP-01 i.e. at the sub-station, as 88 MW. It was observed during the site visit that the capacity connected to the sub-station is 68.8 MW. PP is requested to clarify this inconsistency.

Project Participant Response: **Date:** 18/08/2012

1. "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR Version 2 dated 18/08/2012 has been made consistent with the corresponding values as mentioned in Annex 1 of MR Version 2 dated 18/08/2012.
2. We would like to clarify to DOE that as mentioned under annex 2 of approved RMP under the bullet point "Meter reading" mentions that the joint meter readings are recorded at 56.8 MW and 33 MW at 33 kV metering point, is a typo error, which can be cross verified from section B.7.1 and B.7.2 of approved RMP which mentions that there are two metering points corresponding to 56.8 MW & 12 MW at 33kV of project activity.

   We would like to submit to DOE that as per EB 65, Annex 5 (clean development mechanism project standard), Appendix 1(Changes that do not require prior approval by the board), any corrections to project information (such corrections may include typographical errors, location, names and numbers of components, etc.) of a registered CDM project activity that do not affect the design of the project activity do not require prior approval by the Board. Since there is a typo error in annex 4 of RMP this would not require prior approval of board. In accordance of this correction has been made in MR.
3. This is to submit to DOE that during the month of June 2012 there was C.T./P.T. failure at 33kV metering point (KBCWP 03) as mentioned in Form B hence main meter didn't record any import reading. For the period of June 2012 conservatively the import reading were sourced from check meter reading as mentioned in Form B and same was incorporated in invoice of June 12 month. Further import of 900 units has been also been included in CER calculation sheet for the month of June 2012
4. We would like to clarify to DOE that right to change the format of Form B is exclusively with BESCOM officials and Enercon or PP doesn't have any role to change the same. During the current monitoring period some of WEGs of other project developers were dismantled though capacity on Form B for KBCWP 01 was not revised by BESCOM officials. Further from the month of Apr 2012 the capacity mentioned on FORM b of KBWCP 01 has been revised to 68.8 MW by BESCOM officials.
5. Capacity against KBCWP 01 has been corrected under Section C of MR

Documentation Provided as Evidence by Project Participant:

Revised MR (Version 2 dated 18/08/2012) and revised PDD in accordance with EB65, Annex 5, Appendix 1

Information Verified by Lead Assessor:

1. The "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR (version 2 dated 18/08/2012) has been checked against annex 1 of the MR (version 2 dated 18/08/2012) and annex 3 of the registered PDD. 2. Revised PDD and MR (version 2 dated 18/08/2012) 3. Letter dated 04/072012 with ref. AEE//NCE/HT/MT/CTA//921 issued by BESCOM office in Chitradurga (at the site) to the BESCOM Corporate office in Bangalore 4. JMR (Form B) for the current and previous monitoring period; Transmission loss calculation sheet for the current and previous monitoring period; was checked to confirm the discrepancy in the capacity of the project as mentioned in the JMR (Form B) 5. Table in section C of the MR (version 2 dated 18/08/2012) was checked for the capacity at KBCWP-01
Reasoning for not Acceptance or Acceptance and Close Out:

1. PP has revised section D.1 of the MR. The "Value(s) applied" for the parameter $EF_{OM,y}$ in section D.1 of the MR is now consistent with the corresponding values in annex 1 of the MR. The values are also consistent with that mentioned in annex 3 of the registered PDD. Hence accepted and closed out.

2. The approved RMP and annex 2 of the MR under the bullet point "Meter reading" mentions that the joint meter readings are recorded at 56.8 MW and **33 MW** at 33 kV metering point. PP has clarified that **33 MW** is a typographical error which should actually be **12 MW** (i.e. 15 WEGs x 0.8 MW/WEG). It has been consistently mentioned in section B.7.1 and B.7.2 of the approved RMP that the JMR (Form B) is recorded at 56.8 MW and **12 MW** at the 33kV metering point. It has been confirmed during the site visit that there are 15 machines of 0.8 MW each (i.e. 15 * 0.8 = 12 MW) connected to the metering point under discussion. This was also confirmed by interviewing the Enercon site in-charge at the site; interviewing the officials of BESCOM (state utility) and from the electronic display at the Central Monitoring Station of Enercon at the site. The value of 12 MW is also reflected in the monthly JMR (Form B) for the entire monitoring period.

