



RINA

VERIFICATION/CERTIFICATION REPORT

Final

“GEI Wind Power Project in Karnataka, India”


Monitoring period: 01/04/2011 to 30/09/2011

Report N°2011-MU-39-MD

Revision N°1.1



VERIFICATION/CERTIFICATION REPORT

Project Title: GEI Wind Power Project in Karnataka, India	Country: India	Estimated CERs (tCO₂e): 64,095 annual average
CDM Registration Reference N°: 4144	Monitoring period: 01/04/2011 to 30/09/2011	Certified CERs (tCO₂e): 35,209
Client: M/s. Generacion Eolica India Limited	Client contact: Ms. Simona Sacripante	
Report No.: 2011-MU-39-MD	Revision: 1.1	Date of this report: 08/05/2012
Approved by:  Roberto Cavanna		Date of approval: 14/05/2012

Methodology

Number: ACM0002	Version: 11 of 12/02/2010	Title: Consolidated baseline methodology for grid-connected electricity generation from renewable sources	Scale Large	SS(s): 1
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RINA Services S.p.A. (RINA), commissioned by M/s. Generacion Eolica India Limited, has verified of the greenhouse gas emission reductions reported for the project activity "GEI Wind Power Project in Karnataka, India" in India CDM Registration Reference N° 4144, for the period 01/04/2011 to 30/09/2011, with regard to the relevant requirements for CDM activities. The verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable CDM requirements in order to be certified.

The project was validated by TÜV NORD CERT GmbH (validation report N° 53602009 – 09-99 issued on 09/03/2011) and it was registered on 09/03/2011 under the CDM registration reference N° 4144.

The GHG emission reductions were calculated on the basis of the approved methodology ACM0002, version 11, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" of 12/02/2010 and the monitoring plan included in the registered Project Design Document, version 7.0 of 25/02/2011.

In conclusion, it is RINA's opinion that the project activity "GEI Wind Power Project in Karnataka, India", in India, as described in the Monitoring Report version 03 of 23/03/2012, meets all relevant requirements for CDM activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodologies ACM0002, version 11, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" of 12/02/2010. Hence RINA is able to certify that the emission reductions from the project during the monitoring period 01/04/2011 to 30/09/2011 amount to 35,209 tCO₂e

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Keywords:

Climate Change, Kyoto Protocol, Clean Development Mechanism, Verification



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Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CMS	Central Monitoring System
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
GEI	Generacion Eolica India Limited
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HESCOM	Hubli Electricity Supply Company Limited
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
KPTCL	The Karnataka Power Transmission Corporation Limited
LILO	Lingapur by line in line out
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
O&M	Operation and Management
PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PP(s)	Project Participant(s)
PPA	Power Purchase Agreement
Ref.	Document Reference
RINA	RINA Services Spa
SS(s)	Sectoral Scope(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
WEC	Wind Energy Converter

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Appendix A: Verification Protocol

VERIFICATION/CERTIFICATION REPORT

1 INTRODUCTION

M/s. Generacion Eolica India Limited has commissioned RINA to carry out the verification and certification of emission reductions reported for the registered “GEI Wind Power Project in Karnataka, India” project in India. CDM Registration Reference N°4144, for the period 01/04/2011 to 30/09/2011.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The objective of the verification is to have an independent review 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 the DOE that, during a specific time period, a proposed CDM project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The objective of this verification/certification was to verify and certify emission reductions reported for the “GEI Wind Power Project in Karnataka, India” project in India for the period 01/04/2011 to 30/09/2011.

1.2 Scope

The verification scope is:

- to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- to evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- to verify that reported GHG emission data is sufficiently supported by evidence.

Verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable UNFCCC criteria for CDM in order to be certified.

UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, and the subsequent decisions by the CDM Executive Board.

Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

2 METHODOLOGY

Verification was conducted using RINA procedures in line with the requirements specified in the CDM M&P, the latest version of the CDM Validation and Verification Manual, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

The verification consisted of the following three phases:

- Desk review;
- On-site assessment;
- The resolution of outstanding issues and the issuance of the final verification report and certification.

The following sections outline each step in more detail.

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2.1 Desk Review

The monitoring report, version 01.0 of 09/10/2011/02/, version 02 of 12/03/2012, version 03 of 23/03/2012 /02/, the emission reduction calculations provided in the form of a spreadsheet, "CER_2011_GEI" version 03 submitted on 23/03/2012 /11/, were assessed as part of the verification. In addition the Project Design Document (PDD) /01/ in particular the baseline estimations and the monitoring plan, and the validation report, revision 0 of 09/03/2011/05/ for the project were reviewed.

The monitoring report version 01.0 of 09/10/2011 /02/ was made publicly available on the CDM UNFCCC website on 11/11/2011.

The following table lists the documentation that was reviewed during the verification.

/01/	M/s. Generacion Eolica India Limited: CDM-PDD for project activity "GEI Wind Power Project in Karnataka, India" version 7.0 of 25/02/2011
/02/	M/s Generation Eolica India Limited: Monitoring report for project activity "GEI Wind Power Project in Karnataka, India", version 01.0 of 09/10/2011 related to the monitoring period 01/04/2011 to 30/09/2011. M/s Generation Eolica India Limited: Monitoring report for project activity "GEI Wind Power Project in Karnataka, India", version 02 of 12/03/2012 related to the monitoring period 01/04/2011 to 30/09/2011. M/s Generation Eolica India Limited: Monitoring report for project activity "GEI Wind Power Project in Karnataka, India", version 03 of 23/03/2012 related to the monitoring period 01/04/2011 to 30/09/2011.
/03/	CDM Executive Board: Validation and Verification Manual, version 01.2 of 30/07/2010
/04/	CDM Executive Board: Baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 11 of 12/02/2010
/05/	TÜV NORD CERT GmbH: Validation Report, Report No: 53602009-09-99 dated 09/03/2011
/06/	Karnataka Power Transmission Corporation Limited: Commissioning certificates, Certificate no. EEE/TL&SS/GDG/1152-67 dated 13/10/2008, Certificate no. EEE/TL&SS/GDG/950-60 dated 12/09/2008, Certificate no. EEE/TL&SS/GDG/1724-33 dated 18/12/2007, Certificate no. EEE/TL&SS/GDG/1059-69 dated 30/09/2008, Certificate no. EEE/TL&SS/GDG/2375-86 dated 17/03/2008, Certificate no. EEE/TL&SS/GDG/436-46 dated 26/06/2008 and Certificate no. EEE/TL&SS/GDG/544-54 dated 08/07/2008
/07/	Hubli Electricity Supply Company Limited: Meter Test report for the meters with Sl. No. 05389382 and 07022924, RR no.GDG/TL&SS/WK/GEI/KHRT/106 dated 02/11/2010 and 28/04/2011.
/08/	M/s. Generacion Eolica India Limited: Invoice copies to Hubli Electricity Supply Company Limited April: In no. GEI/GP/041/2011-12 dated 07/05/2011; May: In no. GEI/GP/042/2011-12 dated 07/06/2011; June: In no. GEI/GP/043/2011-12 dated 07/07/2011; July: In no. GEI/GP/044/2011-12 dated 06/08/2011; August: In no. GEI/GP/045/2011-12 dated 09/09/2011; September: In no. GEI/GP/046/2011-12 dated 10/10/2011
/09/	Cheque No. 659936, to M/s. Generacion Eolica India Limited dated 20/06/2011. Payment towards the invoices for the month of March and April 2011.
/10/	Enercon (India) Limited: Technical specification for the WEC model E53 of capacity 800 kW
/11/	M/s Generation Eolica India Limited: Emission reduction spread sheet (ER Calc_GEI_ver3_23 March), version 03, dated 23/03/2012 M/s Generation Eolica India Limited: Emission reduction spread sheet (ER Calc_GEI_ver2_12 March), version 02, dated 12/03/2012 M/s Generation Eolica India Limited: Emission reduction spread sheet (CER_2011_GEI.xls), version 01, dated 09/10/2011

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/12/	Central Electricity Authority: "CO ₂ Baseline Database for Indian Power Sector", version 04 dated 10/2008.
/13/	CDM Executive Board: "Guidelines for assessing compliance with the calibration frequency requirements" version 01, dated 12/02/2010, EB 52, Annex 60
/14/	Ministry of Environment and Forests, Government of India: Host Country Approval, letter no. 4/7/2008-CCC dated 03/10/2008
/15/	Hubli Electricity Supply Company Limited and M/s. Generacion Eolica India Limited: Power Purchase Agreement dated 22/11/2007
/16/	CDM Executive Board: "Guidelines for completing the Monitoring Report form" version 01, dated 28/05/2010, EB 54, Annex 34
/17/	CDM Executive Board: "Tool to calculate the emission factor for an electricity system", version 02 dated 16/10/2009
/18/	CDM Executive Board: "Tool for the demonstration and assessment of additionality", Version 05.2 dated 26/08/2008
/19/	Karnataka Power Transmission Corporation Limited: Calibration Test reports of bulk meters located at 220 Kv station Harti (Enercon), dated 25/06/2010 and dated 22/06/2011.
/20/	Hubli Electricity Supply Company Limited: B-Forms(Joint Meter Reading), for the period 01/04/2011 to 30/09/2011.
/21/	GL(The Germanischer Lloyd Certification GmbH): ISO 9001-2008 , Certificate no: QS-898HH, dated 08/02/2010 valid till 08/02/2013.
/22/	Indian Wind Energy Association: http://www.inwea.org/aboutwindenergy.htm (to check the peak season), English Language, retrieved on 23/03/2012.
/23/	Enercon's training academy: Training certificate, dated 09/02/2009

2.2 On-site assessment

On 13/12/2011, RINA visited Harthi, Kurthkoti & Malasamudra villages in Gadag district of Karnataka state in India. During the on-site assessment of the project RINA assessed the implementation and operation of the proposed project activity and noted that the equipments and system were accessible, reviewed the information flows for generating, aggregating and reporting the monitoring parameters, interviewed key personnel of the plant to confirm the operational and data collection procedures, cross-checked between information provided in the monitoring report and data plant, checked the monitoring equipment including calibration performance, reviewed calculations and assumptions made in determining the GHG data and emission reductions, checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

The key personnel interviewed and the main topics of the interviews are summarized in the table below.

	Date	Name and Role	Organization	Topic
/a/	13/12/2011	Anindita Bandyopadhyay, Assistant Manager – CDM	Enercon (India) Ltd.	Implementation of the project activity, Emission Reduction calculations
/b/	13/12/2011	Ashok Shintre, Manager – Service	Enercon (India) Ltd.	Monitoring of data, CMS, operation and maintenance of the WECs and meters, exporting facility to the grid
/c/	12/03/2012	Mallika Bose, Deputy Manager	Enercon (India) Ltd.	Monitoring report and Emission Reduction calculations.

