



VERIFICATION / CERTIFICATION REPORT

“GEI WIND POWER PROJECT IN KARNATAKA, INDIA” IN INDIA

(UNFCCC Registration Ref. No. 4144)

Monitoring Period:
01 October 2011 to 31 December 2012

REPORT NO. 2013-9157

REVISION No. 01

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Date of first issue: 19 April 2013	Project No.: PRJC-449545-2013-CCS-IND	DNV CLIMATE CHANGE SERVICES AS Veritasveien 1, 1322 HØVIK, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 http://www.dnv.com Org. No: NO 994 774 352 MVA
Approved by: Hendrik W. Brinks	Organisational unit: DNV KEMA Energy & Sustainability Accredited Climate Change Services	
Client: M/s Generacion Eolica India Ltd	Client ref.: Mr. Aveg Agarwal	

Summary:

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions reported for the project activity “GEI Wind Power Project in Karnataka, India” in India (UNFCCC Registration Ref. No. 4144) for the period 01 October 2011 to 31 December 2012.

In our opinion, the GHG emission reductions reported for the project in the monitoring report (version 03) of 10 April 2013 are fairly stated.

The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology ACM0002 (version 11) and the monitoring plan contained in the registered Project Design Document version 7 dated 25 February 2011.

DNV Climate Change Services AS is able to certify that the emission reductions from the project activity “GEI Wind Power Project in Karnataka, India” in India during the period 01 October 2011 to 31 December 2012 amount to 64 989 tonnes of CO₂ equivalent.

Report No.: 2013-9157		Subject Group: Environment	Indexing terms	
Report title: “GEI Wind Power Project in Karnataka, India” in India			Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification
				Market Sector
				Renewable energy
Work carried out by: Kakaraparthi Venkata Raman, Rahul Gopi and Arathi Hanumanthappa			<input checked="" type="checkbox"/> No distribution without permission from the client or responsible organisational unit <input type="checkbox"/> free distribution within DNV after 3 years <input type="checkbox"/> Strictly confidential <input type="checkbox"/> Unrestricted distribution	
Work verified by: Gaurav Srivastava				
Date of this revision: 19 April 2013	Rev. No.: 01	Number of pages: 21		

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction(s)
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CL	Clarification request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
DNV	DNV KEMA Energy and Sustainability
EIL	Enercon India Limited
FAR	Forward Action Request
GEI	Generacion Eolica India
GHG	Greenhouse gas(es)
HESCOM	Hubli Electricity Supply Company Limited.
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
KPTCL	Karnataka Power Transmission Corporation Limited
MP	Monitoring Plan
O&M	Operation and Maintenance
PCP	Clean Development Mechanism Project Cycle Procedure
PDD	Project Design Document
PPA	Power Purchase Agreement
PS	Clean Development Mechanism Project Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Clean Development Mechanism Validation and Verification Standard
WEC	Wind Energy Converter

1 INTRODUCTION

M/s Generacion Eolica India Ltd has commissioned DNV Climate Change Services AS (DNV) to carry out the verification and certification of emission reductions reported for the CDM project activity 4144 “GEI Wind Power Project in Karnataka, India” in India (the project) for the period 01 October 2011 to 31 December 2012. This report contains the findings from the verification and a certification statement for the certified emission reductions.

1.1 Objective

Verification is the periodic independent review and *ex post* determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered CDM project activity during a defined monitoring period.

Certification is the written assurance by a DOE that, during a specific period in time, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify emission reductions reported for the “GEI Wind Power Project in Karnataka, India” for the period 01 October 2011 to 31 December 2012.

1.2 Scope

The scope of the verification is to verify that:

- The project activity has been implemented and operated in accordance with the registered PDD /13/ or any approved revised PDD;
- The monitoring plan complies with the monitoring methodology and the actual monitoring complies with the monitoring plan, including compliance with any guidance provided by the Board regarding deviations from the provisions of a registered monitoring plan and/or methodology;
- The data and calculation of GHG emission reductions have been assessed to correctly support the emission reductions being claimed.

The verification shall ensure that reported emission reductions are complete and accurate in order to be certified.

1.3 Description of the project activity

Project Parties:	India (host Party), Spain (Annex 1 Party) and Sweden (Annex 1 Party)
Title of project activity:	GEI Wind Power Project in Karnataka, India
UNFCCC registration No:	4144
UNFCCC registration date:	09 March 2011
Baseline and monitoring methodology	ACM0002 (version 11) /19/

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Project Participants: Generacion Eolica India Limited for host Party India and Kingdom of Spain from Spain (Annex-1 Party) and Swedish Energy Agency from Sweden (Annex-1 Party).

Location of the project activity: The project is located at Harthi, Kurtakoti and Malasamudra villages of Gadag district in Karnataka in India.

Project's crediting period: 01 April 2011 to 31 March 2021 (fixed crediting period)

Period verified in this verification: 01 October 2011 to 31 December 2012 (2nd verification period).

The project activity harnesses wind energy in the Harthi, Kurtakoti and Malasamudra villages of Gadag district of Karnataka to generate electricity and export it to the southern grid of India via KPTCL/HESCOM network /10/. The project activity has an aggregated installed capacity of 31.2 MW comprising of 39 numbers of wind energy converters (WECs) of 800 kW Enercon make E-53 /6/. The operation and maintenance of the wind energy generators is carried out by Enercon (India) Limited /12/, who is also the supplier of the wind energy converters. The project activity results in the reduction of GHG emissions through displacement of fossil fuel based electricity generation in southern grid of India by the wind based renewable power.

1.4 Methodology for determining emission reductions

According to the applied methodology ACM0002, version 11 /19/ and registered PDD /13/, the emission reductions for the project are determined as the difference between the baseline emissions, project emissions and leakage:

$$ER_y = BE_y - PE_y - L_y$$

PE_y and L_y are considered as to be zero as stated in the registered PDD /13/ /7/ and validation report /15/. Therefore, the emission reductions are accounted as:

$$ER_y = BE_y = EG_y \times EF_y$$

where,

EF_y is the emission factor of the southern grid of India to which the project activity is connected, and was determined and validated *ex-ante* as 0.92694 tCO₂/MWh /13/ and will not be updated during the fixed crediting period.

