



# VERIFICATION AND CERTIFICATION REPORT

- 2ND PERIODIC –

**RATNAMANI METALS AND TUBES LTD**

**13.25 MW WIND POWER GENERATION BY RMTL, IN  
KUTCH, GUJARAT**

**UNFCCC REF. No. : 2247**

**Monitoring Period: 2010-11-01 to 2012-03-31**  
(incl. both days)

**Report No: 8109066219 - 12/310**

**Date: 2012-12-06**

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<b>Project:</b>	<b>Title:</b>	<b>Registration date:</b>	<b>UNFCCC-No.:</b>	
	13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat	2009-03-25	2247	
	<b>Crediting period:</b>	<b>From:</b>	<b>To:</b>	
	<input type="checkbox"/> Renewable (7y) <input checked="" type="checkbox"/> Fixed (10y)	2009-03-25	2019-03-24	
	<b>Project Scale:</b>			
	<input type="checkbox"/> Large Scale <input checked="" type="checkbox"/> Small Scale			
<b>Project Participant(s):</b>	<b>Non Annex 1 country:</b>	<b>Annex 1 country:</b>		
	India	Switzerland		
	<b>PP from non Annex 1 country:</b>	<b>PP from Annex 1 country:</b>		
	Ratnamani Metals and Tubes Ltd	Emergent Ventures India Pvt. Ltd.		
<b>Applied methodology/ies:</b>	<b>Title:</b>	<b>No.:</b>	<b>Scope(s) / TA(s)</b>	
	Grid connected renewable electricity generation	AMS ID ver. 13	01 / 1.2	
<b>Monitoring period and monitoring report</b>	<b>Monitoring period (MP):</b>		<b>Monitoring Report:</b>	
	<b>From:</b>	<b>To:</b>	<b>No. of days:</b>	<b>Draft version:</b>
	2010-11-01	2012-03-31	517	2012-05-21
				2012-12-05
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	Pankaj Patel (TL) Hemang Shah (TM/TE)	Indrapal Parmar (TM/TE) Saroj Sahoo (TM/TE)	Tahsin Choudhury (ETE) Stefan Winter	Stefan Winter
<b>Key dates of verification:</b>	<b>Publication of MR :</b>	<b>DVerR issued:</b>	<b>On-site (from):</b>	<b>On-site (to):</b>
	2012-05-21	2012-06-26	2012-06-13 & 2012-06-22 <sup>1</sup>	2012-06-13 & 2012-06-22
<b>Summary of Verification opinion</b>	<p>Ratnamani Metals and Tubes Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 2nd periodic verification of the project: "13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat", with regard to the relevant requirements for CDM project activities.</p> <p>As a result of this verification, the verifier confirms that:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> all operations of the project are implemented and installed as planned and described in the validated project design document,</li> <li><input checked="" type="checkbox"/> the monitoring plan is in accordance with the applied approved CDM methodology,</li> <li><input checked="" type="checkbox"/> the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately,</li> <li><input checked="" type="checkbox"/> the monitoring system is in place and functional. The project has generated GHG emission reductions, and</li> <li><input checked="" type="checkbox"/> the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.</li> </ul> <p>TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as listed below (verified amount).</p>			
<b>Emission reductions: [t CO<sub>2e</sub>]</b>	<b>Verified amount</b>		<b>As per draft MR:</b>	<b>As per PDD:</b>
	28,177		28,222	23,960 /a

<sup>1</sup> Twice onsite for one day

**2nd Periodic Verification and Certification Report: 13.25 MW Wind Power**

Generation by RMTL, In Kutch, Gujarat

TÜV NORD JI/CDM Certification Program

R-No: 8109066219 - 12/310



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## **Abbreviations:**

<b>CA</b>	<b>Corrective Action / Clarification Action</b>
<b>CAR</b>	<b>Corrective Action Request</b>
<b>CDM</b>	<b>Clean Development Mechanism</b>
<b>CER</b>	<b>Certified Emission Reduction</b>
<b>CO<sub>2</sub></b>	<b>Carbon dioxide</b>
<b>CO<sub>2eq</sub></b>	<b>Carbon dioxide equivalent</b>
<b>CL</b>	<b>Clarification Request</b>
<b>DVerR</b>	<b>Draft Verification Report</b>
<b>ER</b>	<b>Emission Reduction</b>
<b>FAR</b>	<b>Forward Action Request</b>
<b>GEDA</b>	<b>Gujarat Electricity Development Agency</b>
<b>GETCO</b>	<b>Gujarat Energy Transmission Corporation Ltd.</b>
<b>GHG</b>	<b>Greenhouse gas(es)</b>
<b>MP</b>	<b>Monitoring Plan</b>
<b>MR</b>	<b>Monitoring Report</b>
<b>PA</b>	<b>Project Activity</b>
<b>PDD</b>	<b>Project Design Document</b>
<b>PP</b>	<b>Project Participant</b>
<b>QA/QC</b>	<b>Quality Assurance / Quality Control</b>
<b>RTML</b>	<b>Ratnamani Metals and Tubes Limited</b>
<b>SLDC</b>	<b>State Load Dispatch Centre</b>
<b>UNFCCC</b>	<b>United Nations Framework Convention on Climate Change</b>
<b>VVS</b>	<b>Validation and Verification Standard</b>
<b>XLS</b>	<b>Emission Reduction Calculation Spread Sheet</b>