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2.3 Resolution of outstanding issues

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for RINA's positive conclusion on the monitoring report and emission reductions.

To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria.

The verification protocol consists of four tables; the different columns in these tables are described in the figure below (see Figure 1). The completed verification protocol is enclosed in Appendix A to this report.

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

A clarification request (CL) is 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 raised during verification for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

CARs, CLs and FARs identified are included in the verification protocol in Appendix A of this report.

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Figure 1 Verification protocol tables

Verification Protocol, Table 1 - Requirement checklist					
Checklist Question	Ref.	MoV	Comments	Draft Conclusion	Final Conclusion
The checklist is organized in two different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements. For CAR, CL and FAR see the definitions above.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements.

Verification Protocol, Table 2 - Resolution of Corrective Action Requests and Clarification			
Corrective action requests and/or clarification requests	Reference to Table 1	Response by project participants	Verification conclusion
The CAR and/or CLs raised in table 1 are repeated here.	Reference to the checklist question number in Table 1 where the CAR or CL is explained.	The responses given by the project participants to address the CARs and/or CLs.	The verification team's assessment and final conclusion of the CARs and/or CLs.

Verification Protocol, Table 3 - Forward Action Requests		
Forward action request	Reference to Table 1	Response by project participants Verification conclusion
The FAR raised in table 1 is repeated here.	Reference to the checklist question number in Table 1 where the FAR is explained.	Response by the project participants on how forward action request will be addressed.

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2.4 Internal quality control

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent RINA instructions.

The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for CDM validation and verification.

2.5 Verification team and the technical reviewer(s)

The verification team and the technical reviewers consist of the following personnel:

Role	Last Name	First Name	Country
Team Leader CDM	Menon	Rekha	India
CDM Verifier & Technical Expert CDM	Pallipogu	Sateesh Kumar	India
Technical Reviewer	Badhwar	Naresh	India
Technical Reviewer	Valoroso	Rita	Italy
Technical Reviewer in Training – Technical Expert	Tong	Wing Yu	Italy

3 VERIFICATION FINDINGS

The findings of the verification related to the monitoring period from 01/04/2011 to 30/09/2011 as documented and described in the updated monitoring report version 03 of 23/03/2012 , version 02 of 12/03/2012 and version 01.0 of 09/10/2011/02/ are stated in the following sections.

The verification requirements, the means of verification and the results from verifying the identified criteria are documented in more detail in the verification protocol in Appendix A.

3.1 Description of the project activity

The main information of the project is summarized in the table below.

Project Participant(s)	M/s. Generacion Eolica India Limited		
Project Title	GEI Wind Power Project in Karnataka, India		
Location of the project	India		
Methodology(ies)	"ACM0002", " Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 11 of 12/02/2010 /04/		
Sectoral Scope(s)	1	RINA's Technical Area(s)	1.2
Registered PDD	Revision 7.0 of 25/02/2011 /01/		
Date of registration	09/03/2011	CDM Registration Reference N°	4144

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Starting date of the crediting period	01/04/2011
Project's crediting period	01/04/2011 to 31/03/2021
Monitoring period	01/04/2011 to 30/09/2011
Project documentation link	http://cdm.unfccc.int/Projects/DB/RWTUV1290591737.68/view

As per the registered PDD /01/, the purpose of the CDM project activity "GEI Wind Power Project in Karnataka", India is to utilize renewable wind energy for the generation of electricity. The project activity is to install and operate 39 WEC's with each machine having a capacity of 800 kW.

Further details on project implementation are explained in section 3.3 of this report

3.2 Remaining issues (FARs) from previous validation or verification

Based on the review of the validation report /05/ no FAR is raised during the validation and hence there are no remaining issues from previous validation; this is the first verification.

3.3 Project implementation

RINA has performed an onsite visit to verify the real implementation of the project against the description in its registered PDD and found that: 39 WEC's of E-53 (Enercon make) having an installed capacity of 800 kW each are in place as described in the registered PDD /01/, and the total installed capacity of the project activity is 31.2 MW, which was confirmed through the observation of the details mentioned on the WEC's and the B-forms (Joint Meter Readings) /20/ and the commissioning certificates of the WEC's /06/. The first machine of the project activity was put into operation on 17/12/2007 and the last machine was put into operation on 10/10/2008. This was also crosschecked with the commissioning certificates /06/. Other facilities and equipments such as the transformers, transmission lines, etc. as mentioned in the registered PDD are also in place and operated by the PP as per the description in the registered PDD.

As shown in the line diagram of metering system in the MR, section C /02/ and based on the site visit, the electricity generated by the project is delivered to Southern Grid. The WECs generates 3-phase power at 400V, which is stepped up to 33 KV at the Project site and further stepped up to 220 KV at the Receiving sub - station at Nagavi village, Gadag in the close vicinity of the existing 220 KV DC line between Hubli and Lingapur by line in line out (LILO) of both 220 KV circuits, for the purpose of interconnection with the KPTCL/HESCOM grid at the sub-station of the KPTCL/HESCOM. For monitoring, there is one main and check meter dedicated to the machines of the project activity at 33 kV metering point (billing point). The 33 kV metering points are further connected to step up transformers and subsequently to the bulk meters (there are three sets of main and check meters as bulk meter) at 220 kV metering point for the machines of the project activity at the Enercon substation, which is in compliance with the description in the registered PDD /01/.

During the site visit, no changes have been observed or identified which may impact the additionality as there was no change in the effective output capacity, no addition of component nor extension of technology, no addition nor removal of project sites, no change of values of the actual operational parameter relevant to determination of emission reductions; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology ACM0002 version 11 /04/.

In conclusion, RINA is able to confirm that the implementation and operation of the project during the second monitoring period is consistent with the registered PDD /01/; the information provided in the MR , version 03/02/ is also in accordance with the description of the registered PDD.

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3.4 Methodology for determining Emission Reductions.

According to the applied methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 11 of 12/02/2010 /04/, the emission reductions have been calculated base on the following formula:

$$ER_y = BE_y - PE_y$$

ER_y: Emission reductions achieved during the year y

BE_y: Baseline Emissions in year y (t CO₂e/yr)

PE_y: Project Emissions in year y (t CO₂e/yr)

$$BE_y = EG_y * EF_y$$

EG_y = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

EF_y = CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” tCO₂/MWh)

PE_y is 0 since the project activity uses wind power to generate electricity and hence the emissions from the project activity have been taken as zero and the registered PDD /01/.

Ly is 0 since the methodology ACM0002 doesn't consider leakage.

RINA confirms that appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed.

3.4.1 Compliance of the monitoring plan with the monitoring methodology

The monitoring plan of the project activity is in accordance with the approved monitoring methodology, ACM0002, version 11 of 12/02/2010 /04/ applied by the CDM project activity. Neither a revision nor a deviation of monitoring plan has been requested to the CDM executive board.

3.4.2 Compliance of monitoring with monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD, version 7.0 of 25/02/2011 /01/ and approved monitoring methodology, ACM0002, version 11 of 12/02/2010 /04/. The following parameters have been monitored in accordance with the monitoring plan in the registered PDD /01/ and the monitoring report, version 03 /02/.

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3.4.2.1 Data fixed ex-ante

DATA/PARAMETER	Source of data	Reported value for the project period	Assessment/Observation
$EF_{grid,OM,y}$	Data from registered PDD /01/ and validation report /05/	0.998157	This is a ex-ante fixed value for the crediting period as per the registered PDD, which has been justified and validated by validation DOE following the applied methodology and tool and already approved by EB.
$EF_{grid,BM,y}$	Data from registered PDD /01/ and validation report /05/	0.71332	This is a ex-ante fixed value for the crediting period as per the registered PDD, which has been justified and validated by validation DOE following the applied methodology and tool and already approved by EB.
$EF_{grid,CM,y}$	Data from registered PDD /01/ and validation report /05/	0.92694	This is a ex-ante fixed value for the crediting period as per the registered PDD, which has been justified and validated by validation DOE following the applied methodology and tool and already approved by EB.

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3.4.2.2 Monitored data

DATA/PARAMETER	EG _y																																															
Data Unit	MWh																																															
Description	Net electricity supplied to the grid by the project																																															
Source of data to be used	Tariff invoices rose to KPTCH/HESCOM and Joint Meter Reading (form-B) taken at 33 kV metering point.																																															
Value data for the monitoring period	37,984																																															
Measuring frequency	The value is calculated base on the continous readings measured by the main meter and check meter at 33 kV line and three sets of main and check meters at 220 kV line. (Net electricity supplied to the grid = Gross electricity generated – 115% of Import – Transmission loss)																																															
Reporting frequency and recording procedure	Measured continuously and recorded and reported monthly, which is in accordance with the monitoring plan and monitoring methodology /04/.																																															
Type of monitoring equipment	<div>Data measured by the main and check meters at 33 kV and 220 kV metering point and detailed information of the meters /07/ /19/ are listed in the following table:</div> <table><tr><td>33 kV metering point.</td><td>Serial No</td><td>Manufacturer</td><td>Accuracy</td></tr><tr><td>Main meter</td><td>05389382</td><td>L&T</td><td>0.2s</td></tr><tr><td>Check meter</td><td>07022924</td><td>L&T</td><td>0.2s</td></tr></table> <table><tr><td>220 kV metering point.</td><td>Serial No</td><td>Manufacturer</td><td>Model</td><td>Accuracy</td></tr><tr><td>Main meter</td><td>07022944</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr><tr><td>Check meter</td><td>07022903</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr><tr><td>Main meter</td><td>07022908</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr><tr><td>Check meter</td><td>07022915</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr><tr><td>Main meter</td><td>06760786</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr><tr><td>Check meter</td><td>06767587</td><td>L&T</td><td>ER300P</td><td>0.5s</td></tr></table>	33 kV metering point.	Serial No	Manufacturer	Accuracy	Main meter	05389382	L&T	0.2s	Check meter	07022924	L&T	0.2s	220 kV metering point.	Serial No	Manufacturer	Model	Accuracy	Main meter	07022944	L&T	ER300P	0.5s	Check meter	07022903	L&T	ER300P	0.5s	Main meter	07022908	L&T	ER300P	0.5s	Check meter	07022915	L&T	ER300P	0.5s	Main meter	06760786	L&T	ER300P	0.5s	Check meter	06767587	L&T	ER300P	0.5s
33 kV metering point.	Serial No	Manufacturer	Accuracy																																													
Main meter	05389382	L&T	0.2s																																													
Check meter	07022924	L&T	0.2s																																													
220 kV metering point.	Serial No	Manufacturer	Model	Accuracy																																												
Main meter	07022944	L&T	ER300P	0.5s																																												
Check meter	07022903	L&T	ER300P	0.5s																																												
Main meter	07022908	L&T	ER300P	0.5s																																												
Check meter	07022915	L&T	ER300P	0.5s																																												
Main meter	06760786	L&T	ER300P	0.5s																																												
Check meter	06767587	L&T	ER300P	0.5s																																												
Is accuracy of the monitoring equipment as stated in the PDD?	The accuracy of the main and check meters at 33 kV metering point is in compliance with the registered PDD /01/.																																															
Calibration frequency/interval	<div>The detailed information of calibration for main and check meters at 33 kV metering is listed in the following table:</div> <table><tr><td>Meter</td><td>Main meter</td><td>Check meter</td></tr><tr><td>Calibration frequency</td><td colspan="2">Once a year</td></tr><tr><td>Calibration Entity</td><td colspan="2">Hubli Electricity Supply Company Limited.</td></tr><tr><td>Calibration date</td><td colspan="2">02/11/2010 28/04/2011</td></tr><tr><td>Validitv period</td><td colspan="2">From 02/11/2010 to 01/11/2011</td></tr></table>	Meter	Main meter	Check meter	Calibration frequency	Once a year		Calibration Entity	Hubli Electricity Supply Company Limited.		Calibration date	02/11/2010 28/04/2011		Validitv period	From 02/11/2010 to 01/11/2011																																	
Meter	Main meter	Check meter																																														
Calibration frequency	Once a year																																															
Calibration Entity	Hubli Electricity Supply Company Limited.																																															
Calibration date	02/11/2010 28/04/2011																																															
Validitv period	From 02/11/2010 to 01/11/2011																																															