   Hence the assessment team has concluded that this is a typographical error in annex 4 of the RMP, as identified by the PP, which requires a correction from the project information mentioned in the approved RMP. This correction does not affect the design of the project activity. It is an accurate reflection of actual project information.
   Paragraph 1 of Appendix 1 of the Project Standard version 01.1 (EB 65 Annex 5) mentions that "*Any corrections to project information (Such corrections may include typographical errors, location, names and numbers of components, etc.) of a registered CDM project activity that do not affect the design of the project activity do not require prior approval by the Board.*" In line with this guidance, the PP has submitted a revised PDD which will be submitted along with the verification report for the current monitoring period with a request for issuance. The revised PDD has been checked to confirm that, the details in section B.7.1; B.7.2 and annex 4 of the registered PDD have been made consistent with the details in the approved RMP; And the revision in annex 4 (i.e. 12 MW in place of 33 MW) has been indicated in track change. The revised PDD has been checked to confirm that the revisions made by the PP in the revised PDD are limited to the correction (i.e. 12 MW in place of 33 MW) to the approved RMP. The remaining aspects of the registered monitoring plan remain the same.
   The version number and date of the revised PDD in section A.1 is same as that in the registered PDD. Please clarify. Also, the above described correction has not been reflected in section B.2.2 of the MR for the current monitoring period. Hence open.

3. The JMR (Form B) (12 MW – KBCWP-03) issued by BESCOM, for the month of June 2012 mentions the energy imported (row no. 07) as 0 kWh for the main meter reading and 900 kWh for the check meter reading. This is due to the CT failure at the metering point KBCWP-03. This was confirmed from the meter test certificate for KBCWP-03 dated 25/06/2012 and the internal communication from BESCOM office in Chitradurga (at the site) to the BESCOM Corporate office in Bangalore. Hence the PP has used the check meter import value of 900 kWh in the invoice and the ER calculations (spreadsheet version 2; tab "generation Details" cell H13). The use of the import value for ER calculations is conservative and hence accepted. It decreases the total amount of ERs for the current monitoring period to 77,277 tCO_{2e}. This is consistently reflected in the ER spreadsheet and the MR. Hence accepted and closed out.

4. The JMR (Form B), for the period September 2011 to March 2012, prepared at the 220 kV metering point (sub-station) indicates the capacity as 88 MW while the JMR (Form B) for the period from April 2012 to June 2012 mentions the capacity as 68.8 MW. There is a discrepancy in the capacity mentioned in the JMR (Form B) for the current monitoring period. The assessment team was informed by BESCOM and the personnel at the sub-station that there were additional WEGs belonging to other investors which were connected to the sub-station but have been dismantled due to financial reasons. The presence of other WEGs belonging to other owners were also confirmed from the line loss sheets for the previous monitoring period which show additional WEG owners. The JMR (Form B), for the previous monitoring period also indicates a capacity of 88 MW. PP has also clarified that the format of the JMR (Form B) is the property of BESCOM (state utility) who has the sole authority to revise the format. This was confirmed during the site visit while interviewing the personnel from BESCOM. The PP has no control in revising the JMR (Form B). Hence accepted and closed out.

5. PP has revised the tables in section C of the MR to correctly indicate the capacity against KBCWP-01 i.e. at the sub-station, as 68.8 MW. This is consistent with the observations of the assessment team during the site visit and interview with the personnel at the sub-station. This was also checked from the JMR (Form B) for the current monitoring period and the transmission loss calculation sheets issued by BESCOM. Hence accepted and closed out.	
Acceptance and Close out by Lead Assessor: Open	**Date:** 28/08/2012
Project Participant Response:	**Date:** 04/09/2012
2. Version number and date of revised PDD has been corrected. Further correction has been made under section B.2.2 of MR.	
Documentation Provided as Evidence by Project Participant:	
Revised PDD, version 6.0, date 03/09/2012 Revised Monitoring Report version 3.0	
Information Verified by Lead Assessor:	
Revised PDD Version 6.0 dated 03/09/2012 Section B.2.2 of the MR version 3.0 dated 04/09/2012	
Reasoning for not Acceptance or Acceptance and Close Out:	
PP has submitted the revised PDD bearing version no. 6.0 dated 03/09/2012 in section A.1. This version number and date has been updated. This is appropriate and hence accepted. PP has mentioned in section B.2 of the revised MR version 3 that “There is post registration change in PDD dated 03/09/2012, version 6.0 under annex 4.” This is as per the guidelines for completing the MR form. Hence accepted. CL #5 closed out.	
Acceptance and Close out by Lead Assessor:	**Date:** 18/09/2012

Date:	03/10/2012		Raised by:	Assessment Team	
Type:	CAR	Number:	#6	Reference:	Based on TR comments