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## 1. INTRODUCTION

Ratnamani Metals and Tubes Ltd has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 2nd periodic verification of the project

*“13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat”*

with regard to the relevant requirements for CDM project activities. The verifiers have reviewed the implementation of the monitoring plan (MP) in the registered CDM project.

GHG data for the monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Standard <sup>/VVS/</sup> of the UNFCCC.

This report summarizes the findings and conclusions of this 2nd periodic verification of the above mentioned UNFCCC registered project activity.

### 1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification of the:

- implementation and operation of the project activity as given in the PDD,
- compliance with applied approved methodology and the provisions of the monitoring plan,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence,
- accuracy of the monitoring equipment,
- quality of evidence,
- significance of reporting risks and risks of material misstatements.

### 1.2. Scope

The verification of this registered project is based on the validated project design document <sup>/PDD/</sup>, the monitoring report <sup>/MR/</sup>, emission reduction calculation spreadsheet <sup>/XLS/</sup>, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol <sup>/KP/</sup>,



- 
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 <sup>/MA/</sup>, and subsequent decisions made by the Executive Board and COP/MOP,
  - other relevant rules, including the host country legislation,
  - CDM Validation and Verification Standard <sup>/VVS/</sup>,
  - monitoring plan as given in the registered PDD <sup>/PDD/</sup>,
  - Approved CDM Methodology.



## 2. GHG PROJECT DESCRIPTION

### 2.1. Technical Project Description

The project activity comprises installation and operation of 8 WTGs of capacity 1500 kW and 1 WTG of 1250 kW aggregating a total capacity 13.25 MW ( $1.50 \times 8 + 1.25 \times 1$ ) in the district Kutch of state, Gujarat in India. The electricity produced from the project is exported to the NEWNE grid of India except the WTG of capacity 1.25 WTG and one WTG out of 8 WTGs of 1.50 MW, in which 100% of the produced electricity is wheeled to the manufacturing unit of project proponent. This way, the project replaces the equivalent amount of energy generated through fossil fuel based power plants. The project started generating commercial power since 2006-03-31.

The key parameters of the project are given in

Table 2-1:

**Table 2-1:** Technical data of the project activity

Parameter	1.25 MW WTG	1.5 MW WTG
<b>Turbine Make</b>	Suzlon	Suzlon
<b>Turbine Model no.</b>	S-64	S-82
<b>Rotor</b>		
Electrical output	1250 kW	1500 kW
Diameter	64 m	82.0 m
Rotor swept area	3217 m <sup>2</sup>	5281 m <sup>2</sup>
Regulation	Pitch	Pitch
<b>Generator</b>		
Type	Asynchronous generator, 4 Poles	Single speed induction generator with slip rings
Rotational speed	1006/1506 RPM	1511 RPM
Rated Voltage	690 V	690 V
<b>Gear Box</b>		
Type	3 stage gear box; 1 planetary and 2 helical	3 stage gear box; 1 planetary and 2 helical
Gear Ratio	74.917:1	1: 95.09
<b>Yaw System</b>		
Drive	4 active electrical yaw motors	Active Electrical yaw motor
<b>Safety System</b>		
Mechanical System	Spring powered disc brakes, hydraulically released, fail safe	Hydraulic disc brake

### 2.2. Project Location

The details of the project location are given in Table 2-2:

**Table 2-2.1: Project Location**

No.	Project Location
Host Country	India
Region:	District: Kutch State: Gujarat
Project location address:	Village: Arikhana, Kamand, Suthri,
Latitude:	Refer table 2-2.2
Longitude:	Refer table 2-2.2

**Table 2-3.2: Latitude and longitude of the WTGs**

Sl. No	WTG No.	Latitude (North)	Longitude (East)
		Degree, Minutes, Seconds	Degree, Minutes, Seconds
1	SEL/1250/05-06/0139	23° 07' 30.2"	68° 49' 42.2"
2	SEL/1500/06-07/0361	23° 03' 10.0"	68° 52' 10.5"
3	SEL/1500/06-07/0360	23° 03' 28.0"	68° 52' 03.1"
4	SEL/1500/06-07/0383	23° 02' 35.3"	68° 52' 19.6"
5	SEL/1500/06-07/0384	23° 02' 56.6"	68° 52' 32.1"
6	SEL/1500/06-07/0359	23° 02' 40.5"	68° 53' 41.5"
7	SEL/1500/06-07/0358	23° 03' 05.9"	68° 52' 56.6"
8	SEL/1500/06-07/0382	23° 00' 02.6"	68° 55' 34.7"
9	SEL/1500/06-07/0362	23° 02' 55.0"	68° 54' 19.6"

## 2.3. Project Verification History

Essential events since the registration of the project are presented in the following Table 2-4.