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	<table><tr><td></td><td>From 28/04/2011 to 27/04/2012</td></tr></table> <p>The detailed information of the main and check meters at 220kV metering is listed in the following table</p> <table><tr><td>Meter</td><td>Main meter</td><td>Check meter</td></tr><tr><td>Calibration frequency</td><td colspan="2">Once a year</td></tr><tr><td>Calibration Entity</td><td colspan="2">Hubli Electricity Supply Company Limited.</td></tr><tr><td>Calibration date</td><td colspan="2">25/06/2010 22/06/2011</td></tr><tr><td>Validity period</td><td colspan="2">From 25/06/2010 to 24/06/2011 From 22/06/2011 to 21/06/2012</td></tr></table> <p>The calibration frequency of main and check meters are once a year, which is consistent with the registered MP /01/. The validity period of the calibration was from 02/11/2010 to 27/04/2012 for meters at 33 kV metering points and 25/06/2010 to 21/06/2012 for meters at 220kV metering points (Enercon sub-station), which covers this whole first verification monitoring period from 01/04/2011 to 30/09/2011. The calibration certificates /07/ /19/ confirm that meters are in proper function and no errors reported beyond the permissible limits.</p>		From 28/04/2011 to 27/04/2012	Meter	Main meter	Check meter	Calibration frequency	Once a year		Calibration Entity	Hubli Electricity Supply Company Limited.		Calibration date	25/06/2010 22/06/2011		Validity period	From 25/06/2010 to 24/06/2011 From 22/06/2011 to 21/06/2012	
	From 28/04/2011 to 27/04/2012																	
Meter	Main meter	Check meter																
Calibration frequency	Once a year																	
Calibration Entity	Hubli Electricity Supply Company Limited.																	
Calibration date	25/06/2010 22/06/2011																	
Validity period	From 25/06/2010 to 24/06/2011 From 22/06/2011 to 21/06/2012																	
Is the calibration interval in line with the monitoring plan of the PDD?	Yes, the calibration interval is once in an year, which is in line with the monitoring plan of the registered PDD /01/.																	
How were the values in the monitoring report verified and cross-checked?	RINA has verified the data in monitoring report /02/ against the monthly Joint meter readings (Form-B) /20/, and further double-checked against the respective invoices /08/ and PPA signed between Generacion Eolica India Limited and Hubli Electricity Supply Company Limited /15/ which is in line with the requirements of the registered monitoring plan and ACM0002 version 11 /04/. All the data are consistent.																	
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	<p>As confirmed by the on-site visit, the operational and management structure set up by the project developer can ensure correct transfer of data and ER reporting.</p> <p>For this implemented project, electricity supplied to southern grid is measured continuously and reported monthly by main meters and check meters at 33 kV metering point (billing point). The 33 kV metering points are further connected to step up transformers and subsequently to the bulk meters (there are three sets of main and check meters as bulk meter) at 220 kV metering point for the machines of the project activity at the Enercon substation.</p> <p>In order to determine the net electricity supplied to the grid by the project at 220 kV at the Enercon sub-station, the State utility applies the transmission loss to the meter reading recorded at 33 kV metering point. The reading at 33 kV metering point will be taken by the representatives of Enercon and the State utility. This reading is recorded in the form of JMR (Form B) and is signed by the representatives of Enercon and State Utility. This was checked with the Form-B (JMR) /20/ and found to be appropriate. The O&M team is responsible for data collection and finally the CDM</p>																	

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	Coordinator will review it as per the Operation and Management structure /01/. The data are collected monthly in a transparent manner and the O & M team members are responsible for data collecting and archiving as well as the cross checked against sales invoices /08/. This procedure of data management can ensure correct transfer of data and reporting of emission reductions.
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Not applicable since all the data has been correctly monitored, recorded , available for the complete monitoring period and provided as per the ACM0002 version 11 /04/ and registered PDD /01/ for the monitoring period.

VERIFICATION/CERTIFICATION REPORT

DATA/PARAMETER	Gpe																		
Data Unit	MWh																		
Description	Electricity Exported recorded at the meter(s) connected 39 machines of the project activity																		
Source of data to be used	Electricity export to the grid as per Joint Meter Reading (Form B) taken at 33 kV metering point.																		
Value data for the monitoring period	38,208																		
Measuring frequency	Measured continuously by the main meter and check meter at 33 kV line and both the meters are two-way trivector meters.																		
Reporting frequency and recording procedure	Measured continuously and recorded and reported monthly, which is in accordance with the monitoring plan and monitoring methodology /04/.																		
Type of monitoring equipment	<div>Data measured by the main and check meters at 33 kV and 220 kV metering point and detailed information of the meters /07/ are listed in the following table:</div> <table><tr><td>33 kV metering point.</td><td>Serial No</td><td>Manufacturer</td><td>Accuracy</td></tr><tr><td>Main meter</td><td>05389382</td><td>L&T</td><td>0.2s</td></tr><tr><td>Check meter</td><td>07022924</td><td>L&T</td><td>0.2s</td></tr></table>				33 kV metering point.	Serial No	Manufacturer	Accuracy	Main meter	05389382	L&T	0.2s	Check meter	07022924	L&T	0.2s			
33 kV metering point.	Serial No	Manufacturer	Accuracy																
Main meter	05389382	L&T	0.2s																
Check meter	07022924	L&T	0.2s																
Is accuracy of the monitoring equipment as stated in the PDD?	The accuracy of the main and check meters at 33 kV metering point is in compliance with the registered PDD /01/.																		
Calibration frequency/interval	<div>The detailed information of calibration for main and check meters at 33 kV metering is listed in the following table:</div> <table><tr><td>Meter</td><td>Main meter</td><td>Check meter</td></tr><tr><td>Calibration frequency</td><td colspan="2">Once a year</td></tr><tr><td>Calibration Entity</td><td colspan="2">Hubli Electricity Supply Company Limited.</td></tr><tr><td>Calibration date</td><td colspan="2">02/11/2010 28/04/2011</td></tr><tr><td>Validity period</td><td colspan="2">From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012</td></tr></table> <div>The calibration frequency of main and check meters are once a year, which is consistent with the registered MP /01/. The validity period of the calibration was from 02/11/2010 to 27/04/2012, which covers this whole first verification monitoring period from 01/04/2011 to 30/09/2011. The calibration certificates /07/ confirm that meters are in proper function and no errors reported beyond the permissible limits.</div>				Meter	Main meter	Check meter	Calibration frequency	Once a year		Calibration Entity	Hubli Electricity Supply Company Limited.		Calibration date	02/11/2010 28/04/2011		Validity period	From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012	
Meter	Main meter	Check meter																	
Calibration frequency	Once a year																		
Calibration Entity	Hubli Electricity Supply Company Limited.																		
Calibration date	02/11/2010 28/04/2011																		
Validity period	From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012																		
Is the calibration interval in line with the monitoring plan of the PDD?	Yes, the calibration interval is once in an year, which is inline with the monitoring plan of the registered PDD /01/.																		

VERIFICATION/CERTIFICATION REPORT

<p>How were the values in the monitoring report verified and cross-checked?</p>	<p>RINA has verified the data in monitoring report /02/ against the monthly Joint meter readings (Form-B) /20/, and further double-checked against the respective invoices /08/ and PPA signed between Generacion Eolica India Limited and Hubli Electricity Supply Company Limited /15/ which is in line with the requirements of the registered monitoring plan and ACM0002 version 11 /04/.</p>
<p>Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?</p>	<p>As confirmed by the on-site visit, the operational and management structure set up by the project developer can ensure correct transfer of data and ER reporting.</p> <p>For this implemented project, electricity supplied to southern grid is measured continuously and reported monthly by main meters and check meters at 33 kV metering point (billing point). The readings at 33 kV metering point will be taken by the representatives of Enercon and the State utility. This reading is recorded in the form of JMR (Form B) and is signed by the representatives of Enercon and State Utility. This was checked with the Form-B (JMR) /20/ and found to be appropriate. The O&M team is responsible for data collection and finally the CDM Coordinator will review it as per the Operation and Management structure /01/. The data are collected monthly in a transparent manner and the O & M team members are responsible for data collecting and archiving as well as the cross checked against sales invoices /08/. This procedure of data management can ensure correct transfer of data and reporting of emission reductions.</p>
<p>If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?</p>	<p>Not applicable since all the data has been correctly monitored, recorded and provided as per the ACM0002 version 11 /04/ and registered PDD /01/ for the monitoring period.</p>