Lead Assessor Comment:	**Date:** 03/10/2012

6. The applied methodology ACM0002 Version 6 mentions the recording frequency as "hourly measurement and monthly recording". The monthly recording of the parameters is mentioned in section D.2 of the MR Version 3; but the "hourly measurement" is not mentioned. Please clarify.
7. In section D.1 of the MR Version 3, for the parameter EGy it has been mentioned that the values of net electricity supplied to the grid mentioned in the two joint meter readings (Form B) can be cross checked with values mentioned in the invoice raised on the state utility. PP is requested to clarify if any difference was observed during the cross-check for the current monitoring period.
8. Section C and D.2 of the MR Version 3 gives reference to the meter testing and states that the meters will be tested and in case of errors, will be calibrated. PP is requested to clarify if the meters were calibrated during the current monitoring period and mention the same in the MR. Annex 1 of the MR mentions that none of the meters were found faulty during the current monitoring period. PP is requested to clarify the same.
9. In section D.2 of the MR for parameters EGexport and EGimport in the row "Value(s) of monitored parameter" it has been mentioned that "(This value is taken from joint meter readings (Form B))". Please clarify if the EGexport value 83983.095 MWh is mentioned in JMR or it is sum of two value from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point as mentioned in the row "Description". Please clarify the same for the parameter EGimport.
10. The value of Net electricity supplied (82919.707 MWh) in section E.1 of the MR version3 is inconsistent with the value (82918.672 MWh) in the ER spread sheet version 03. Please clarify.
11. In Appendix 2 of the MR Version 3 i.e. the WEG Performance Report, the sites have been mentioned as CK6 and CK1-4. It is not clear whether this is KBCWP 02 (33kVmetering point) or KBCWP03 (33kV metering point). Please clarify.
12. The transmission loss T_E has been included as a monitoring parameter in the monitoring plan and the formula to calculate the same has been mentioned in section C of the MR Version 3. PP is requested to clarify why the calculation of the transmission loss is not reflected in the excel spreadsheet.
13. The parameter EGy is calculated using the directly measured values of EGimport and EGexport. But the row "Monitoring equipment" in section D.2 of the MR mentions details of the meters. PP is requested to clarify the same.

Project Participant Response:	**Date:** 03/10/2012

1. We would like to submit to DOE that all the meters are tri-vector meters which have the capability of continuous measurement (hourly measurement can be done) of data. Though data has been recorded on monthly basis in the form of FORM B only by state utility and accordingly monthly frequency of data recording has been mentioned. 2. We would like to submit to DOE that for the parameter EGy, no inconsistency was found between the values as mentioned in Form B & invoices raised on state utility during the current monitoring period. Same has been mentioned in revised Monitoring Report. 3. We would like to submit to DOE that during the annual meter testing, all the meters were under the permissible limit of error and accordingly none of the meter was calibrated during the current monitoring period. Same has been mentioned under section C, D.2 & Annex2 of MR. Further, as pointed out by DOE fault meters refer the meter is beyond the permissible limit of error. To make consistency correction has been made under Annex 2. 4. We would like to confirm to DOE that the values of EGexport & EGimport is the sum of two value from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point. Since this point has already been mentioned under 'Description' row of EGexport & EGimport, accordingly the statement "This value is taken from joint meter readings (Form B)" has been removed from revised MR. 5. Value of Net electricity supplied in section E.1 of the MR has been corrected. 6. With reference to DOE comment correction has been made in Appendix 1. KBCWP 02 & KBCWP 03 has been mentioned as reference. 7. Calculation of the transmission loss has been incorporated in excel spreadsheet. *8.* Since EGy is calculated value, hence the details of monitoring equipment is not applicable and accordingly it has been removed from revised MR.
Documentation Provided as Evidence by Project Participant:
Monitoring Report, version 4.0, CER calculation sheet, version 4.0
Information Verified by Lead Assessor:
Monitoring report version 4 dated 03/10/2012 CER calculation sheet version 4 dated 03/10/2012
Reasoning for not Acceptance or Acceptance and Close Out:

1. The PP has clarified that the parameters EGexport and EGimport have been recorded on a monthly basis in the FORM B issued by the state utility. Accordingly, monthly frequency of data recording has been mentioned in the MR Version 4 dated 03/10/2012 which is as per the approved RMP. In section D.2 of the MR Version 4 dated 03/10/2012 for parameters EGexport and EGimport the PP has mentioned that the tri-vector energy meters used in the project activity have the capability of continuous measurement. The continuous measurement capability of the tri-vector energy meters was verified during the site visit. Hence, accepted and closed out.
2. In section D.1 of the MR Version 4 dated 03/10/2012, for the parameter EGy, PP has now mentioned that, no inconsistency was found between the values mentioned in JMR (Form B) & invoices raised on state utility during the current monitoring period. This was verified by the assessment team during the site visit. Hence accepted.
3. The PP has clarified that, during the current monitoring period the meters were tested and found to be within permissible limits. Hence no meter calibration was carried out in the current monitoring period. This was confirmed by the assessment team by checking the meter test certificates for the current monitoring period. The PP has consistently mentioned the same in Section C, D.2 and Annex 2 of the MR Version 4 dated 03/10/2012. This has been checked and confirmed. Hence accepted.
4. The PP has clarified that the values of the parameters EGexport and EGimport is the sum of two values from two joint meter readings (Form B) issued by BESCOM for 56.8 MW and 12 MW at 33 kV metering point as mentioned in the row “Description” in section D.2 of the MR Version 4 dated 03/10/2012. The PP has removed the statement “(This value is taken from joint meter readings (Form B))” since it is already mentioned in the row “Description”. Hence accepted and closed out.
5. The PP has correctly revised the value in section E.1 of the MR Version 4 dated 03/10/2012 to 82918.672 MWh, which is consistent with the ER spreadsheet. Hence accepted and closed out. The PP has also revised the values of the parameter EGy in section E.1 of the MR Version 4 to consistently mention 3 decimal places. These values have been checked against the ER excel spreadsheet and are found to be consistent. Hence accepted.
6. The PP has revised Appendix 2 of the MR version 4 dated 03/10/2012 to correctly indicate the metering points KBCWP 02 and KBCWP03. This is appropriate and hence accepted.
7. PP has revised the ER excel spreadsheet to include the transmission loss calculations. The formula used to calculate the percentage loss in the spreadsheet is consistent with the formula mentioned in section C of the MR; approved RMP and the PPA signed specifically for the project activity. The value of “Energy Exported to grid (as per 220kV bulk meters) (kWh)” i.e. Y, has been sourced from the JMR (Form B) prepared at the 220 kV sub-station. This value was cross checked with the line loss calculation sheet issued by the state utility and was found to be consistent. The PP has also correctly linked all values in the tab “Generation details” in the ER spreadsheet. Hence accepted and closed out.
8. PP has revised the table for the parameter EGy in section D.2 of the MR Version 4 dated 03/10/2012. The details in the row “Monitoring equipment” have been deleted since the parameter is a calculated value and not a measured value. This is appropriate and hence accepted.

CAR #6 closed out

Acceptance and Close out by Lead Assessor:	**Date:** 03/10/2012

10. Statement of Competence

Name: Sudeep Kodialbail

Status

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

Scopes of Expertise

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

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

Name: Ravi Kant Soni

Status

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

Scopes of Expertise

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

Approved Member of Staff by: Siddharth Yadav Date: 05/04/2012

Name: Vivek Ahirwar

Status

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

Scopes of Expertise

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

Approved Member of Staff by: Siddharth Yadav Date: 03/07/2012

11. Photographic Evidence

Unique reference number:

KBCWP-01 (Main Meter - 6605121)

Parameter: Electricity exported and imported from all WEGs

Name of equipment: Trivector Energy Meter

Date: 09/08/2012

Unique reference number:

KBCWP-01 (Check Meter - 6605122)

Parameter: Electricity exported and imported from all WEGs

Name of equipment: Trivector Energy Meter

Date: 09/08/2012

Unique reference number: KBCWP-02 (Main Meter - 5389967)

Parameter: EGexport and EGimport

Name of equipment: Trivector Energy Meter

Date: 09/08/2012

Unique reference number: KBCWP-02 (Check Meter - 5389970)

Parameter: EGexport and EGimport

Name of equipment: Trivector Energy Meter

Date: 09/08/2012

Unique reference number: **Parameter:** EGexport and EGimport

KBCWP-03 (Main Meter - 5463844)

Name of equipment: Trivector Energy Meter **Date:** 09/08/2012

Unique reference number: **Parameter:** EGexport and EGimport

KBCWP-03 (Check Meter - 5463845)

Name of equipment: Trivector Energy Meter **Date:** 09/08/2012

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History

Version	EB Requirement	Nature of revision	Validity
Issue 6	VVs Version 02.0	Update to checklist to include VVS procedures	25th May 2012
Issue 5.4	VVM Version 01.2	Update to checklist	24th February 2011