**Table 2-4: Status of previous Monitoring Periods**

#	Item	Time	Status
1	1 <sup>st</sup> Monitoring period	2009-03-25 to 2010-10-	Issued

#	Item	Time	Status
		31	
2	2 <sup>nd</sup> Monitoring period	2010-11-01 to 2012-03-31	Ongoing

An overview of all Post Registration Changes is given in the following table.

**Table 2-3:** Overview Post Registration Changes

#	Applicable from – to / as of	MP	Type of post registration change <sup>1)</sup>	Description	Status <sup>2)</sup> / Date
1	NA		TDfrMP	-	-
2	NA		TDfMM	-	-
3	NA		CrPDD	-	-
4	NA		PCfrMP	-	-
5	NA		PCfMM	-	-
6	2011-07-27		CoPD	As per the registered PDD, 70% power produced from one among 8 WTGs of 1.5 MW capacity (with WTG No-SEL/1500/06-07/0362) was to be wheeled to the manufacturing unit of the project proponent while in actual 100% of power produced from the same WTG is being wheeled. This is the reason for which the project proponent had sought changes to the project design of the registered project activity.	2011-07-27

- <sup>1)</sup> TDfrMP : Temporary deviation from registered monitoring plan  
TDfMM : Temporary deviation from the monitoring methodology  
CrPDD : Corrections to the registered PDD  
PCfrMP : Permanent changes from registered Monitoring Plan  
PCfMM : Permanent changes from Monitoring Methodology  
CoPD : Changes to the project design of a registered project activity
- <sup>2)</sup> Approval (by EB)

### 3. METHODOLOGY AND VERIFICATION SEQUENCE

#### 3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report
- A desk review of the Monitoring Report<sup>/MR/</sup> submitted by the client and additional supporting documents with the use of customised verification protocol<sup>/CPM/</sup> according to the Validation and Verification Standard<sup>/VVS/</sup>,
- Verification planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

#### 3.2. Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

#### 3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consisting of one team leader and 3 additional team members, was appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the Table 3-1 below.

**Table 3-1:** Involved Personnel

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence <sup>3)</sup>	Technical competence <sup>4)</sup>	Verification competence <sup>5)</sup>	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Pankaj Patel	TUV India Pvt. Ltd.	TL	LA	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Hemang Shah	TUV India Pvt. Ltd.	TM <sup>A)</sup>	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Saroj Sahoo	TUV India Pvt. Ltd.	TM <sup>A)</sup>	LA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Indrapal Parmar	TUV India Pvt. Ltd.	TM <sup>A)</sup>	A	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input type="checkbox"/> Ms.			TR <sup>B)</sup>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Tahsin Choudhury	-	OR <sup>B)</sup>	ETE	<input type="checkbox"/>	1.2	<input type="checkbox"/>	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Stefan Winter	TN CERT GmbH	TR/FA <sup>B)</sup>	SA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	<input type="checkbox"/>	-

<sup>1)</sup> TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

<sup>2)</sup> GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

<sup>3)</sup> GHG auditor status (at least Assessor)

<sup>4)</sup> As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

<sup>5)</sup> In case of verification projects

<sup>A)</sup> Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

<sup>B)</sup> No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above mentioned team members are enclosed in annex 2 of this report.

### 3.4. Publication of the Monitoring Report

In accordance with the CDM M&P (§ 62) the draft monitoring report, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the verification activity commenced. Comments received are taken into account in the course of the verification, if applicable.

### 3.5. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

#### Risk analysis and detailed audit testing planning

For the identification of potential reporting risks and the necessary detailed audit testing procedures for residual risk areas table A-1 is used. The structure and content of this table is given in Table 3-2 below.