VERIFICATION/CERTIFICATION REPORT

DATA/PARAMETER	Gpi																		
Data Unit	MWh																		
Description	Electricity imported recorded at the meter(s) connected 39 machines of the project activity																		
Source of data to be used	Electricity export to the grid as per Joint Meter Reading (Form B) taken at 33 kV metering point.																		
Value data for the monitoring period	8.97																		
Measuring frequency	Measured continuously by the main meter and check meter at 33 kV line and both the meters are two-way trivector meters.																		
Reporting frequency and recording procedure	Measured continuously and recorded and reported monthly, which is in accordance with the monitoring plan and monitoring methodology /04/_.																		
Type of monitoring equipment	<div>Data measured by the main and check meters at 33 kV and 220 kV metering point and detailed information of the meters /07/ are listed in the following table:</div> <table><tr><td>33 kV metering point.</td><td>Serial No</td><td>Manufacturer</td><td>Accuracy</td></tr><tr><td>Main meter</td><td>05389382</td><td>L&T</td><td>0.2s</td></tr><tr><td>Check meter</td><td>07022924</td><td>L&T</td><td>0.2s</td></tr></table>				33 kV metering point.	Serial No	Manufacturer	Accuracy	Main meter	05389382	L&T	0.2s	Check meter	07022924	L&T	0.2s			
33 kV metering point.	Serial No	Manufacturer	Accuracy																
Main meter	05389382	L&T	0.2s																
Check meter	07022924	L&T	0.2s																
Is accuracy of the monitoring equipment as stated in the PDD?	The accuracy of the main and check meters at 33 kV metering point is in compliance with the registered PDD /01/.																		
Calibration frequency/interval	<div>The detailed information of calibration for main and check meters at 33 kV metering is listed in the following table:</div> <table><tr><td>Meter</td><td>Main meter</td><td>Check meter</td></tr><tr><td>Calibration frequency</td><td colspan="2">Once a year</td></tr><tr><td>Calibration Entity</td><td colspan="2">Hubli Electricity Supply Company Limited.</td></tr><tr><td>Calibration date</td><td colspan="2">02/11/2010 28/04/2011</td></tr><tr><td>Validity period</td><td colspan="2">From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012</td></tr></table> <div>The calibration frequency of main and check meters are once a year, which is consistent with the registered MP /01/. The validity period of the calibration was from 02/11/2010 to 27/04/2012, which covers this whole first verification monitoring period from 01/04/2011 to 30/09/2011. The calibration certificates /07/ confirm that meters are in proper function and no errors reported beyond the permissible limits.</div>				Meter	Main meter	Check meter	Calibration frequency	Once a year		Calibration Entity	Hubli Electricity Supply Company Limited.		Calibration date	02/11/2010 28/04/2011		Validity period	From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012	
Meter	Main meter	Check meter																	
Calibration frequency	Once a year																		
Calibration Entity	Hubli Electricity Supply Company Limited.																		
Calibration date	02/11/2010 28/04/2011																		
Validity period	From 02/11/2010 to 01/11/2011 From 28/04/2011 to 27/04/2012																		
Is the calibration interval in line with the monitoring plan of the PDD?	Yes, the calibration interval is once in an year, which is in line with the monitoring plan of the registered PDD /01/.																		

VERIFICATION/CERTIFICATION REPORT

<p>How were the values in the monitoring report verified and cross-checked?</p>	<p>RINA has verified the data in monitoring report /02/ against the monthly Joint meter readings (Form-B) /20/, and further double-checked against the respective invoices /08/ and PPA signed between Generacion Eolica India Limited and Hubli Electricity Supply Company Limited /15/ which is in line with the requirements of the registered monitoring plan and ACM0002 version 11 /04/.</p>
<p>Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?</p>	<p>As confirmed by the on-site visit, the operational and management structure set up by the project developer can ensure correct transfer of data and ER reporting.</p> <p>For this implemented project, electricity supplied to southern grid is measured continuously and reported monthly by main meters and check meters at 33 kV metering point (billing point). The readings at 33 kV metering point will be taken by the representatives of Enercon and the State utility. This reading is recorded in the form of JMR (Form B) and is signed by the representatives of Enercon and State Utility. This was checked with the Form-B (JMR)/20/and found to be appropriate. The O&M team is responsible for data collection and finally the CDM Coordinator will review it as per the Operation and Management structure /01/. The data are collected monthly in a transparent manner and the O & M team members are responsible for data collecting and archiving as well as the cross checked against sales invoices /08/. This procedure of data management can ensure correct transfer of data and reporting of emission reductions.</p>
<p>If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?</p>	<p>Not applicable since all the data has been correctly monitored, recorded and provided as per the ACM0002 version 11 /04/ and registered PDD /01/ for the monitoring period.</p>

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DATA/PARAMETER	Li
Data Unit	MWh
Description	Transmission loss between the metering point for the project activity feeding the pooling substation of Enercon and the metering point at EB Substation.
Source of data to be used	Transmission Loss will be directly applied from the Joint Meter Reading (Form B) for the project activity.
Value data for the monitoring period	215
Measuring frequency	Transimission loss between the metering point feeding the pooling susbtation of Enercon and the metering point at the EB substation is applied to the meter reading taken at the feeder connecting 39 turbines of the project activity and feeding the pooling substation of Enercon . This value is determined by the state utility and also reflected in JMR /20/. This procedure is completely under the control of state utility. The same was confirmed by interacting with the O&M personnel at site and also with the PPA /15/.
Reporting frequency and recording procedure	The reporting frequency is monthly, which is as per the registered PDD /01/.
Type of monitoring equipment	Not applicable
Is accuracy of the monitoring equipment as stated in the PDD?	Not applicable
Calibration frequency/interval	Not applicable
Is the calibration interval in line with the monitoring plan of the PDD?	Not applicable
How were the values in the monitoring report verified and cross-checked?	RINA has verified the data in monitoring report /02/ against the monthly Joint meter readings (Form-B) /20/, and further double-checked against the respective invoices /08/ and PPA signed between Generacion Eolica India Limited and Hubli Electricity Supply Company Limited /15/ which is in line with the requirements of the registered monitoring plan and ACM0002 version 11 /04/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	This value is determined by the state utility and also reflected in JMR. This procedure is completely under the control of state utility. The same was confirmed by interacting with the O&M personnel at site and also with the PPA /15/.
If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for	Not applicable since all the data has been correctly monitored, recorded and provided as per the ACM0002 version 11 /04/ and registered PDD /01/ for the monitoring period.

VERIFICATION/CERTIFICATION REPORT

deviation been approved?	
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3.4.3 Accuracy of emission reduction calculations

The emission reduction calculations provided in the spreadsheet /11/ have been verified to be correct and in line with the registered PDD /01/.

The emission reductions from the project for the monitoring period as reported in the monitoring report version 03 of 23/03/2012 /02/ is calculated to be 35,209 tCO₂e. The reported emission reductions are 9.865% higher than the estimated emission reduction of 32,048 tCO₂e (equivalent to six months of the expected annual emission reductions of 64,095 in the registered PDD) for the period as per the registered PDD /01/. The increase in the emission reductions were found due to the increase in the PLF of 27.7% from 25.3% as reported in the PDD /01/. This increase in the PLF of 9.56% was because of the monitoring period chosen for the project activity falls under the peak season. The same was crosschecked with the weblink /22/ provided by PP from Indian Wind Energy Association. The link mentions that the during the period of March to August, the winds are uniformly stronger over the whole Indian peninsula, except eastern peninsula. The project activity falls in the southern peninsula. Thus, the claim made by PP that the PLF during the monitoring period covers the peak wind season was accepted by RINA. Further it is also checked from the registered PDD that the returns from the project doesn't cross the benchmark even with increase in 10% PLF. Thus the project doesn't impact the additionality.

The data presented in the monitoring report, version 03 /02/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidence was presented and verified by RINA for the reported emission reductions as listed in the above Section 3.4.2.2.

3.4.4 Management system and quality control

Data was collected based on a data collection procedure as described in the registered PDD /01/.

1. Data of electricity supplied to and drawn from southern grid is measured hourly and recorded monthly;
2. The joint meter readings (form-B) issued by Hubli Electricity Supply Company Limited to M/s Generation Eolica India Limited is used to check the meter readings further crosschecked with the invoices issued by the project owner.
3. Quality of records of meter readings is assured by calibration of meters;

The monitoring and reporting of electricity data is in accordance with well established operational procedures. The site visit confirmed that the management system for the CDM project is in place and can be traced, such as the organizational structure with responsibilities, monitoring procedure and monitoring management, internal audit and competence criteria of CDM personnel involved in the CDM project. The Operation and the Management of the project activity is handled by the O&M team (Enercon India Pvt Ltd). Since the O&M provider is also an ISO certified organization, the same would also take care of the training to be provided to the O&M personnel. RINA confirmed the same with the registered PDD and also crosschecked with the training certificates /23/.

VERIFICATION/CERTIFICATION REPORT

4 VERIFICATION AND CERTIFICATION OPINION

RINA Service Spa (RINA) has performed verification of the emission reductions reported for the project activity "GEI Wind Power Project in Karnataka, India" in India, CDM Registration Reference N° 4144, for the period 01/04/2011 to 30/09/2011, with regard to the relevant requirements for CDM activities.

The project participants of the "GEI Wind Power Project in Karnataka, India", project are responsible for

- the preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered project design document version 7.0 of 25/02/2011
- the development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project

It is the responsibility of RINA to express an independent verification opinion about the project's conformity with the requirements of paragraph 62 of the CDM modalities and procedures and on the reported greenhouse gas emission reductions from the project.

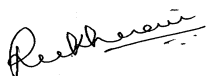
Based on documented evidence and corroborated by an on-site assessment RINA can confirm that:

- the project has been implemented and operated as per the registered PDD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable CDM requirements;
- the monitoring is in place as per the applied baseline and monitoring methodology;
- the monitoring complies with the monitoring plan in the registered PDD;
- the monitoring plan in the registered PDD is as per the applied baseline and monitoring methodology.

It is RINA's opinion that the GHG emission reduction stated in the monitoring report version 03 of 23/03/2012 for the "GEI Wind Power Project in Karnataka, India" project in India for the period 01/04/2011 to 30/09/2011 are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 11 of 12/02/2010 and the monitoring plan contained in the registered.

Hence RINA is able to certify that the emission reductions from the project during the monitoring period 01/04/2011 to 30/09/2011 amount to 35,209 tCO₂e.

India, 09/05/2012



Rekha Menon
CDM Team Leader
RINA India Pvt Ltd

Genova, 14/05/2012



Laura Severino
Authorized officer signing for the DOE
RINA Services S.p.A.