EG_y is the net electricity generation delivered to the southern grid of India by the project activity, which is determined by the electricity exported to the grid minus 115% of electricity imported from the grid minus the transmission losses as stated in the PPA /10/ and the registered PDD /13/. The values of the export, import and transmission losses have been sourced from the invoices raised to HESCOM /4/ and these values have been further verified by cross checking with the JMRs issued by HESCOM /3/

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2 METHODOLOGY

DNV has assessed and determined that the implementation and operation of the project activity, and the steps taken to report emission reductions comply with the CDM criteria and relevant guidance provided by the Board /16//17//18/.

The assessment involved a desk review of relevant documentation as well as an on-site visit(s).

The verification of the emission reductions has assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

- i) Review of project documentation /1/ to /10/;
- ii) The net electricity supplied to the southern grid of India by the project activity which is multiplied with a fixed grid baseline combined emission factor of 0.92694 tCO₂e/MWh /13/;
- iii) The actual installed capacity of the project activity is 31.2 MW comprising of 39 numbers of wind energy converters (WECs) of 800 kW Enercon make E-53, is in conformance with the description provided in the registered PDD version 7 dated 25 February 2011 /13/.

Verification team

Role	Last Name	First Name	Country	Type of involvement					
				Desk review	Site visit	Reporting	Supervision of work	Technical review	TA 1.2 competence
Team leader (Verifier)	Gopi	Rahul	India	✓	✓	✓	✓		✓
Verifier	Venkata Raman	Kakaraparthi	India	✓		✓			✓
Assessor under training	Hanumanthappa	Arathi	India	✓	✓	✓			
Technical reviewer	Srivastava	Gaurav	India					✓	✓

Duration of verification

Monitoring report publication: 18 March 2013 /11/
 Desk review: 19 March 2013 to 24 March 2013
 On-site assessment: 03 April 2013
 Reporting, calculation checks and QA/QC: 04 April 2013 to 19 April 2013

2.1 Desk review

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The monitoring report version 01 dated 22 February 2013 /1/, has been made publicly available on the CDM website /11/. In addition to the monitoring report /1/ (version 01 dated 22 February 2013 and version 03 dated 10 April 2013), the verification has been performed based on the review of the following documentation:

- The registered PDD /13/, including the monitoring plan and the corresponding validation report /15/;
- The previous verification report /14/;
- The approved baseline and monitoring methodology ACM0002, version 11 /19/ applied by the project activity.
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board /16/, /17/ and /18/
- Other information and references relevant to the project activity's resulting emission reductions /8/ and /9/ /2/

During the desk review, DNV has applied standard auditing techniques to assess the quality of information provided. The following activities were performed.:

- A review of the data and information presented to verify their completeness /1/ to /10/
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements/5/, and the quality assurance and quality control procedures; and
- An evaluation of data management and the quality assurance and quality control system /7/ and /8/ in the context of their influence on the generation and reporting of emission reductions.

2.2 On-site assessment

Detailed verification of all the data contained in the monitoring report was performed during the site visit by DNV on 03 April 2013. All the WECs installed as parts of this project activity were covered during the site visit to Gadag districts of Karnataka state of India. The key personnel of the project /23/ to /26/ were interviewed or assisted the verification team.

During the on-site assessment, DNV has applied standard auditing techniques to assess the quality of information provided. The following aspects of the CDM project activity have been verified:

- i) - The implementation and operation of the CDM project activity as described in registered PDD version 7 dated 25 February 2011 /13/;
- The information flow for generating, aggregating and reporting of the monitoring parameters /3/ to /8/; and
- The operational and data collection procedures are implemented in accordance with the monitoring plan of the registered PDD /13/.

Further, the following activities were performed:

- A cross-check between information provided in the monitoring report /1/ and data from other sources /3/ to /8/;

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- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the registered PDD /13/ and the selected methodology (ACM0002 version 11) /19/;
- A review of calculations and assumptions made in determining the GHG data and emission reductions /2/; and
- An identification that quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters /8/.

The data presented in the monitoring report was assessed by review of the detailed project documentation and electricity generation records, as well as by interviews with personnel at Enercon India Limited, who are the O&M contractors and representatives for the PP (GEI Ltd) and observation of collection of measurements, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. This has enabled the verification team to assess the accuracy and completeness of reported monitoring results; to verify the correct application of the approved monitoring methodology and the determination of the emission reductions.

In addition, all parameters required by the monitoring methodology ACM0002, version 11 /19/, and the management system were assessed during the site visit.

2.3 Closing out of verification findings

The objective of this phase of the verification was to resolve any issues which needed be clarified prior to DNV's conclusion that i) the project activity has been implemented and operated in accordance with the registered PDD or any approved revised PDD, ii) the monitoring plan complies with the monitoring methodology and the actual monitoring complies with the monitoring plan and iii) the data and calculation of GHG emission reductions are correct.

A corrective action request (CAR) is issued, where:

- i. Non-conformities 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/or previous verification to be verified during verification that have not been resolved by the project participants.

A clarification request (CL) shall be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

The verification identified four CARs, no CLs and no FARs. The CARs and CLs were satisfactorily addressed by the project participants by among other revising the monitoring (please refer to Appendix A for further details). In addition to the changes made to the monitoring report as a result of the verification findings, the following changes to the

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monitoring report /1/ (version 03 dated 10 April 2013) were made compared to the initial version of the monitoring report received for verification (version 01 dated 22 February 2013):

- The title of the applied methodology has been revised under section C.
- The project boundary diagram on Page 15 of the MR has been revised to include other project developers as well.

3 VERIFICATION FINDINGS

This section summarises the findings from the verification of the emission reductions reported for the “GEI Wind Power Project in Karnataka, India” for the period 01 October 2011 to 31 December 2012.

3.1 Remaining issues, CARs, FARs from previous validation / verification

As confirmed by DNV from previous verification report /14/, no FAR was required to be closed out during this verification.

3.2 Post registration changes

There were no post registration changes identified by DNV during this verification.

3.3 Project implementation

As part of the site visit DNV was able to confirm that the project implementation is in accordance with the project description contained in the registered PDD (version 7.0 of 25 February 2011) /13/.