**Table 3-2:** Table A-1; Identification of verification risk areas

<b>Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing</b>				
<b>Identification of potential reporting risk</b>	<b>Identification, assessment and testing of management controls</b>	<b>Areas of residual risks</b>	<b>Additional verification testing performed</b>	<b>Conclusions and Areas Requiring Improvement (including Forward Action Requests)</b>
<i>The following potential risks were identified and divided and structured according to the possible areas of occurrence.</i>	<i>The potential risks of raw data generation have been identified in the course of the monitoring system implementation. The following measures were taken in order to minimize the corresponding risks.</i>  <i>The following measures are implemented:</i>	<i>Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be addressed in the course of every verification.</i>	<i>The additional verification testing performed is described. Testing may include:</i> <ul style="list-style-type: none"> <li>- Sample cross checking of manual transfers of data</li> <li>- Recalculation</li> <li>- Spreadsheet 'walk throughs' to check links and equations</li> <li>- Inspection of calibration and maintenance records for key equipment</li> <li>- Check sampling analysis results</li> </ul>	<i>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.</i>

**Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
			Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.	

The completed table A-1 is enclosed in Annex 1 (table A-1) to this report.

#### Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol has been developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the periodic verification is described in **Fehler! Verweisquelle konnte nicht gefunden werden..**

**Table 3-3:** Table A-2; Structure of the project specific periodic verification checklist

**Table A-2: Periodic verification checklist**

<b>Checklist Item</b>	<b>Reference</b>	<b>Verification Team Comments</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<i>The checklist items in Table A-2 are linked to the various requirements the monitoring of the project should meet. The checklist is organised in various sections as per the requirements of the topic and the individual project activity. It further includes guidance for the verification team.</i>	<i>Gives reference to the information source on which the assessment is based on.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the verification team and how the assessment was carried out. The reporting requirements of the VVS shall be covered in this section.</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft verification stage.</i>	<i>In case of a corrective action or a clarification the final assessment at the final verification stage is given.</i>

The periodic verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in Annex 1 (table A-2) to this report.

### 3.6. Desk review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan<sup>/PDD-REV/</sup>,
- the last revision of the validation report<sup>/VAL-R/</sup>,
- documentation of previous verifications<sup>/VER-1ST/</sup>
- the monitoring report, including the claimed emission reductions for the project<sup>/MR1/</sup>,
- the emission reduction calculation spreadsheet<sup>/XLS1/</sup>.

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

### 3.7. On-site assessment

As most essential part of the verification exercise it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. The main tasks covered during the site visit include, but are not limited to:



- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The duly calibration of all metering equipment was checked.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.

Before and during the on-site visit the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of Ratnamani Metals and Tubes Ltd (RTML) and Emergent Ventures India Pvt. Ltd. including the operational staff of the plant were interviewed. The main topics of the interviews are summarised in Table 3-4.

**Table 3-4:** Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
<p>1. Project proponent<sup>/IMO1/</sup>:</p> <ul style="list-style-type: none"> <li>• Ratnamani Metals and Tubes Ltd (RTML)</li> <li>• Emergent Ventures India Private Limited</li> </ul> <p>2. Operation and maintenance service provider<sup>/IMO1/</sup>: Suzlon Infrastructure Services Limited.</p>	<ul style="list-style-type: none"> <li>- General aspects of the project</li> <li>- Technical equipment and operation</li> <li>- Changes since validation / previous verification</li> <li>- Monitoring and measurement equipment</li> <li>- Remaining issues from validation/ previous verification</li> <li>- Calibration procedures</li> <li>- Quality management system</li> <li>- Involved personnel and responsibilities</li> <li>- Training and practice of the operational personnel</li> <li>- Implementation of the monitoring plan</li> <li>- Monitoring data management</li> <li>- Data uncertainty and residual risks</li> <li>- GHG emission reduction calculation</li> <li>- Procedural aspects of the verification</li> <li>- Maintenance</li> <li>- Environmental aspects</li> </ul>

The list of interviewees is included in chapter 7.4.

### **3.8. Draft verification reporting**

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

### **3.9. Resolution of CARs, CLs and FARs**

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- 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 which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation or previous verifications requiring actions by the project participants to be verified during verification have not been resolved.

The verification team uses the term Clarification Request (CL), which is issued if:

- information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the monitoring and reporting require attention and / or adjustment for the next verification period.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification pl. refer to chapter 4.

### **3.10. Final reporting**

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion can be issued. In case not all essential issues could finally be resolved, a final report including a negative verification opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

### **3.11. Technical review**

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

### **3.12. Final approval**

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the request for issuance can be started.

## 4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report<sup>/MR/</sup>, the calculation spreadsheet<sup>/XLS/</sup>, PDD<sup>/PDD/</sup>, the Validation Report<sup>/VAL/</sup> and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, CL and FAR issued are shown in Table 4-1:

**Table 4-1:** Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
A – Description of project activity	01	0	0
B – Implementation of project activity	01	0	0
C – Description of monitoring system	02	0	0
D – Data and parameters	02	01	0
E - Calculation of Emission Reductions	01	0	0
<b>SUM</b>	<b>07</b>	<b>01</b>	<b>0</b>

The following tables include all raised CARs, CLs and FARs and the assessments of the same by the verification team. For an in depth evaluation of all verification items it should be referred to the verification protocols (see Annex).