APPENDIX A

VERIFICATION PROTOCOL

TABLE 1 REQUIREMENTS CHECK LIST

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion																																			
A Description of Project Activity																																									
A.1	Title of the project activity, revision number and date of Monitoring Report	/01/, /02/	DR	The title of the project activity is “GEI Wind Power Project in Karnataka, India”. The revision number of the monitoring report is 01.0 dated 09/10/2011. However the title of the project activity mentioned in the monitoring report is not matching with the registered PDD. PP is requested to clarify the same.	CAR-1	OK																																			
A.2	Is the actual implementation and operation of the proposed project activity in accordance with the project activity in the registered PDD?	/01/, /02/, /06/	DR, I	<p>The project activity is registered under CDM program with UNFCCC on 09/03/2011. The crediting period for the project activity is from 01/04/2011 to 31/03/2021 (both the dates are inclusive). The current monitoring period as mentioned in the monitoring report is 01/04/2011 to 30/09/2011 which is in line with the crediting period.</p> <p>As per the registered PDD the project activity involves installation of 39 WECs of 800 kW capacity each totalling to 31.2 MW by M/s Generacion Eolica India Limited (GEI) in the state of Karnataka.</p> <p>The commissioning dates and the unique identification details of the WECs are as listed below</p> <table><tr><th>S. No</th><th>WEC (Location no)</th><th>Date of Commissioning</th><th>Latitude</th><th>Longitude</th></tr><tr><td>1</td><td>170a</td><td>17.12.2007</td><td>15°20' 53"</td><td>75°34' 29.2"</td></tr><tr><td>2</td><td>170</td><td>17.12.2007</td><td>15°20' 59"</td><td>75°34' 27.5"</td></tr><tr><td>3</td><td>171</td><td>17.12.2007</td><td>15°21' 5.8"</td><td>75°34' 26.1"</td></tr><tr><td>4</td><td>236</td><td>17.12.2007</td><td>15°21' 14.3"</td><td>75°34' 38.8"</td></tr><tr><td>5</td><td>229</td><td>17.03.2008</td><td>15°21' 59.9"</td><td>75°34' 23"</td></tr><tr><td>6</td><td>181</td><td>17.03.2008</td><td>15°22' 16.6"</td><td>75°33' 57.8"</td></tr></table>	S. No	WEC (Location no)	Date of Commissioning	Latitude	Longitude	1	170a	17.12.2007	15°20' 53"	75°34' 29.2"	2	170	17.12.2007	15°20' 59"	75°34' 27.5"	3	171	17.12.2007	15°21' 5.8"	75°34' 26.1"	4	236	17.12.2007	15°21' 14.3"	75°34' 38.8"	5	229	17.03.2008	15°21' 59.9"	75°34' 23"	6	181	17.03.2008	15°22' 16.6"	75°33' 57.8"	CAR-2	OK
S. No	WEC (Location no)	Date of Commissioning	Latitude	Longitude																																					
1	170a	17.12.2007	15°20' 53"	75°34' 29.2"																																					
2	170	17.12.2007	15°20' 59"	75°34' 27.5"																																					
3	171	17.12.2007	15°21' 5.8"	75°34' 26.1"																																					
4	236	17.12.2007	15°21' 14.3"	75°34' 38.8"																																					
5	229	17.03.2008	15°21' 59.9"	75°34' 23"																																					
6	181	17.03.2008	15°22' 16.6"	75°33' 57.8"																																					

¹ MoV: DR document review, I interview, CC cross checking

Checklist Question	Reference	MoV ¹	Comments					Draft Conclusion	Final Conclusion
			7	180	17.03.2008	15°22' 10.4"	75°34' 0.9"		
			8	163	17.03.2008	15°22' 8.3"	75°33' 44.8"		
			9	226	17.03.2008	15°22' 19.2"	75°34' 13.5"		
			10	230	17.03.2008	15°21' 52.7"	75°34' 23.9"		
			11	173	25.06.2008	15°21' 19.4"	75°34' 19.9"		
			12	231	25.06.2008	15°21' 46.8"	75°34' 27.7"		
			13	174	25.06.2008	15°21' 31.5"	75°34' 15.5"		
			14	233	25.06.2008	15°21' 33.3"	75°34' 30.6"		
			15	232	25.06.2008	15°21' 39.6"	75°34' 28.6"		
			16	234	25.06.2008	15°21' 27.8"	75°34' 33.5"		
			17	169a	25.06.2008	15°21' 20"	75°34' 3.7"		
			18	237	25.06.2008	15°21' 8.1"	75°34' 41.3"		
			19	168	07.07.2008	15°21' 35.7"	75°33' 56.8"		
			20	169	07.07.2008	15°21' 29.5"	75°34' 1.5"		
			21	235	07.07.2008	15°21' 21.3"	75°34' 39.2"		
			22	136	07.07.2008	15°20' 26.5"	75°34' 5.7"		
			23	137	07.07.2008	15°20' 32.6"	75°34' 4.6"		
			24	138	07.07.2008	15°20' 39.9"	75°34' 4.9"		
			25	139	07.07.2008	15°20' 44.8"	75°33' 57.3"		
			26	140	07.07.2008	15°20' 50.9"	75°33' 57.3"		
			27	141	07.07.2008	15°20' 59.2"	75°33' 56.9"		
			28	179	07.07.2008	15°22' 3.6"	75°34' 2.6"		
			29	228	11.09.2008	15°22' 6.2"	75°34' 18.1"		

Checklist Question	Reference	MoV ¹	Comments					Draft Conclusion	Final Conclusion		
			30	172	11.09.2008	15°21' 11"	75°34' 22.3"				
			31	227	11.09.2008	15°22' 15.2"	75°34' 25.2"				
			32	239	11.09.2008	15°20' 52.8"	75°34' 41.2"				
			33	167	29.09.2008	15°21' 42.8"	75°34' 54.3"				
			34	176	29.09.2008	15°21' 44.5"	75°34' 9.5"				
			35	178	29.09.2008	15°21' 58.1"	75°34' 5.6"				
			36	164	29.09.2008	15°22' 2.8"	75°33' 48.1"				
			37	165	10.10.2008	15°21' 55.3"	75°33' 50.5"				
			38	166	10.10.2008	15°21' 49.3"	75°33' 51.3"				
			39	177	10.10.2008	15°21' 51.4"	75°34' 8.1"				
			<p>The commissioning certificates were crosschecked to confirm the commissioning dates of the WECs. It is noticed that the commissioning certificates are not transparent on the details of the particular WEC to which the certificate is issued. Further the latitude and longitudinal details of the WECs 138, 169 and 231 mentioned in the MR are not matching with that of the registered PDD.</p> <p>During site visit, it was checked that all components of the project activity as stated in the PDD were in operation. Further, the verification team also verified the technology and confirms that the technology is not substituted.</p> <p>However the monitoring report is not transparent on the implementation status and actual operation of the project activity. PP is requested to make it transparent in the PDD and provide supporting evidences for the same.</p> <p>Further the following points were notice in the monitoring report</p> <ul style="list-style-type: none">• Technical specifications of WEC stated in section								

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
				<p>A1 do not match with specifications in registered PDD (for eg rated rotational speed)</p> <ul style="list-style-type: none"> There is no diagram in section A.4 as required by Guidelines documents Monitoring also states regarding training. No training records are provided The billing date provided in the section A.7 is not matching with the billing date as provided in section D.2 of monitoring report. PP is requested to explain the same and also on apportioning procedure followed if any. Complete information as per Guidelines for completing monitoring report is not included in section B1 of monitoring report In section C of monitoring report it is stated that please refer Annex 4 for details on calibration and QA/QC procedures. This is not clear as there is no Annex 4 in monitoring report Complete information as per Guidelines for completing monitoring report is not included in section E4 of monitoring report ER during monitoring period is 9.86% higher whereas they are stated as 9% higher in section E 5 In section E 6 it is stated that PLF is only 2.3% higher whereas it is 2.5% higher. Further PP is requested to supporting documents for explanation provided in section E.6. Section A.7 of the monitoring report is not transparent on the complete crediting period 		
A.3	Methodology applied for the registered project activity	/01/, /02/, /04/	DR	As per the MR, Version 1.0, dated 09/10/2011 the methodology applied in the project activity is ACM0002 version 11 of 12/02/2010, which is inline with the registered PDD (Reference No: 4144).		OK
B Monitoring						

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
B.1 Monitoring plan						
B.1.1	Does the monitoring plan included in the registered CDM project activity comply with the applied methodology?	/01/, /02/, /04/	DR	Yes, the monitoring plan included in the registered PDD complies with applied methodology ACM0002 version 11.		OK
B.1.2	Does the monitoring comply with the monitoring plan in the registered PDD?	/01/, /02/, /08/, /09/, /11/	DR, I	As per the registered PDD Net export, Gross export, Gross import and Transmission loss between the metering point for the project activity feeding the pooling substation of Enercon and the metering point at EB Substation are the parameters to be monitored. The monitoring adopted during the current monitoring period complies with the monitoring plan in the registered PDD.		OK
B.2 Data and parameters that are available at validation and that are not monitored						
B.2.1	Which parameters were available at validation and how were they verified?	/01/, /02/, /11/, /12/	DR, I	<p>The following parameters were available at the time validation.</p> <p>$EF_{grid,OM,y}$: Operating Margin Emission Factor of Northern Regional Electricity Grid. The value is found to be 0.998157 tCO₂e/MWh.</p> <p>$EF_{grid,BM,y}$: Build Margin Emission Factor of Northern Regional Electricity Grid. The value is found to be 0.71332 tCO₂e/ MWh</p> <p>$EF_{grid,CM,y}$: Combined Margin Emission Factor of Northern Regional Electricity Grid. The value is found to be 0.92694 tCO₂e/ MWh.</p> <p>The values were checked with the "CO₂ Baseline Database for Indian Power Sector", version 4 published by the Central Electricity Authority, Ministry of Power, Government of India and is found correct. The EF is fixed ex-ante for the entire crediting period.</p>		OK
B.3 Data and parameters monitored						
B.3.1	Data/Parameter monitored / Data unit / Description / Source of data to be used / Value data for the monitoring period.	/01/, /02/, /08/, /09/, /11/	DR, I	<p>The data/ parameter to be monitored, its data unit, description and the sources of data are as follows:</p> <p>Data/ parameter : EG_y</p>		

Checklist Question	Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
			<p>Unit: MWh Description: Net electricity supplied to the grid by the Project activity Source of Data: Electricity supplied to the grid as per the tariff invoices (B-form) raised on KPTCL/HESCOM. Value applied for the monitoring period: 39,552</p> <p>Data/ parameter : Gpe Unit: MWh Description: Electricity exported to the grid by the project activity Source of Data: Dedicated cluster meter reading and JMR Value applied for the monitoring period: 40,878</p> <p>Data/ parameter : Gpi Unit: MWh Description: Electricity Import from grid by the project activity Source of Data: Electricity import from the grid as per the JMR Value applied for the monitoring period: 15.70</p> <p>Data/ parameter : Li Unit: MWh Description: Transmission loss between the metering point for the project activity feeding the pooling substation of Enercon and the metering point at EB Substation. Source of Data: JMR (Form-B) Value applied for the monitoring period: 229</p> <p>The values applied in the ER calculation sheet are matching with the data provided in the invoice copies for the individual months of the monitoring period. However the values mentioned in the monitoring</p>	CAR-3	OK