The verification team confirmed through visual inspection and document review that all physical features of the proposed CDM project activity including data collection systems and storage systems have been implemented in accordance with the registered PDD /13/. DNV confirmed during the on-site visit that the CDM project is completely operational. DNV confirmed that neither a notification nor request for approval of changes has been requested to CDM Executive Board.

The project is a Wind power project, located at Harthi, Kurtakoti and Malasamudra villages of Gadag district in Karnataka.

The project was implemented and commissioned between 17 December 2007 to 10 October 2008 /6/, prior to its CDM registration on 09 March 2011 with fixed crediting period from 01 April 2011 to 31 March 2021. The selected monitoring period 01 October 2011 to 31 December 2012 is within the fixed crediting period of 01 April 2011 to 31 March 2021.

The project's installation capacity is 31.2 MW consisting of 39 sets of WECs of E -53 make 800 kW capacity each /6/, all of which are manufactured by Enercon (India) Ltd. The details of the turbines with respect to installation and capacity have been verified to be consistent with description indicated in the PDD /13/. The actual implementation of the project during this verification period was verified for each turbine and generator, monitoring equipment and their accuracy levels.

The electricity generated is supplied to the southern grid of India under the power purchase agreement (PPA) /10/. The electricity generation metering is done at two levels:

- a) Pooling substation of Enercon (India) Limited: all the 39 WECs pertaining to the project activity are connected to a set of main and check meter installed at 33 kV side metering point located at pooling substation of Enercon (India) Limited /3/. The meter numbers are as follows: Main meter: 05389382 and Check meter: 07022924 /3/. The electricity exported and imported is measured through these bi directional tri-vector energy meters which are of 0.2s accuracy class /3/. The primary levels of monitoring is done by these meters installed at pooling substation and are used electricity

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exported/imported to/from southern grid of India by the project activity.

- b) Electricity Board Substation: the secondary level of monitoring is performed at state electricity board 220 kV sub-station, where three sets of bulk meters are installed to record electricity generation from the entire wind farm (including generation from project activity machines and non project activity machines) and reading of these bulk meters are used by KPTCL to calculate transmission losses between the metering point at the pooling substation and the metering point at the bulk meter substation. The details of these meters are as follows:

Metering Point 1- Main Meter: 07022944 and Check Meter: 07022903.

Metering Point 2- Main Meter: 07022908 and Check Meter: 07022915 and

Metering Point 3- Main Meter: 06760786 and Check Meter: 06767587.

These sets of meters are installed on parallel feeders and are interchangeable meters as per the requirement of the grid/KPTCL.

The transmission losses between the metering point at the pooling substation and the metering point at the bulk meter substation are calculated by KPTCL and values are provided in the certified JMRs /3/ issued by them.

Project participant has taken the calculated transmission losses values which are presented in the JMRs /3/ issued by KPTCL as stated in the registered PDD /13/. However it was witnessed during the site visit that the calibration of bulk meters was delayed and the subsequent calibration conducted confirmed that the errors were within the accuracy class of meters. Hence in line with the guidance provided in VVS para 238 (a) /16/ a correction factor due to delay in calibration has been applied to calculate the transmission losses and same has been used for emission reduction calculation.. The JMRs /3/ and invoices /4/ have been cross checked during the site visit for consistency of electricity export and import values which have been used for emission reduction calculation.

3.4 Information (data and variables) provided in the monitoring report that is different from that stated in the registered PDD

The electricity generation reported in this monitoring period is 70 119.406 MWh in the period from 01 October 2011 to 31 December 2012 (i.e. 458 days). The expected annual generation in the registered PDD /13/ is 69 147.94 MWh, which corresponds to 86 766.46 MWh in 458 days. Hence, actual generation is lower than expected. The variation is deemed to be within a reasonable range due to the following reasons:

- i) The plant load factor (calculated from the electricity generation details at the WECs) for the monitoring period between 01 October 2011 and 31 December 2012, is 20.96%. This is lower compared to the estimated PLF of 25.3% stated in the PDD /13/. According to the registered PDD the net electricity exported to the grid is calculated after considering the imported electricity and transmission losses and emission reduction calculation is based on this Net electricity exported to the grid by the project. For simplification of emission reduction calculation, the electricity import and transmission losses were considered as zero in the registered PDD /13/. For the current monitoring period however, the electricity import and transmission losses values are derived from the JMRs /3/ and the resulting lower electricity

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generation (as compared to the expected generation in the PDD) has led to lower emission reductions by 19.19%.

Verification Period	ERs as per registered PDD (calculated on pro data basis for the verification period)	Actual emission reduction achieved during the verification period
01 October 2011 to 31 December 2012	80 426 tCO _{2e}	64 989 tCO _{2e}

The reported emission reductions of 64 989 tCO₂ equivalent for 458 days as per the monitoring period from 01 October 2011 to 31 December 2012 is lower than the estimated emission reductions of 80 426 tCO_{2e} as per the registered PDD by 19.19 % .

There is no other variation observed during the current verification except the one mentioned above that is different from what has been stated in the registered PDD /13/.

3.5 Compliance of monitoring plan with monitoring methodology

DNV is able to confirm that the monitoring plan contained in the registered PDD (version 7.0 of 25 February 2011) /13/ is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 11) /19/.

3.6 Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD of 25 February 2011 /13/. All parameters stated in the validated monitoring plan are monitored and reported appropriately. The monitoring report version 03 /1/ lists each parameter required by the monitoring plan and the information flow (i.e. from data generation, aggregation, to recording, calculation and reporting) for these parameters is provided in the monitoring report. The information flow for the each parameter is further verified in the following sections. DNV confirms that neither a revision nor a deviation to the monitoring plan has been requested to CDM Executive Board.

As per the monitoring plan of the registered PDD /13/, the net electricity generation is calculated based on the measured import and export data which are monitored continuously by two way meters located at the 33 kV metering point (Enercon pooling station), which are under the control of HESCOM, the statutory electricity distribution company and also from the calculated values of transmission losses between the 33 kV and the 220 kV metering points (state electricity substation). Net electricity thus arrived at is recorded on monthly basis jointly by the officials of HESCOM and project participant's (PP) representatives. HESCOM is also responsible for maintenance & calibration of all the meters installed at both the metering points (33 kV and 220 kV). This data is used for billing purposes.