Finding	CAR A1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	As verified from the UNFCCC website, there is another party, i.e. Switzerland involved in the project activity. The same is missing in section A.3 of the monitoring report.  Associated checklist question(s): A.3		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The detail of project participants is made consistent with the information available on UNFCCC website.		

Finding	CAR A1
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The details of the other project participant is found to be included correctly in the revised monitoring report <sup>MR1/</sup> submitted.  CAR A1 is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR B1
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	To write "not applicable" against the sections B.2.1, B.2.2, B.2.4 and B.2.5 of the monitoring report is not appropriate. The sections are to be filled with relevant information. Moreover, the section B.2.3 is applicable for the revision in monitoring plan, not for PDD correction. The monitoring report is to be corrected accordingly.  Associated checklist question(s): B.2.3, B.2.4, B.2.5
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	All mentioned section of the monitoring report are updated in the revised monitoring report.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The above mentioned sections of the monitoring report have been found to be correctly revised.  CAR B1 is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR C1
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The monitoring report does not include a metering diagram showing all relevant monitoring points. (Please refer EB 66 Annex 20, C; EB 65 Annex 5 §190)  Associated checklist question(s): C.4
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Metering diagram is already included in annex-2 of the monitoring report. However section C now includes a reference to this metering diagram.

Finding	CAR C1
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The metering diagram is included in annex-2 of the monitoring report correctly and the reference to annex-2 is provided in section C of the revised monitoring report.  CAR C1 is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR C2
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The monitoring report does not provide information on roles and responsibilities of each person in the GHG data management process. (Please refer EB 66 Annex 20, C; EB 65 Annex 5 §190)  Associated checklist question(s): C5
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The information on roles and responsibilities are now incorporated in the revised monitoring report.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Roles and responsibility of each person in the GHG data management process has been found to be included in section C of the revised monitoring report appropriately.  CAR C2 is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CL D1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	As per the revised registered PDD and as stated in section D2 of the monitoring report, the calibration of the energy meters were to be carried out as per UNFCCC requirements i.e. at least once in three years, while in annex-1 of the monitoring report, the calibration frequency of the substation energy meters is mentioned to be once in 5 years. Please clarify.  Associated checklist question(s): D.1

Finding	CL D1
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>As per the section B.7.1 of the registered PDD the calibration of energy meters has to be done at least once in three years as per the UNFCCC requirements.</p> <p>Now information in annex-1 is modified as per the UNFCCC requirements and the necessary corrections are accounted for the non calibrating period accordingly in ER sheet and revised monitoring report.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The calibration frequency mentioned in the annex-1 of the monitoring report has been found to be revised from once in a five year to once in a three year period.</p> <p>It is observed that the calibration of the energy meters at Vanku substation was not valid for the entire monitoring period. In accordance with the requirement of "GUIDELINES FOR ASSESSING COMPLIANCE WITH THE CALIBRATION FREQUENCY REQUIREMENTS" Annex: 60, EB52, the project proponent has applied maximum error in the readings (of Vanku WTGs) for the duration in which the calibration of the energy meter was not valid. The project proponent has appropriately applied maximum permissible error as the error identified during post calibration was within the limit of maximum permissible error. The post calibration certificates and the calculation approach in the ER calculation sheet are checked by the verification team in this regard and found to be appropriate.</p> <p>Further, though it is noticed from the meter replacement certificates<sup>/MTRCHNG/</sup> for the location, M143 (33 kV transformer yard at Suthri site) dated 2012-02-08 that the new energy meter, GJB 00796 was working accurately at the time of replacement, the project proponent failed to produce the calibration certificate of the energy meter conducted before the date of instalment. Since the post calibration certificate (dated 2012-02-10) shows that the meter was working properly and the error identified during the calibration was within the permissible error, again in accordance with EB 52, annex 60, project proponent has applied the maximum permissible error, i.e. 0.2% in the readings. The error has been applied in the readings of all the WTGs connected to Suthri substation for the duration from Feb 2011 to Feb 2012. This has been assessed by the verification team to be appropriate. The post calibration certificates<sup>/CAL/</sup> and calculation in the emission reduction sheet<sup>/XLS2/</sup> are reviewed and found to be appropriate.</p> <p>The description for the same is found to be appropriately provided in the revised monitoring period submitted by the project proponent.</p> <p>CL D1 is closed.</p>