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
				report are not matching with the ER calculation sheet. PP is requested to clarify the same. Also the ER calculation sheet is not transparent on the respective period (start and end dates) of all the months for which the readings were taken. PP is requested to make it transparent in the ER sheet. Further, the source of the data mentioned for the parameter Li is not in line with the source mentioned in the registered PDD. PP is also requested to submit the soft copies of JMR and payments received against the invoice raised during the current monitoring period.		
B.3.2	Is the measurement equipment described? Is the accuracy of the measurement equipment addressed and deemed appropriate?	/01/, /02/, /07/, /08/, /11/, /15/	DR, I	<p>The joint meter readings of all the WECs of the PP are being taken at the HTC yard located beside the WEC location no 233. The HTC yard contains one main meter and one check meter which are also called as cluster meters. Both the meters are of L&T make and model no ER300P. The serial no of main meter is 05389382 and the serial no of the check meter is 07022924. Both the meters are of accuracy class 0.2s. The accuracy class of the meters were checked with calibration test certificates and also confirmed during the site visit. However the monitoring report is not transparent on the serial no of the check meter. PP is requested to clarify the same.</p> <p>The electricity generated by the project activity is exported to the pooling substation of Enercon at Harthi through the HTC yard. Similarly the electricity generated by the WECs of other project developers in the wind farm are also exported to the pooling substation. Thus the electricity received by the pooling substation from all the WECs in the wind farm area are exported to the grid through EB substation located at Nagavi village. The electricity received from the pooling substation is monitored through the bulk meters (one main meter and one check meter) located at the EB substation. The monitoring report is also not transparent on the details of bulk meters located at the EB substation. PP is requested to make it transparent</p>	CL-4	OK

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
				in the monitoring report.		
B.3.3	Are the requirements for maintenance and calibration of measurement equipment described and deemed appropriate?	/01/, /02/, /07/, /15/	DR, I	As per the registered PDD and monitoring report the "The KPTCL will carry out the calibration, periodical testing, sealing and maintenance of meters". It is stated in the monitoring report that the meters are being calibrated once in a year. The PP has submitted the calibration certificate for the year 2010 for both main meter (S.No. 05389382) and check meter (S.No. 07022924) which is carried out on 02/11/2010. The monitoring report states that the latest calibration was carried out on 29/06/2011. It is also not transparent on the validity of the calibration in the monitoring report. PP is requested to submit the supporting evidence for the same. Further the monitoring report is not transparent on the calibration of bulk meters located at the EB substation.	CL-2	OK
B.3.4	Is the monitoring frequency adequate for all monitoring parameters? Is it in line with the registered monitoring plan?	/01/, /02/	DR	Neither the registered PDD nor the monitoring report is transparent on the monitoring frequency of the monitoring parameters. PP is requested to make it transparent in the monitoring report.	CL-3	OK
B.3.5	Is the recording frequency adequate for all monitoring parameters? Is it in line with the registered monitoring plan?	/01/, /02/, /15/	DR	As per the registered PDD, the parameters were monitored once in a month through the joint meter reading taken in the presence of the representatives from HESCOM and Enercon. It was confirmed through the JMR records that the recording frequency for all the parameters are adequate and are followed in line with the registered monitoring plan. The parameters are recorded on 1 st day of every month during the current monitoring period. This is in line with the registered monitoring plan and also the approved methodology "ACM0002" version 11.		OK
B.3.6	Does data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions?	/01/, /02/	DR	The monitoring report is not transparent on the data management adopted in the project activity for the transfer of data from monitoring equipment to ER calculation sheet. PP is requested to clarify the same.	CL-3	OK
B.4 Monitoring of sustainable development indicators/environmental impacts						
B.4.1	Is the monitoring of sustainable development	/01/, /02/	DR	The legislation in the host country (India) does not	CL-4	OK

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
	indicators/ environmental impacts warranted by legislation in the host Country?	/14/		warrant monitoring of any sustainable development indicators. This is also cross checked with the Host Country Approval (HCA) obtained from the DNA of the host country. As per the HCA, PP is not required to monitor the sustainable development indicators/ environmental impacts. However, neither the PDD nor the monitoring report is transparent on expenditures to be incurred related with the 2% of revenues generated from the sale of CERs.		
B.4.2	Does the monitoring report provide for the collection and archiving of relevant data concerning environmental, social and economic impacts?	/01/, /02/, /14/	DR	Please refer section B.4.1 above		OK
B.5 Management, quality assurance and quality control						
B.5.1	How has it been assessed that the monitoring arrangements described in the monitoring plan are feasible within the project design?	/01/, /02/, /15/	DR, I	Verification team has conducted the site visit on 13/12/2011 and checked the procedures followed at site in monitoring and calculating the net electricity exported to the grid. There were 4 tri-vector (two way) meters installed in the project activity which measure Export, Import and Net export to the grid. Out of which 1 main meter and 1 check meter are located at the Harthi substation of Enercon and similarly 1 main meter and 1 check meter are located at the Nagavi EB substation. This is in line with the registered PDD. Hence It is confirmed by the verification team that PP follows the procedures as mentioned in the registered PDD. However the monitoring report is not transparent on the details of bulk meters located at the EB substation and calibration of the bulk meters.	CL1 & CL2	OK
B.5.2	Are procedures identified for day-to-day record handling (including what records to keep, storage area of records and how to process performance documentation)?	/01/, /02/	DR, I	During site visit it was noticed that the procedures for day-to-day record handling as mentioned in the approved monitoring plan is followed by the PP. However, the monitoring report is not transparent on the day to day record handling procedures followed at the site for the project activity. PP is requested to make it transparent in the monitoring report.	CL3	OK
B.5.3	Are the data management and quality	/01/, /02/	DR, I	The quality assurance and quality control procedures mentioned in the monitoring report ensure that the	CL3	OK

Checklist Question		Reference	MoV ¹	Comments	Draft Conclusion	Final Conclusion
	assurance and quality control procedures sufficient to ensure that the emission reductions achieved by/resulting from the project can be reported ex post and verified?			<p>emission reductions achieved by/resulting from the project can be reported ex post and verified. As per the registered PDD, all the meters are jointly inspected and sealed on behalf of the Parties and are not to be interfered with by either Party except in the presence of the other Party or its accredited representatives.</p> <p>In case of the failures such as burning of the meters the meters will be immediately replaced and in case of erratic display of the metered parameters and when the error found in testing the meters is beyond the permissible limit of error, the meter shall be calibrated immediately and the correction will be applied to the reading registered by the main meter to arrive the correct reading of energy supplied to the grid for the period up to last test. During site visit it was noticed that the procedures as in the approved monitoring plan is followed by the PP. However the monitoring report is not transparent on whether any variation between reading of main and check meter were identified during the monitoring period. Further the monitoring report is also not transparent on the data management system adopted at the site for the project activity. PP is requested to clarify.</p>		
B.5.4	Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/01/, /02/	DR, I	During site visit it was noticed that the generation from the individual WECs are recorded in the CMS and the soft copy is maintained. However, the monitoring report is not transparent on the data management system and archival of data up to two years after the end of crediting period. PP is requested to clarify.	CL-3	OK