The calibration frequency of all the meters which are used for arriving at the net electricity generation is once in a year as mentioned in the registered PDD /13/. The Joint meter readings /3/ have been carried out every month in presence of the PP's representative and officials of HESCOM. The daily generation of each of the 39 WECs is also recorded daily by the O&M team at Enercon India Limited /8/. The meters installed at the Enercon pooling substation are calibrated annually as per the monitoring plan in the registered PDD. The calibration /5/ of

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these meters was valid for the entire monitoring period. The import and export values are directly sourced from the JMRs issued by KPTCL /3/.

However there has been a delay in calibration of the bulk meters (220 kV metering point) for the period from 22 June 2012 to 24 September 2012. The bulk meter values are used for arriving at the transmission losses. The subsequent calibration confirmed proper functioning of the bulk meters and hence the maximum correction factor of 0.2% (accuracy class of meters) were applied by the Project participant to the meter readings for the entire period of June to September 2012. The corrected values of the transmission losses after accounting for the delay in calibration are used for ER calculations.

All the original and backup data are being archived. Necessary management system procedures including responsibility and authority of monitoring activities have been verified during the site visit to be consistent with the PDD /13/. During the site visit interactions, the knowledge of personnel associated with the project activity was also found to be satisfactory. All parameters stated in the validated monitoring plan are monitored and reported appropriately. DNV confirms that neither a revision nor a deviation to the monitoring plan has been requested to CDM Executive Board.

DNV is able to confirm that the monitoring plan contained in the registered PDD of version 7 of 25 February 2011 /13/ is in accordance with the approved methodology applied by the project activity, i.e. ACM0002, Version 11 /19/.

3.6.1 Monitoring parameters

According to the monitoring plan of the registered PDD, there are four parameters to be monitored:

- **EG_y**- Net electricity supplied to the grid by the project.
- **G_{pe}** - Electricity exported by the project activity.
- **G_{pi}** - Electricity imported by the project activity.
- **L_i** - Transmission loss between the metering point for the project activity feeding the pooling substation of Enercon and the metering point at EB Substation.

EG_y is the net electricity supplied to the grid by the project. Net electricity supplied to the grid by the project. This is calculated as follows: Electricity Export – 115% of Electricity Import - Transmission Loss. The values used for this calculation are monitored. The net electricity supplied to the grid is sourced from the monthly invoices /4/ raised by the project participant to KPTCL. The import and export values have been cross checked with the JMRs issued by KPTCL /3/.

The calculated transmission losses values are sourced from the JMRs /3/ issued by KPTCL though the reported values are arrived at after accounting for the delay in calibration of bulk meters at the 220 kV metering point. The delay in calibration /5/ and the correction factor applied are discussed below.

The below tables describe for each parameter, which is to be measured according to the monitoring plan, how DNV has verified that i) the actual monitoring complies with the monitoring plan and that ii) data have been assessed to correctly support the emission reductions being claimed.

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	Assessment/ Observation
Data / Parameter: (as in monitoring plan):	Gpe Electricity Exported by the Project Activity.
Measuring frequency:	Continuous
Reporting frequency:	Monthly
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	The meters are two-way tri-vector meters installed at the 33kV metering point at Enercon pooling substation. Main and check meter are of L&T Make. Accuracy class- 0.2s Meter Serial numbers are: Main Meter: 05389382 Check Meter: 07022924.
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes the accuracy of the monitoring equipment is 0.2s as stated in the registered PDD /13/.
Calibration frequency /interval:	Annual
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications (if local/national standards or the manufacturer's specifications are not available, international standards may be used)?	Yes calibration is done once a year as per the monitoring plan of the registered PDD /13/.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes the calibration of the measuring equipment has been carried out by HESCOM which is the state utility board (statutory body) and is accredited to perform calibration as stated in the PPA /10/ .
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes the calibration certificates provided by the PP confirm proper functioning of monitoring equipment.
Is(are) calibration(s) valid for the whole reporting period?	Yes calibration is valid for the whole reporting period; the calibration certificates provided by

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	<p>the PP have been verified by DNV /5/ and is substantiated in the MR /1/. The calibration details are as follows:</p> <table><tr><th>Meter number</th><th>Previous Calibration date</th><th>Current Calibration Date</th><th>Next Calibration Date</th></tr><tr><td>05389382</td><td>28 April 2011</td><td>12 January 2012</td><td>11 January 2013</td></tr><tr><td>07022924</td><td>28 April 2011</td><td>12 January 2012</td><td>11 January 2013</td></tr></table>	Meter number	Previous Calibration date	Current Calibration Date	Next Calibration Date	05389382	28 April 2011	12 January 2012	11 January 2013	07022924	28 April 2011	12 January 2012	11 January 2013
Meter number	Previous Calibration date	Current Calibration Date	Next Calibration Date										
05389382	28 April 2011	12 January 2012	11 January 2013										
07022924	28 April 2011	12 January 2012	11 January 2013										
If applicable, has the reported data been cross-checked with other available data?	Yes the reported data can be cross checked with the invoices raised on HESCOM /4/.												
How were the values in the monitoring report verified?	The values in the monitoring report are verified with the JMRs /3/ issued every month by HESCOM.												
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes the data management does ensure correct transfer of data and reporting of emission reductions are found to be satisfactory. The necessary QA/QC processes are in place as mentioned in the PDD /13/.												
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not applicable												

	Assessment/ Observation
Data / Parameter: (as in monitoring plan):	Gpi Electricity Imported by the Project Activity.
Measuring frequency:	Continuous
Reporting frequency:	Monthly
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	<p>The meters are two-way tri-vector meters at the 33kV metering point at Enercon pooling substation.</p> <p>Main and check meter are of L&T Make. Accuracy class- 0.2s</p> <p>Meter Serial numbers are:</p> <p>Main Meter: 05389382</p> <p>Check Meter: 07022924</p>
Is accuracy of the monitoring equipment as	Yes the accuracy of the monitoring equipment