Finding	CL D1
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR D1
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>As observed from the details of calibration provided in annex-1 of the monitoring report, multiple energy meters are used for same locations of the 33 kV transformer yard. But the details for the meter replacement i.e. date and reasons for the replacement are not provided.</p> <p>Associated checklist question(s): D.1</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The meter change certificates containing details on meter replacement of 33 kV transformer yard meters are provided to the DOE for verification.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The calibration details are found to be appropriately revised to include the information on meter replacement. The replacement meter replacement certificates<sup>/MTRCHNG/</sup> for all the meter replacements are verified by the verification team and the details are found to be correctly provided in the revised monitoring period.</p> <p>CAR D1 is closed.</p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR D2
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The project proponent is required to submit the invoice for the entire monitoring period raised against the monthly electricity supplied to the grid.</p> <p>Associated checklist question(s): D.1</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The invoices for the entire monitoring period are provided to the DOE for verification.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The monthly invoices<sup>/INV/</sup> raised by the project proponent for the entire monitoring period are submitted to the verification team. The invoiced quantity of generation for all the months are found to be in tally with generation considered for emission reduction calculation.</p> <p>CAR D2 is closed.</p>





Finding	CAR D2
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR E1
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Since the value of ex-ante emission reduction mentioned in section E5 of the monitoring report is not directly sourced from the registered PDD, it is not traceable as to where the value has been taken from.</p> <p>Associated checklist question(s): E.5</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The basis for the value of ex-ante emission reduction mentioned in section E5 of the monitoring report has been included in the revised monitoring report.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The approach used to calculate ex-ante emission reduction has been found to be provided in the revised monitoring report. The annual average emission estimated in the registered PDD has been pro-rated to for the duration (517 days) covered in the monitoring period.</p> <p>CAR E1 is closed.</p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

## 5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CRs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

### 5.1. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity.

**Table 5-1:** Project Parties and project participants

Characteristic	Party	Project Participant
Non-Annex 1	India	Ratnamani Metals and Tubes Ltd
Annex 1	Switzerland	Emergent Ventures India Pvt. Ltd.

### 5.2. Implementation of the project

During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that w.r.t. the realized technology, the project equipments, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the registered/revised PDD<sup>/PDD/</sup>.

All the 09 WTGs involved in the project activity are installed at villages, Arikhana, Kamand and Suthri of Kutch district of state Gujarat of India as it has been described in the registered/revised PDD<sup>/PDD/</sup>. The commissioning certificates<sup>/CC/</sup> of all the WTGs were verified by the verification team and found to be appropriate. The monitoring plan required for the ex-ante estimation of the emission reduction is also implemented at the project site as per the registered monitoring plan<sup>/PDD/</sup>. The energy meters were found to be installed at the respective places during onsite verification conducted by the verification team. The WTG rated capacity, location/identification number, make, meter serial number and make etc. were verified from the name plates<sup>/TS/</sup> and found to be accurate.

The project proponent has entered into a contract with Suzlon Infrastructure Services Ltd. (SISL) for the O&M service. SISL has deployed the operation and maintenance team at project site for the successful functioning of the WTGs and data recording for the emission reduction calculation. The O&M team personals were interviewed<sup>/IM01/</sup> during onsite verification to confirm the monitoring procedure.



During 1<sup>st</sup> Periodic verification the verification team had observed that in the registered PDD<sup>/PDD/</sup> it was stated that 70% power produced from one among 8 WTGs of 1.5 MW capacity (with WTG No-SEL/1500/06-07/0362) was to be wheeled to the manufacturing unit of the project proponent while in actual 100% of power produced from the same WTG is being wheeled. The project proponent had sought a correction in the PDD in accordance with requirements outlined in EB 48 Annex 66, and the same was accepted by UNFCCC<sup>2</sup>. After the acceptance of the revised PDD<sup>/PDD-REV/</sup> by UNFCCC, it has been concluded that the project has been implemented and operated as described in the registered/revised PDD<sup>/PDD-REV/</sup>.

### **5.3. Project history**

During the validation the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose FARs might have been raised. No such issues were identified for this project. The validation report<sup>/VAL-R/</sup> of the project has been checked by the verification team to confirm the same.

Furthermore, as this is the 2<sup>nd</sup> periodic verification, the 1<sup>st</sup> periodic verification report<sup>/VER-1ST/</sup> has been reviewed by the verification team; as confirmed, no FAR was raised in the previous verification and no issues from former verifications are to be considered.

### **5.4. Post registration changes**

No post registration changes applicable for this monitoring period have been observed during the monitoring period. As explained above in section 5.3, the registered PDD was corrected during the previous (1<sup>st</sup>) monitoring period and accepted by UNFCCC on 2011-07-27.

### **5.5. Compliance with the monitoring plan**

The reporting is in line with the requirements of the validated monitoring plan<sup>/PDD/</sup> as well as with the applied methodology AMS I .D. version 13<sup>/AMS-ID/</sup>. The reporting procedures reflect the requirements of the monitoring plan<sup>/PDD/</sup>.