TABLE 2 RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
<p>CAR 1</p> <p>The title of the project activity mentioned in the monitoring report is not matching with the registered PDD.</p>	A.1	<p>The title of the project activity mentioned in the monitoring report is made consistent with the title of the registered PDD.</p>	<p>The title of the project activity in the MR is now made consistent with the registered PDD. Hence accepted.</p> <p>CAR 1 is closed.</p>
<p>CAR 2</p> <p>1. The monitoring report is not transparent on the implementation of the project activity. PP is requested to make it transparent in the PDD and provide supporting evidences for the same.</p> <p>2. The commissioning certificates provided are not transparent on the details of the particular WEC to which the certificate is issued.</p> <p>3. The latitude and longitudinal details of the WECs 138, 169 and 231 mentioned in the MR are not matching with that of the registered PDD.</p> <p>4. Technical specifications of WEC stated in section A1 do not match with specifications in registered PDD (for eg rated rotational speed)</p> <p>5. There is no diagram in section A.4 as required by Guidelines documents</p> <p>6. Monitoring also states regarding training. No training records are provided</p> <p>7. The billing date provided in the section A.7 is not matching with the billing date as provided</p>	A.2	<p>1. The commissioning details have been incorporated in the monitoring report in line with the registered PDD, where the project commissioning details have been mentioned transparently. Please refer to section A.1 & B.1 of the revised monitoring report. The commissioning certificates have been provided to the DOE.</p> <p>2. Please refer to the RR no. mentioned in the commissioning certificates as provided to the DOE. The RR No. can be further verified from the Invoices raised to the State Utility for the project activity.</p> <p>3. The monitoring report has been revised. Please refer to section A.3 of the revised monitoring report.</p> <p>4. The monitoring report has been revised. Please refer to section A.1 & A.4 of the revised monitoring report.</p> <p>5. The monitoring report has been revised. Please refer to section A.4 of the revised monitoring report.</p> <p>6. The reference document on training has been provided to the DOE.</p> <p>7. The monitoring report has been</p>	<p>The commissioning dates of all the WECs are mentioned in the section A.1 and B.1 of the monitoring report. PP has also submitted the commissioning certificates for all the WECs. However the monitoring report is not transparent on the implementation of the project activity (ex: issuance of purchase order, start of construction activity etc.). PP is requested to make it transparent in the MR and provide supporting evidences for the same. Further, the commissioning certificates provided by the PP are not transparent on the unique identification of the WECs to which they are issued. PP is also requested to maintain a consistency between the short form used for the wind turbines in the monitoring report.</p> <p>This part of CAR 2 is open.</p> <p>The verification team has checked the commissioning certificates and found that the RR no mentioned in each of the commissioning certificate is same (GDG/TL&SS/WF/GEIKHRT/106). Therefore it is failed in demonstrating the unique identification of the WECs to which the commissioning certificate is issued.</p> <p>This part of CAR 2 is open.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
<p>in section D.2 of monitoring report. PP is requested to explain the same and also on apportioning procedure followed if any.</p> <p>8. Complete information as per Guidelines for completing monitoring report is not included in section B1 of monitoring report</p> <p>9. In section C of monitoring report it is stated that please refer Annex 4 for details on calibration and QA/QC procedures. This is not clear as there is no Annex 4 in monitoring report</p> <p>10. Complete information as per Guidelines for completing monitoring report is not included in section E4 of monitoring report</p> <p>11. ER during monitoring period is 9.86% higher whereas they are stated as 9% higher in section E 5</p> <p>12. In section E 6 it is stated that PLF is only 2.3% higher whereas it is 2.5% higher. Further PP is requested to supporting documents for explanation provided in section E.6.</p> <p>13. Section A.7 of the monitoring report is not transparent on the complete crediting period</p>		<p>revised. Please refer to section A.7 and C of the revised monitoring report. There is no apportionment procedure followed for the project activity.</p> <p>8. The monitoring report has been revised. Please refer to section B.1 of the revised monitoring report.</p> <p>9. The monitoring report has been revised. Please refer to section C of the revised monitoring report.</p> <p>10. The monitoring report has been revised. Please refer to section E. 4 of the revised monitoring report.</p> <p>11. The monitoring report has been revised. Please refer to section E.5 of the revised monitoring report.</p> <p>12. The monitoring report has been revised. Please refer to section E.6 of the revised monitoring report.</p> <p>13. The monitoring report has been revised. Please refer to section A.7 of the revised monitoring report.</p> <p>2nd Response:</p> <p>The monitoring report has been revised considering the implementation details of the project activity. Please refer to section</p>	<p>The latitude and longitudinal details of the WECs 138, 169 and 231 are now modified in the MR are in line with the registered PDD. Hence accepted.</p> <p>The technical specification of the WECs are revised in the MR and are found to be in line with the registered PDD. Hence accepted.</p> <p>The section A.4 in the MR is now revised and is found that all the required information as per the guidelines for completing monitoring report. Hence accepted.</p> <p>The PP has submitted the training certificate of Mr. Mehabubali A Nadaf dated 09/02/2009. However PP is requested to submit the details of operational and management structure followed in the project activity. Further the MR is not transparent on the identification of training needs, frequency of training and the personal trained etc.. during the current monitoring period. PP is requested to clarify the same.</p> <p>This part of CAR 2 is open.</p> <p>The response provided by the is accepted as the billing date is removed from the MR and also there is no apportioning involved in the billing as the billing date remains constant throughout. Thus, accepted by RINA.</p> <p>The response provided by the PP is not accepted as the MR is not transparent on the implementation of the project activity as required by the guidelines for completing the monitoring report. Further the MR is not transparent on whether any events occurred during the monitoring</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		<p>A.1 & B.1 of the revised monitoring report. The copy of the Purchase Order has already been provided to the DOE during validation. Please refer to the Validation report (page no. 19).</p> <p>The commissioning certificates which have been provided to the DOE are the standard format followed by Government of Karnataka. A reference commissioning certificate for other project has also been provided for reference. Also all the unique location numbers mentioned in the monitoring report along with the latitude and longitude details have been sourced from the registered PDD.</p> <p>The monitoring report has been made consistent on the short term used for wind turbines. Please refer to section A.1 of the revised monitoring report.</p> <p>2nd Response:</p> <p>The commissioning certificates which have been provided to the DOE are the standard format followed by Government of Karnataka. A reference commissioning certificate for other project has also been provided for reference. Also all the unique location numbers mentioned in the monitoring report along with the latitude and longitude details have been sourced from the registered PDD.</p>	<p>period, which may impact the applicability of the methodology and if any, how were they resolved.</p> <p>This part of CAR 2 is open.</p> <p>The response provided by the PP is accepted as the word refer to Annex 4 is removed from the MR.</p> <p>The response provided by the PP is accepted as the section E.4 in the revised MR is now transparent on the information as required by the guidelines for compelling the monitoring report. However, the period mentioned for the ER estimation in section E.4 is not matching with the monitoring period. PP is requested to clarify.</p> <p>This part of CAR 2 is open.</p> <p>The MR is transparent in the section E.5 of the MR on the ER value estimated i.e. 32,048 and ER value achieved 35,209 for the current monitoring period. This is in line with the guidelines for compelling the monitoring report. Hence accepted.</p> <p>The MR is now made transparent on the variation in PLF and ER values achieved over the estimated values. However, PP is requested to provide the supporting evidences for the claim that the current monitoring period falls under the peak season.</p> <p>This part of CAR 2 is open.</p> <p>The response provided by the PP is accepted as the section A.7 of the MR is now transparent on the start date of the crediting period and length of the crediting period. The same are found to be in line</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		<p>2nd Response:</p> <p>The monitoring report has been revised. Please refer to section C of the revised monitoring report.</p> <p>2nd Response:</p> <p>The monitoring report has been revised. Please refer to the section B.1 of the revised monitoring report.</p> <p>2nd Response:</p> <p>The monitoring report has been revised. Please refer to section E.4 of the revised monitoring report.</p> <p>2nd Response:</p> <p>Please refer to the web link of Indian Wind Energy Association: http://www.inwea.org/aboutwindenergy.htm; where it has been stated that <u>"Wind in India are influenced by the strong south-west summer monsoon, which starts in May-June, when cool, humid air moves towards the land and the weaker north-east winter monsoon, which starts in October, when cool, dry air moves towards the ocean. During the period march to August, the winds are uniformly strong over the whole Indian Peninsula, except the eastern peninsular coast. Wind speeds during the period November to march are</u></p>	<p>with the UNFCCC registration details.</p> <p>DOE's Assessment- Round 2:</p> <p>1 and 2.. PP has revised section B.1 to include the date of the purchase order as 24/08/2006. This date matches with the date mentioned in the registered PDD and the FVR. Further it is noted that the commissioning dates and unique identification of WTGs mentioned in the MR is consistent with the registered PDD. Thus the same is acceptable to RINA.</p> <p>6. PP has included operational and management structure followed for the CDM project activity in the section C. MR is still not clear on the identification of training needs, frequency of training The Operation and the Management of the project activity is handled by the O&M team (Enercon India Pvt Ltd). Since the O&M provider is also an ISO certified organization, the same would also take care of the training to be provided to the O&M personnel. RINA confirmed the same with the registered PDD and also crosschecked with the training certificates. Thus, accepted.</p> <p>8. PP has now included the information regarding date of the placement of purchase order in the section B.1. PP has also included a statement mentioning that there were no such events that could impact on the applicability of the methodology during the monitoring period. In accordance with the Annex 34 of EB 54 . Further the same was</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		<p><u>relatively weak”</u>.</p> <p>In accordance with the above May – June are the starting months of strong wind season and continue till August - September. Therefore, it can be stated that the monitoring period of this project covers the peak period of wind season.</p>	<p>crosschecked by RINA during the onsite verification and noted that there were no events , which could impact applicability of the methodology. Thus accepted by RINA.</p> <p>10. The period mentioned in E.4 is consistent with the monitoring period. Thus acceptable to RINA.</p> <p>12. The link provided by PP is of Indian Wind Energy Association. The link mentions that the during the period of March to August, the winds are uniformly stronger over the whole Indian peninsula, except eastern peninsula. The project activity falls in the southern peninsula. Thus, the claim made by PP that the PLF during the monitoring period covers the peak wind season is accepted.</p> <p>Based on the above conclusions CAR2 is closed.</p>
<p>CAR 3</p> <p>The values mentioned in the monitoring report are not matching with the ER calculation sheet. PP is requested to clarify the same.</p> <p>The ER calculation sheet is not transparent on the respective period (start and end dates) of all the months for which the readings were taken. PP is requested to make it transparent in the ER sheet.</p> <p>The source of the data mentioned for the parameter Li is not in line with the source mentioned in the registered PDD.</p> <p>PP is also requested to submit the copies of JMR and payments received against the invoices</p>	B.3.1	<p>The monitoring report has been revised. Please refer to section D.2 of the revised monitoring report.</p> <p>The ER sheet has been revised. Please refer to the revised ER sheet.</p> <p>The monitoring report has been revised. Please refer to section D.2 of the revised monitoring report.</p> <p>4. All the JMRs from April 2011 to September 2011 have been submitted to the DOE. In addition, the invoice and the</p>	<p>The values mentioned in the MR now are consistent with that of the values provided in the ER sheet. The values are also cross checked with the Form B for individual months and found to be correct. Hence accepted.</p> <p>The response provided by the PP is not accepted as the ER sheet is still not transparent on the respective period (start and end dates) of all the months for which the readings were taken.</p> <p>This part of CAR 3 is open.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
raised during the current monitoring period.		<p>challan for the month of April, 2011 has also been submitted to the DOE. The payments for the months of May, 2011 to September, 2011 were done by HESCOM through RTGS. The monitored data for estimation of emission reduction have been sourced from the Joint Meter Reading (Form B), which is authorized and signed by the State Utility itself and this data can be further cross-checked by the invoices raised to state utility.</p> <p>2nd Response:</p> <p>The ER sheet has been revised. Please refer to the revised ER sheet.</p> <p>Li is a calculated parameter as referred in section D.2 of the monitoring report. Hence, no such details of the measuring equipments are available.</p>	<p>The source of the data for parameter Li is now modified in MR is found to be consistent with the PDD. However it is noted that the MR is not transparent on the details of monitoring equipment used, measuring and recording frequency adopted and also the calibration frequency adopted for the equipment. PP is requested to clarify.</p> <p>This part of CAR 3 is open.</p> <p>The response provided by the PP is accepted as the values provided in the Form B and the invoice copies for all the months in the monitoring period are consistent.</p> <p>DOE's Assessment- Round 2:</p> <p>2. PP has mentioned start and end date of the respective month as mentioned in the respective copies of JMRs and hence accepted.</p> <p>3. RINA understands that Li is a calculated value and the monitoring equipment used, measuring and recording frequency and the calibration frequency for Li is not applicable. Thus accepted by RINA.</p> <p>CAR 3 is closed.</p>
CL 1 The monitoring report is not transparent on the serial no of the check meter.	B.3.2	<p>The monitoring report has been revised. Please refer to section D.2 of the revised monitoring report.</p> <p>The monitoring report has been revised.</p>	<p>The response provided by the PP is accepted as the MR is now made transparent on the serial no of the check meter used in the project activity.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
<p>The monitoring report is not transparent on the details of bulk meters located at the EB substation. PP is requested to make it transparent in the monitoring report.</p>	B.3.2, B.5.1	<p>Please refer to section C of the revised monitoring report.</p> <p>2nd Response:</p> <p>The monitoring report has been revised. Please refer to section C of the revised monitoring report.</p>	<p>The response provided by the PP is not accepted as the MR is still not transparent on the technical details of the bulk meters</p> <p>Based on the above mentioned point 2 CL1 is still open.</p> <p>The details of the meters located at EB substation has been included section C of the MR. The accuracy, make, SE.no of the meters, calibration dates were also cross checked with the calibration certificates, dated 25/06/2010 and 22/06/2011, issued by Karnataka Power Transport Corporation Limited.</p> <p>CL 1 is closed.</p>
<p>CL 2</p> <p>The monitoring report states that the latest calibration was carried out on 29/06/2011. PP is requested to submit the supporting evidence for the same.</p> <p>It is also not transparent on the validity of the calibration in the monitoring report.</p> <p>The monitoring report is not transparent on the calibration of bulk meters located at the EB substation.</p>	<p>B.3.3</p> <p>B.3.3, B.5.1</p>	<p>The latest calibration certificates of the Main & Check meters have been provided to the DOE.</p> <p>The monitoring report has been revised mentioning the validity of the latest calibration. Please refer to section D.2 of the revised monitoring report.</p> <p>The monitoring report has been revised. Please refer to section C of the revised monitoring report.</p>	<p>The response provided by the PP is not accepted as the latest calibration certificate is not yet provided.</p> <p>This part of CL 2 is open.</p> <p>The monitoring report is now made transparent on the validity of the calibration. However the calibration report is not transparent on the same. PP is requested to provide the supporting evidences for the same.</p> <p>This part of CL 2 is open.</p> <p>The response provided by the PP is not accepted as the MR is not transparent on the details of calibration carried out during the current monitoring period for the bulk meters.</p> <p>This part of CL 2 is open.</p> <p>DOE's Assessment- Round 2:</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		<p>2nd Response:</p> <p>The last calibration report date is 29/06/2011, valid up to one year (due on 29/06/2012) as per the standard practice followed by State Utility of Government of Karnataka, i.e. Hubli Electricity Supply Company Limited (HESCOM)/ Karnataka Power Transmission Corporation Limited (KPTCL). Prior to that the calibration was performed in the year 2010. Therefore, the latest certificates have been provided to the DOE.</p> <p>2nd Response:</p> <p>The last calibration report date is 29/06/2011, valid up to one year (due on 29/06/2012) as per the standard practice followed by State Utility of Government of Karnataka, i.e. Hubli Electricity Supply Company Limited (HESCOM)/ Karnataka Power Transmission Corporation Limited (KPTCL). Prior to that the calibration was performed in the year 2010. Therefore, the latest certificates have been provided to the DOE.</p> <p>2nd Response:</p> <p>The monitoring report has been revised. Please refer to section C of the revised monitoring report. The copy of the calibration reports of the bulk meters have been provided to the DOE.</p>	<p>1. The calibration frequency of main and check meters are once a year, which is consistent with the registered MP /07/. The validity period of the calibration was from 02/11/2010 to 27/04/2012 for meters at 33 kV metering points and 25/06/2010 to 21/06/2012 for meters at 220kV metering points (Enercon sub-station), which covers this whole first verification monitoring period from 01/04/2011 to 30/09/2011. The calibration certificates /07/ confirm that meters are in proper function and no errors reported beyond the permissible limits.</p> <p>2. Justification provided by the PP is acceptable to RINA.</p> <p>3. The details of the meters located at EB station has been included section C of the MR. The accuracy, make, SE.no of the meters, calibration dates were also cross checked with the calibration certificates, dated 22/06/2011, issued by Karnataka Power Transport Corporation Limited. meters</p> <p>CL 2 is closed.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
<p>CL 3</p> <p>Neither the registered PDD nor the monitoring report is transparent on the monitoring frequency of the monitoring parameters. PP is requested to make it transparent in the monitoring report.</p> <p>The monitoring report is not transparent on whether any variation between reading of main and check meter were identified during the monitoring period.</p> <p>The monitoring report is also not transparent on the data management adopted in the project activity for the transfer of data from monitoring equipment to ER calculation sheet. PP is requested to clarify the same.</p> <p>The monitoring report is not transparent on the day to day record handling procedures followed at the site for the project activity.</p> <p>The monitoring report is not transparent on the data management system and archival of data up to two years after the end of crediting period.</p>	<p>B.3.4</p> <p>B.3.6 & B.5.3</p> <p>B.5.2</p> <p>B.5.4</p>	<p>The monitoring report has been revised. Please refer to section C & D.2 of the revised monitoring report.</p> <p>During the monitoring period, the data has been sourced from Main meters only and accordingly, invoices have been raised and payment has been received. The copy of the invoice and the challan for the month of April, 2011 has been submitted to the DOE for reference. Further, no such variation has been noticed.</p> <p>The monitoring report has been revised. Please refer to section C & D.2 of the revised monitoring report.</p> <p>The monitoring report has been revised. Please refer to section D.2 of the revised monitoring report.</p> <p>The monitoring report has been revised. Please refer to section D.2 of the revised monitoring report.</p> <p>2nd Response:</p> <p>1. Please refer to section D.2 of the monitoring report, where monitoring frequency (monthly) of Li has been</p>	<p>The MR is now made transparent on the monitoring frequency of EGy, Gpi, Gpe in D.2. the same is found to be in line with the methodology ACM0002 version 11 dated 12/02/2010. However, of monitoring frequency of Li is not provided in the MR.</p> <p>This part of CL 3 is open.</p> <p>It is stated that there is no variation found between the readings of main and check meters. Hence accepted.</p> <p>The response provided by the PP is not accepted as the MR is not transparent on the data management adopted in the project activity.</p> <p>This part of CL 3 is open.</p> <p>The response provided by the PP is not accepted as the MR is not transparent on the day to day record handling procedures followed at the site.</p> <p>This part of CL 3 is open.</p> <p>It is stated in the section D.2 of the MR that the data will be archived for a period up to two years after the completion of the crediting period.</p> <p>DOE's Assessment Round 2:</p> <p>1. RINA understands that Li is a calculated value and the monitoring equipment used, measuring and</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		<p>mentioned.</p> <p>3. Please refer to the operational and management structure mentioned in section C of the monitoring report.</p> <p>4. The data will be archived electronically as well as on paper as mentioned in section D.2 of the monitoring report.</p>	<p>recording frequency and the calibration frequency for Li is not applicable. However noted that it is recorded and reported monthly, which is also as per the interviews RINA had with the O&M personnel during site visit. The same is also included the revised MR. Thus accepted by RINA.</p> <p>3 and 4. The operational and management structure gives the data management procedure. Hence accepted and closed.</p> <p>CL 3 is closed.</p>
<p>CL 4</p> <p>Neither the PDD nor the monitoring report is transparent on expenditures to be incurred related with the 2% of revenues generated from the sale of CERs.</p>	B.4.1	<p>The project proponent has partially spent 2% of the total estimated CER revenues for sustainable development activities of the surrounding areas. A declaration of the commitment has been submitted to the DOE. Medical camps are arranged twice in a year for the benefits of local villagers as a part the commitment.</p> <p>2nd Response:</p> <p>The declaration on the detailed CSR plan has been provided to the National CDM Authority (NCDMA), Government of India as per their criteria (weblink: http://www.cdmindia.gov.in/detail_news.php?id=3). On the basis of the declaration,</p>	<p>PP has not yet submitted the declaration of the commitment on transparent on expenditures to be incurred related with the 2% of revenues generated from the sale of CERs as mentioned in the response.</p> <p>CL 4 is open.</p> <p>DOE's Assessment Round 2:</p> <p>The web link provided by PP takes to the the home page of NCDMA. Thus, it is not verifiable which plan has been submitted by PP at the time of HCA application. However, since the PP has already recieved the HCA. The issue is closed.</p> <p>CL 4 is closed.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Verification Conclusion
		the National CDM Authority (NCDMA) has issued the host country approval letter for the project activity.	