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stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	is 0.2s as stated in the registered PDD /13/.															
Calibration frequency /interval:	Annual															
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications (if local/national standards or the manufacturer's specifications are not available, international standards may be used)?	Yes calibration is done once a year as per the monitoring plan of the registered PDD /13/.															
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes the calibration of the measuring equipment has been carried out by HESCOM which is the state utility board (statutory body) and is accredited to perform calibration as stated in the PPA /10/.															
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes the calibration certificates provided by the PP confirm proper functioning of monitoring equipment.															
Is(are) calibration(s) valid for the whole reporting period?	Yes calibration is valid for the whole reporting period; the calibration certificates provided by the PP have been verified by DNV /5/ and is substantiated in the MR /1/. The calibration details are as follows: <table><tr><td>Meter number</td><td>Previous Calibration date</td><td>Current Calibration Date</td><td>Next Calibration Date</td></tr><tr><td>05389382</td><td>28 April 2011</td><td>12 January 2012</td><td>11 January 2013</td></tr><tr><td>07022924</td><td>28 April 2011</td><td>12 January 2012</td><td>11 January 2013</td></tr></table>				Meter number	Previous Calibration date	Current Calibration Date	Next Calibration Date	05389382	28 April 2011	12 January 2012	11 January 2013	07022924	28 April 2011	12 January 2012	11 January 2013
Meter number	Previous Calibration date	Current Calibration Date	Next Calibration Date													
05389382	28 April 2011	12 January 2012	11 January 2013													
07022924	28 April 2011	12 January 2012	11 January 2013													
If applicable, has the reported data been cross-checked with other available data?	Yes the reported data can be cross checked with the invoices raised on HESCOM /4/.															
How were the values in the monitoring report verified?	The values in the monitoring report are verified with the JMRs /3/ issued every month by HESCOM.															
Does the data management ensure correct	Yes the data management does ensure correct															

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transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	transfer of data and reporting of emission reductions are found to be satisfactory. The necessary QA/QC processes are in place as mentioned in the PDD /13/
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not applicable

		Assessment/ Observation																						
Data / Parameter: (as in monitoring plan):		Li - Transmission loss between the metering point for the project activity feeding the pooling substation of Enercon and the metering point at EB Substation are calculated. These calculated values are sourced from JMRs /3/ issued by KPTCL.																						
Measuring frequency:		Continuous																						
Reporting frequency:		Monthly																						
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)		Yes																						
Type of monitoring equipment:		<p>The meters are two-way tri-vector meters of L&T make at the 33kV billing point and 220 kV metering point.</p> <p>Meters at the 33 kV metering point:</p> <table><tr><td>Main Meter</td><td>05389382</td><td>0.2s Accuracy</td></tr><tr><td>Check Meter</td><td>07022924</td><td>0.2s Accuracy</td></tr></table> <p>Meters at the 220 kV substation:</p> <table><tr><td>Main Meter</td><td>07022944</td><td>0.2s Accuracy</td></tr><tr><td>Check Meter</td><td>07022903</td><td>0.2s Accuracy</td></tr><tr><td>Main Meter</td><td>07022908</td><td>0.2s Accuracy</td></tr><tr><td>Check Meter</td><td>07022915</td><td>0.2s Accuracy</td></tr><tr><td>Main Meter</td><td>06760786</td><td>0.2s Accuracy</td></tr></table>		Main Meter	05389382	0.2s Accuracy	Check Meter	07022924	0.2s Accuracy	Main Meter	07022944	0.2s Accuracy	Check Meter	07022903	0.2s Accuracy	Main Meter	07022908	0.2s Accuracy	Check Meter	07022915	0.2s Accuracy	Main Meter	06760786	0.2s Accuracy
Main Meter	05389382	0.2s Accuracy																						
Check Meter	07022924	0.2s Accuracy																						
Main Meter	07022944	0.2s Accuracy																						
Check Meter	07022903	0.2s Accuracy																						
Main Meter	07022908	0.2s Accuracy																						
Check Meter	07022915	0.2s Accuracy																						
Main Meter	06760786	0.2s Accuracy																						

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	Check Meter	06767587	0.2s Accuracy												
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes the accuracy of the monitoring equipment is 0.2s as stated in the registered PDD /12/														
Calibration frequency /interval:	The Calibration frequency of all meters is Annual.														
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications (if local/national standards or the manufacturer's specifications are not available, international standards may be used)?	Yes calibration is done once a year as per the monitoring plan of the registered PDD /13/														
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes calibration of the meters is carried out by HESCOM and KPTCL which are the state utilities.														
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes														
Is(are) calibration(s) valid for the whole reporting period?	<p>Calibration of the Export and import meters at the 33 kV billing point is valid for the whole reporting period. There has been a delay of in calibration of the bulk meters between June and September 2012 at the sub-station /5/. This delay has been accounted for by the project participant by applying an appropriate correction factor to the bulk meter readings. The calibration details are as follows:</p> <p>Meters at the 33 kV metering point:</p> <table border="1"> <thead> <tr> <th></th><th>Meter number</th><th>Previous calibration date</th><th>Latest Calibration date</th></tr> </thead> <tbody> <tr> <td>Main Meter</td><td>05389382</td><td>24 April 2011</td><td>12 January 2012</td></tr> <tr> <td>Check Meter</td><td>07022924</td><td>24 April 2011</td><td>12 January 2012</td></tr> </tbody> </table>				Meter number	Previous calibration date	Latest Calibration date	Main Meter	05389382	24 April 2011	12 January 2012	Check Meter	07022924	24 April 2011	12 January 2012
	Meter number	Previous calibration date	Latest Calibration date												
Main Meter	05389382	24 April 2011	12 January 2012												
Check Meter	07022924	24 April 2011	12 January 2012												

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	Meters at 220 kV substation:			
		Meter Number	Previous calibration date	Latest Calibration Date
	Main Meter	07022944	22 June 2011	25 September 2012
	Check Meter	07022903	22 June 2011	25 September 2012
	Main Meter	07022908	22 June 2011	25 September 2012
	Check Meter	07022915	22 June 2011	25 September 2012
	Main Meter	06760786	22 June 2011	25 September 2012
	Check Meter	06767587	22 June 2011	25 September 2012
If applicable, has the reported data been cross-checked with other available data?	Yes the reported data is cross checked with invoices raised by the PP on HESCOM /4/.			
How were the values in the monitoring report verified?	The values in the monitoring report were verified by cross checking with the JMRs issued every month by HESCOM /3/.			
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes the data management does ensure correct transfer of data and reporting of emission reductions are found to be satisfactory. The necessary QA/QC processes are in place as mentioned in the PDD/13/			
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not applicable			

Calibration records /5/ have been provided to the verification team. DNV can confirm that the meters at the 33 kV metering point were calibrated covering this monitoring period, from 01 October 2011 to 31 December 2012 as per the monitoring plan.