All necessary monitoring instruments are installed at the project site. Individual energy meters are installed at the 33 kV transformer yard of each WTGs where as common meters are installed at the sub stations to measure the electricity exported/imported to/from the entire wind farm. The measuring devices are well known and state of the art. The details of the meters including the operational history are given in Annex-1 of the monitoring report. The details of the meters were verified by the review of the calibration certificates<sup>/CAL/</sup> and on the basis of physical verification during the site visits conducted by the verification team. Some energy meters at 33kV transformer yard were found to be replaced during the monitoring period but it

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<sup>2</sup> <http://cdm.unfccc.int/Projects/DB/RWTUV1222760737.24/view/>

has been ensured that the old meters were replaced with new calibrated meters and no faulty reading has been considered for the emission reduction calculation. The meter replacement certificates<sup>/MTRCHNG/</sup> wherever applicable are also submitted by the project proponent. The detail of all the old meters and new meters has been included in the Annex 1 of the revised monitoring report<sup>/MR2/</sup>. The verification team has reviewed the same and found to be appropriate. The errors identified during the calibration were found to be within the permissible limit of the meters i.e. 0.2. Calibration of the energy meters has been carried out at least once in three years in accordance with the registered monitoring plan<sup>/PDD/</sup>. However, it should be noted that the calibration of the energy meters (GJ-2123-A and GJ-2150-A) at Vanku Sub-station was not valid for the duration, 2011-10-21 to 2012-03-31. In accordance with EB 52, annex 60, project proponent has conducted post calibration of the energy meters and since the errors identified during the post calibration are within the permissible error, maximum error (0.2%) has been applied in the readings recorded in the interval during which the calibration was not valid. The calculation approach in the emission reduction sheet<sup>/XLS2/</sup> along with the post calibration certificates<sup>/CAL/</sup> has been checked by the verification team and found to be appropriate.

Further, though it is noticed from the meter replacement certificates<sup>/MTRCHNG/</sup> for the location, M143 (33 kV transformer yard at Suthri site) dated 2012-02-08 that the new energy meter, GJB 00796 was working accurately at the time of replacement, the project proponent failed to produce the calibration certificate of the energy meter conducted before the date of instalment. Since the post calibration certificate (dated 2012-02-10) shows that the meter was working properly and the error identified during the calibration was within the permissible error, again in accordance with EB 52, annex 60, project proponent has applied the maximum permissible error, i.e. 0.2% in the readings. The error has been applied in the readings of all the WTGs connected to Suthri substation for the duration from Feb 2011 to Feb 2012. This has been assessed by the verification team to be appropriate. The post calibration certificates<sup>/CAL/</sup> and calculation in the emission reduction sheet<sup>/XLS2/</sup> are reviewed and found to be appropriate.

Net electricity exported to grid by the wind farm is certified to each WTG/investor by GEDA on the pro-rata basis based on the electricity readings recorded at 33 kV transformer yard and sub stations.

The emission reduction calculation has been done as below:

ER= BE-PE

Where,

ER= Emission reduction

BE=Baseline emission

PE=Project emission

Since this is a renewable energy project, the project emission has been considered as zero.

Thus, PE=0

Hence, ER= BE

$BE = GEN \times CM / 1000$

Where; BE = Baseline emission in tCO<sub>2</sub>/MWh

GEN =Net electricity supplied by WTGs per annum in the project activity in kWh

CM = Combined margin emission factor of WR grid in tCO<sub>2</sub>/MWh

Net electricity supplied by WTGs to the grid in the monitoring period has been monitored as,

GEN = 31377989 kWh

The Combined margin emission factor for the regional grid has been sourced from the registered CDM PDD<sup>/PDD/</sup> for the calculation of the baseline emission which was fixed ex-ante during validation of the project activity.

Thus, CM = 0.898 tCO<sub>2</sub>/MWh

The baseline emission has been calculated as,

$BE = GEN \times CM / 1000$

= 31377989 kWh X 0.898 tCO<sub>2</sub>/MWh /1000

= 28,177 tCO<sub>2</sub> (rounded down)

Thus, ER= BE= 28,177 tCO<sub>2</sub>

## 5.6. Compliance with the monitoring methodology

The monitoring system is in compliance with the applied monitoring methodology AMS I D, Version 13<sup>/AMS I D/</sup>. The reporting procedures reflect the requirements of the registered monitoring plan<sup>/PDD/</sup>.

## 5.7. Monitoring parameters

GEN, “Net electricity supplied by WTGs per annum in the project activity” is the only parameter (as listed in B.7.1 of the PDD) which is required to be monitored for the project activity. During the verification the monitoring parameter i.e. GEN has been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure of the parameter are described in the project specific verification checklist. (ref Annex: Verification Protocol – Table A-2).