TABLE 3 FORWARD ACTION REQUEST

Forward action request	Reference to Table 2	Response by project participants	Verification Conclusion
FAR 1			



RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:

Rekha Menon

We declare that Mr/Mrs/Ms:

è qualificato come¹:
is qualified as:

**CDM-TEC, CDM-VAL, CDM-VER, CDM-TL, CDM-FIN-EXP, VCS-VAL, VCS-VER,
VCS-TL, GS-VAL, GS-VER, GS-TL, SCS-VAL, SCS-VER, SCS-TL**

per le seguenti aree tecniche:
for the following technical areas:

1.2, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable energy sources	1
13.1	Waste Handling and Disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	06-03-2008	-
1	04-05-2009	Annual revision
2	14-12-2009	Changes in module structure
3	22-03-2010	Annual revision
4	18-10-2010	Changes in certificate module
5	17-03-2011	Changes due to new accreditation standard
6	06-06-2011	Annual Revision

Il Responsabile di Schema
Scheme Manager

Il Resp. Tecnico della Divisione
Head of CRT

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: SocialCarbon Standard
JI: Joint Implementation

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports



RINA

**CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE**

Si attesta che il sig./sig.ra:

Sateesh Kumar Pallipogu

We declare that Mr/Mrs/Ms:

è qualificato come¹:
is qualified as:

**CDM-TEC, CDM-VAL, CDM-VER, VCS-VAL, VCS-VER, GS-VAL,
GS-VER, SCS-VAL, SCS-VER, CDM-FIN-EXP**

per le seguenti aree tecniche:
for the following technical areas:

13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
13.1	Waste Handling and Disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	15-03-2010	-
1	18-10-2010	Changes in certificate module
2	17-03-2011	Changes due to new accreditation standard
3	06-06-2011	Annual Revision
4	09-09-2011	Changes due to extension to CDM/VCS/GS/SCS verifier qualification

Il Responsabile di Schema
Scheme Manager

Il Resp. Tecnico della Divisione
Head of CRT

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RINA

**CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE**

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Naresh Badhwar

è qualificato come¹:
is qualified as:

**CDM-TEC, CDM-VAL, CDM-TL, CDM-FIN-EXP,
VCS-VAL, VCS-TL,
GS-VAL, GS-TL**

per le seguenti aree tecniche:
for the following technical areas:

1.2, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable energy sources	1
13.1	Waste handling and disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	06-06-2011	--

Il Responsabile di Schema
Scheme Manager

Il Resp. Tecnico della Divisione
Head of CRT

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RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Rita Valoroso

è qualificato come¹:
is qualified as:

**CDM-TEC, CDM-VAL, CDM-VER, CDM-TL, CDM-FIN-EXP
VCS-VAL, VCS-VER, VCS-TL
GS-VAL, GS-VER, GS-TL
SCS-VAL, SCS-VER, SCS-TL**

per le seguenti aree tecniche:
for the following technical areas:

1.2, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable Energy sources	1
13.1	Waste Handling and Disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	18-01-10	-
1	03-05-10	Annual Revision
2	18-10-10	Changes in certificate module
3	04-01-11	Removed TAs taken through the ETS/EPD verifications/validations
4	17-03-11	Changes due to new accreditation standard
5	14-07-11	Annual Revision

Il Responsabile di Schema
Scheme Manager

Il Resp. Tecnico della Divisione
Head of CRT

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RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:

Wing Yu Tong

We declare that Mr/Mrs/Ms:

è qualificato come¹:
is qualified as:

CDM-TEC, VCS-TEC, GS-TEC, VCS-VAL

per le seguenti aree tecniche:
for the following technical areas:

1.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable Energy sources	1

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	04-12-2010	-
1	17-03-2011	Changes due to new accreditation standard
2	25-07-2011	Annual Revision
3	09-03-2012	Updating qualification as VCS validator
4	19-03-2012	Updating qualification as VCS-TEC, GS-TEC

Il Responsabile di Schema
Scheme Manager

Il Resp. Tecnico della Divisione
Head of CRT

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