The ER calculations are based on the export and import values sourced from the main and check meters installed at the 33 kV metering point. The transmission losses are directly sourced from the JMRs issued by HESCOM /3/. This approach is consistent with the

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registered PDD /13/. The bulk meter readings are considered for the calculation of transmission losses. During the site visit, a delay in calibration of the bulk meters was observed from June to September 2012. The subsequent calibration demonstrated that the errors were within the permissible limit. The project participant has applied the maximum permissible error for the bulk meter readings to account for the delay in calibration. This is in line with the paragraph 238 of the Validation and Verification Standard, version 03.0 /16/. The operations of the same were assessed and found to be in order.

3.7 Assessment of data and calculation of emission reductions

DNV confirms that appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and the assumptions, emission factors and default values that are applied in the calculation have been justified.

As stated in the section 1.4, the emission reductions ER_y by the project activity during the monitoring period is the difference between the baseline emission, project emissions or leakage.

$$ER_y = BE_y - PE_y - L_y$$

3.7.1 Baseline emissions

Baseline emissions (BE_y in tCO_2) are the product of the baseline emission factor (EF_y in tCO_2/MWh) times the net electricity supplied by the project activity to the grid (EG_y in MWh).

EF_y is emission factor of the grid, which was calculated *ex-ante* and will not be updated during the first crediting period. EF_y of the proposed project in the registered PDD /13/ is $0.92694 tCO_2/MWh$, which has been verified to be correct based on the availability of grid data.

EG_y is the net electricity generation supplied to the grid, which is determined by the electricity supplied to the grid minus the imported electricity from the grid minus the transmission losses. The electricity exported to and imported from the grid was derived from the main meter in the period 01 October 2011 to 31 December 2012, which was verified by DNV with the help of monthly JMR issued by HESCOM /3/ and cross-checked with the invoices issued to HESCOM by the PP /4/ .

. The Transmission losses are calculated by KPTCL based on the bulk meter readings (220 kV metering point) and the meter readings at the Enercon pooling substation (33 kV metering point). These values are presented in the monthly JMRs issued by them /3/. There has been a delay in the calibration /5/ of the bulk meter readings from June to September 2012, and PP has applied an appropriate correction factor to the bulk meter readings for these months.

Hence,

$EG_y = EG_{export} - 115\% * EG_{import} - \text{Transmission Loss (after applying correction factor for delay in calibration)} = 70\,119.406 \text{ MWh}$, and

$$BE_y = EF_y * EG_y = 64\,989 tCO_2e$$

3.7.2 Project emissions

The project emissions are regarded as zero according to the methodology ACM0002 version 11 /19/.

3.7.3 Leakage

There are no leakages that need to be considered in applying the methodology ACM0002 version 11 /19/.

3.7.4 Emission reductions

Therefore, the emission reductions in this monitoring period are:

$$ER_y = BE_y - PE_y - L_y = 64\,989 - 0 - 0 = 64\,989 \text{ tCO}_2\text{e.}$$

The yearly expected emission reductions in the registered PDD /13/ are 64 095 tonnes of CO₂ equivalents, which correspond to the emission reductions of 80 426 tonnes of CO₂ equivalents in 458 days, and hence the reported emission reductions are lower than the expected by 19.19%. As outlined above, the input data for calculating the emission reductions, the calculating process and the result are complete and transparent. Therefore, DNV is able to confirm the accuracy of the emission reductions.

3.8 Quality of evidence to determine emission reductions

DNV confirms that a complete set of data for this monitoring period was available to be verified and was in accordance with the registered PDD /13/.

All necessary documentation were collected, referenced and aggregated and were easily accessible in hard-copy and electronic format. The key data were cross-checked with the Joint meter readings issued by HESCOM /3/, the invoices issued by GEI India limited /4/ for the entire monitoring period from 01 October 2011 to 31 December 2012. No assumptions are used that have any material influence on reported emission reductions.

3.9 Management system and quality assurance

GEI India Limited has entered into a maintenance and services agreement with Enercon (India) Ltd, which was verified during the site visit /12/. The performance of the WECs, safety in operation and scheduled and breakdown maintenance thereof are organized and monitored by Enercon (India) Ltd. Enercon (India) Ltd maintains records of daily generation data of individual WECs from the controllers of each WEC /8/. GEI India Limited cross-checks the calculation of CERs based on monitoring data made available through JMRs /3/. The management system for the project has been verified to be in place by DNV on site. The organization structure with the responsibilities, personnel competencies, monitoring procedure and monitoring management have been properly identified and put into operation. DNV has also checked and verified the ISO 9001:2000 certificate issued to Enercon India Ltd for Quality Management system from Germanischer Lloyd Certification GmbH /7/.

DNV confirms that the responsibilities and authorities in the management and operational system for monitoring and reporting are in accordance with the responsibilities and authorities stated in the registered PDD and monitoring plan.

4 CERTIFICATION STATEMENT

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions that have been reported for the CDM project activity 4144 “GEI Wind Power Project in Karnataka, India” in India for the period 01 October 2011 to 31 December 2012.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

It is DNV’s responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity. DNV does not express any opinion on the selected baseline scenario or on the validated and registered PDD.

DNV conducted the verification on the basis of the baseline and monitoring methodology ACM0002 (version 11), the monitoring plan contained in the PDD (version 7.0 of 25 February 2011) and the monitoring report (version 03) dated 10 April 2013. The verification included i) checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied and ii) the collection of evidence supporting the reported data.

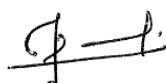
DNV’s verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. DNV planned and performed the verification by obtaining evidence and other information and explanations that DNV considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01 October 2011 to 31 December 2012 are fairly stated in the monitoring report (version 03) dated 10 April 2013.

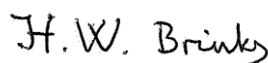
The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002 (version 11) and the monitoring plan contained in the PDD (version 7.0 of 25 February 2011).

DNV Climate Change Services AS is able to certify that the emission reductions from the CDM project activity 4144 “GEI Wind Power Project in Karnataka, India” in India during the period 01 October 2011 to 31 December 2012 amount to 64 989 tonnes of CO₂ equivalent.

Bangalore and Oslo, 19 April 2013

A handwritten signature in black ink, appearing to read 'R. Gopi'.

Rahul Gopi,
Verifier
DNV Bangalore, India

A handwritten signature in black ink, appearing to read 'H.W. Brinks'.

Hendrik W. Brinks
Approver
DNV Climate Change Services AS

5 REFERENCES

Documentation provided by the project participants

- /1/ M/s Generacion Eolica India Ltd: *CDM monitoring report for project activity 4144 "GEI Wind Power Project in Karnataka, India" for the monitoring period 01 October 2011 to 31 December 2012*, Version 01 dated 22 February 2013 and version 03 dated 10 April 2013
- /2/ Generation Eolica India Ltd: *Emission reduction calculation spreadsheets for the period 01 October 2011 to 31 December 2012*, Version 01 dated 22 February 2013 and Version 03 dated 10 April 2013.
- /3/ HESCOM: 'Form B' (share certificate) issued for wind power generation in the project "GEI Wind Power Project in Karnataka, India" for the period 01 October 2011 to 31 December 2012.
- /4/ Generation Eolica India Ltd: *Electricity sales invoices rasied to HESCOM e period from 01 October 2011 to 31 December 2012*.
- /5/ HESCOM and KPTCL: *Calibration certificates for the meters at 33 kV metering point and 220 kV sub-station bulk meters, The meters are calibrated by HESCOM. Calibration Certificate for the 33 kV metering point meters, dated 28 April 2011 and 12 January 2012. Calibration Certificates of meters at 220 kV substations, dated 13 July 2011 and 27 September 2012.*
- /6/ KPTCL: *Commissioning certificates issued by KPTCL dated 17 December 2007, 17 December 2008, 31 March 2008, 25 June 2008, 7 July 2008 and 11 September 200, 29 September 2008 and 10 October 2008 for all 39 WECs.*
- /7/ The Germanischer Lloyd Certification GmbH: ISO 9001:2008 Certificate, dated 08 February 2010. Valid from 09 February 2010 to 08 February 2013.
- /8/ Enercon India Ltd: Records of tower wise daily and monthly generation details and Maintenance records for the monitoring period (01 October 2011 to 31 December 2012).
- /9/ Enercon India Ltd: Online monitoring system database for the current verification period from 01 October 2011 to 31 December 2012.
- /10/ HESCOM: Power Purchase Agreement signed with M/s. Generacion Eolica India Limited dated 22/11/2007.
- /11/ CDM Team, UNFCCC Secretariat: Email confirmation of MR webhosting, *for project activity 4144 "GEI Wind Power Project in Karnataka, India" for the monitoring period 01 October 2011 to 31 December 2012*, dated 18 March 2013.
- /12/ Enercon India Ltd: Operation agreement with M/s. Generacion Eolica India Limited dated 02 May 2008 Maintenance agreement with M/s. Generacion Eolica India Limited dated 13 June 2008.

Other project documents or documents used by DNV to verify the information provided by the project participants

- /13/ M/s. Generacion Eolica India Limited: *CDM-PDD for project activity* “GEI Wind Power Project in Karnataka, India, version 7.0 of 25 February 2011
- /14/ RINA: *Verification / Certification report for project activity 4144* “GEI Wind Power Project in Karnataka, India *for the monitoring period 01 April 2011 to 30 September 2011*, Report No. 2011-MU-39-MD, rev 1.1.
- /15/ TUV Nord: Validation Report for project activity “GEI Wind Power Project in Karnataka, India” Report No: 53602009 – 09-99, dated 09 March 2011.

Methodologies, tools and other guidance by the CDM Executive Board

- /16/ CDM Executive Board: *Clean Development Mechanism Validation and Verification Standard*, version 03.0
- /17/ CDM Executive Board: *Clean Development Mechanism Project Standard*, version 02.1
- /18/ CDM Executive Board: *Clean Development Mechanism Project Cycle Procedure*, version 03.1
- /19/ CDM Executive Board: *Baseline and monitoring methodology ACM0002*, version 11
- /20/ CDM Executive Board: Post Registration Changes and Request for Issuance: Completeness Check Checklist, Version 0.1
- /21/ CDM Executive Board: Issuance Information and reporting checklist version 1.0
- /22/ CDM Executive Board: Guidelines for completing the monitoring report form, version 03.1.

Persons interviewed during the verification

- /23/ Sri Balaji D Pudi. Engineer/Service. Enercon India Ltd.
- /24/ Ravi Kumar A.M. Enercon India Ltd.
- /25/ Kamal Kishore. Assistant Engineer/Service. Enercon India Ltd.
- /26/ Bhupendra Kumar Verma. Deputy Manager/CDM. Enercon India Ltd.

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APPENDIX A

CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

Corrective action requests

CAR ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 1	The values stated in the ER sheet, Import value for the month of September 2012 and Transmission losses for the months-October to December 2011, January 2012 and April to November 2012, are not found to be consistent with the values in JMR and invoices.	The values have been rectified in ER sheet to match the values of JMR and invoices. Please find attached the revised MR and ER sheet.	The values of Import and Transmission losses in the revised MR /1/ and Excel sheet /2/ (Version 2 dated 03 April 2013) are now consistent with the JMR /3/ and invoices /4/. DNV verified and confirmed that all the values are correctly sourced from the corresponding JMRs. OK Accepted CAR 1 is closed.
CAR 2	The accuracy class of meters mentioned in the MR is not found to be consistent at all places and as per the actual site conditions.	The accuracy class of meters have been rectified in revised MR.	The accuracy class of meters (0.2s) have been made consistent throughout the MR /1/; version 2 dated 03 April 2013 as per the actual site conditions as verified during the site visit. OK Accepted CAR 2 is closed.
CAR 3	The calibration test results were not found to be included in the table presenting the calibration details under section C.	Calibration test results have been included in revised MR and ER sheet.	The results of the calibration are included in the table presenting the calibration details under Section C in the revised MR /1/; Version 02 dated 03 April 2013. DNV confirms that the changes are in accordance with the verified calibration reports. OK Accepted

CAR ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
			CAR 3 is closed.
CAR 4	Shut down and other operational details for the monitoring period have not been mentioned in version 1 of the MR.	Operation details of project have been included in revised MR.	<p>The PP has included the operational details in the revised MR /1/; version 02 dated 03 April 2013. DNV confirms that the operational details incorporated are accurate as verified during the site visit from the monitoring system database.</p> <p>OK Accepted CAR4 is closed.</p>

Clarification requests

CL ID	Clarification request	Response by Project Participants	DNV's assessment of response by Project Participants
CL1	Application of error % of substation bulk meters to account (to the delay in calibration) for arriving at the transmission losses needs to be clarified.	The delay in calibration dates were observed at substation meters. These meters are used to allocate transmission losses to all project and non-project machines connected to substation. A % transmission losses of project and non-project machines are calculated based on 220 KV bulk meter (substation meter) and 33 KV individual metering points of various projects connected to substation. This % transmission loss with Main meter reading of project under consideration gives transmission losses of project. As there was delay in meter calibration at 220 KV bulk meters, a conservative error factor has been applied to these meter readings to achieve conservative transmission losses for project.	<p>It was witnessed during the site visit that the calibration of bulk meters was delayed and no calibration was performed for the period from 22 June 2012 to 24 September 2012, however the subsequent calibration performed on 25 September 2012 confirmed that the errors were within the accuracy class of meters (0.2%). Hence in in line with the guidance provided in VVS para 238 (a) a correction factor due to delay in calibration has been applied to calculate the transmission losses and same has been used for emission reduction calculation.</p> <p>The same is now reflected in the Revised MR /1/ and the Emission Reduction Excel sheet /2/ (Version 03 dated 10 April 2013) .</p> <p>OK Accepted CL 1 is closed.</p>

Forward action requests from previous verification

FAR ID	Forward action request	Summary of how FAR has been addressed in this reporting period	Assessment of how FAR has been addressed
FAR 1	Not Applicable		

Forward action requests from this verification

FAR ID	Forward action request	Response by Project Participants
FAR 1	Not Applicable	

APPENDIX B

POST REGISTRATION CHANGES

Type of post registration change	Description of post registration change*	Is prior approval by CDM EB required**?	In case prior approval by CDM EB is required, when was post registration change approved?
Corrections	Not Applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	DD MMM YYYY
Temporary deviations from the registered monitoring plan and/or monitoring methodology	<i>(Refer also to 3.6 for the assessment of the parameter(s) which were temporarily not monitored)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	DD MMM YYYY (I-DEV-XXXX)
Permanent changes from the registered monitoring plan or applied methodology	Not Applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	<i>Not applicable</i>
Changes to the project design of a registered project activity	Not Applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	<i>Not applicable</i>

* For further details refer to the “Post-registration changes request form” (F-CDM-PRC) and DNV’s assessment opinion on the changes

** Refer to Appendix 1 Appendix 1 to the CDM Project Standard /17/

APPENDIX C

CURRICULA VITAE OF THE VERIFICATION TEAM MEMBERS

Kakaraparthi Venkata Raman: holds a bachelor degree (B.Tech) in Chemical Engineering and a Diploma in Management. He has an overall experience of 18 years in the Chemical Process Industry - Fertilisers and Chemicals industry (FACT). His main areas of work include a) Technical Services (for Ammonia, Urea, Co-generation thermal power plants (captive), and complex fertilizers plants)- 10 years b) Erection, commissioning and hands-on operation of state of art HTAS Ammonia plant - 4 years c) Management and operation of Sulphuric acid plant as Plant Manager- 2 years and d) two years in management Information System operation and assisting of top management in planning of operations..

While in FACT he has completed the ISO14001 EMS LA course and also involved in implementation of Environmental Management Systems and in conducting internal audits.

Experience prior to joining Fertiliser industry include six months experimental work on charcoal manufacture in Karnataka Regional Engineering college.

He has experience of around 5 years in validation and verification of numerous CDM projects. His qualification, industrial experience and experience in CDM demonstrate him sufficient sectoral competence in areas of (a) 1.1 Thermal energy generation from fossil fuels and Biomass as well as thermal electricity from solar (b) 1.2 Energy Generation from renewable energy sources (c) 5.1/4.13/11.1/12.1 Chemical Processes Industries and (d) 13.1 Waste handling and disposal.

Rahul Gopi holds a Bachelor's Degree in Chemical Engineering and has also completed MBA in General management. He has around 3 years of petroleum refinery experience which covers areas such as shift operations, erection, pre commissioning and commissioning activities. He has hands on experience of operations and maintenance of various equipments which include large compressors, catalytic reactors, steam reformers, distillation columns and absorption columns. As a shift field engineer, he also has extensive experience in operation of waste heat recovery sections and optimization of energy (steam and fuel gas) utilization. He was also involved in the commissioning and operation of various units such as LPG Splitter, high pressure hydrogen compressor and in value maximization projects in liquid and gas handling units for enhancing the quality, flexibility and production levels.

His experience in the refinery also covers the fields of quality, safety and environmental management pertaining to standards such as ISO 9001, OSHAS 18001, and ISO 14001. He has experience of more than a year in validation and verification of different CDM projects and has received extensive training in this field. His qualification, industrial experience and experience in CDM demonstrate him sufficient Sectoral competence in areas of (a) 1.2 Energy Generation from renewable energy sources, (b) 4.4 Refinery.

Ms. Arathi Hanumanthappa: Holds a Master's Degree in Environmental Management from the University of New South Wales, Sydney Australia, and a Bachelor Degree in Environmental Science. She has also completed Environmental Auditor Training Requirements under the RBSQA Certification Scheme. Prior to joining DNV she has worked with a host of NGOs including Greenpeace.

She is gaining experience in CDM 3rd party validation/verification services. Her qualification & industrial experience are convening the quick and efficient learning of 3rd party validation/verification services.

Gaurav Srivastava: Gaurav Srivastava holds a Master's Degree in Energy Systems. His educational qualification covers the fields of sustainable development, power plant technology, renewable energy technology, performance of thermal & electrical utilities and project financing. He has completed ISO 14001:2004 - Environmental Management System Auditor / Lead Auditor Program, certified by IRCA.

He has experience of more than five years in validation and verification of numerous CDM projects in DNV, both in India & abroad. His qualification, training and experience in CDM demonstrate his sufficient sectoral competence in energy generation from renewable energy sources.