In accordance with the registered monitoring plan<sup>/PDD/</sup>, the values of the monitoring parameter are sourced from the monthly share of electricity certificates<sup>/ELE-CERT/</sup>. All the values considered for the emission reduction calculation are checked from the monthly share of certificates<sup>/ELE-CERT/</sup> and found to be correct. Moreover, in order to confirm the readings considered for emission reduction, the verification team has also crosschecked the invoices<sup>/INV/</sup> raised by project proponent against the electricity generated by the project activity and found to be appropriate.

Nevertheless, during the verification CAR D1 & CAR D2 were raised by the verification team. After appropriate corrections were carried out by the project participant all the CARs were closed successfully. Thus, it can be confirmed that the monitoring parameter has been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

## 5.8. Monitoring report

A draft monitoring report<sup>/MR1/</sup> was submitted to the verification team by the project participants. The verification team has made this report publicly available prior to the start of the verification activities. No comments were received.

During the verification, mistakes and needs for clarification were identified and relevant CARs were raised during the course of the verification. The PP has carried out the corrections and all the CARs raised were closed successfully. So that it can be confirmed that the Monitoring report<sup>/MR2/</sup> is complete and transparent and in accordance with the registered PDD<sup>/PDD/</sup> and other relevant requirements. In this context CAR A1 was raised and closed successfully.

## 5.9. ER Calculation

The project proponent has submitted the emission reduction calculation excel sheet with respect to the monitoring report. An elaborate calculation for the emission reduction including the values of the monitoring parameters is provided in the emission reduction calculation sheet. The calculation has been carried out using appropriate approach and the equations in line with registered PDD<sup>/PDD/</sup>. The monitoring report and the emission reduction sheet are verified to confirm the same.



The only parameter which is required to be monitored for the emission reduction calculation is *GEN* i.e. Net electricity supplied by WTGs per annum in the project activity. The values of Net electricity supplied by WTGs per annum in the project activity has been sourced from the monthly electricity share of certificates<sup>/ELE-CERT/</sup> as per the registered/revised PDD<sup>/PDD-REV/</sup>. The monthly share of electricity certificates<sup>/ELE-CERT/</sup> for the entire monitoring report are checked by the verification team and the values considered for the emission reduction calculation are found to be correct. Verification team has crosschecked the electricity readings from the corresponding monthly invoices<sup>/INV/</sup> and observed that the readings considered for invoicing purpose are in tally with the readings mentioned in monthly electricity certificates<sup>/ELE-CERT/</sup> which are considered for emission reduction calculation.

## 5.10. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this CDM project activity have been defined. The procedures defined can be assessed as appropriate for the purpose and in line with the registered PDD<sup>/PDD/</sup>. No significant deviations thereof have been observed during the verification. The organization structure has been defined by the project proponent and being executed as per the registered PDD<sup>/PDD/</sup>. The responsibilities of data recording and archiving and successful operation & maintenance of the WTGs, training, emergency situations, meter calibration are vested on the O&M team of Suzlon Infrastructure Services Ltd. (SISL) which is an ISO certified company. The project proponent has entered into an agreement with SISL for the O&M services of the WTGs. The O&M personals were interviewed<sup>/IM01/</sup> during the onsite verification to confirm the monitoring procedure of the project activity.

## 5.11. Comparison with ex-ante estimated emission reductions

The difference between the monitored and ex-ante emission reduction has been explained properly in section E.5 and E.6 of the monitoring report<sup>/MR2/</sup>. The actual emission reduction in the requested monitoring period is 28,177 t CO<sub>2</sub> where as the ex-ante estimated emission reduction as per the registered PDD<sup>/PDD/</sup> is 33,937 tCO<sub>2</sub>. The ex-ante estimated emission reduction (33,937 tCO<sub>2</sub>) for corresponding monitoring period i.e. 517 days is calculated by pro-rating the ex-ante value, 23,960 tCO<sub>2</sub>/annum mentioned in the registered PDD<sup>/PDD/</sup>. It has been observed that there is a difference of 16.97% of emission reductions during the monitoring period as compared to the estimated emission reduction as per the registered PDD<sup>/PDD/</sup> i.e. 5,760 numbers of less emission reduction has been realised during the monitoring period as compared to the registered PDD<sup>/PDD/</sup> for the same duration. Decrease in emission reduction is due to realisation of low PLF in the requested monitoring period. The PLF realised during the monitoring period is 19.09% against the PLF of 23.0% assumed in the registered PDD<sup>/PDD/</sup>. However, since the actual emission reduction is on negative side in comparison with the ex-ante calculated value of

emission reduction, it has no impact on the baseline and additionality of the project activity.

Nevertheless, CAR E1 was raised and successfully closed during the course of verification.

## **5.12. Overall Aspects of the Verification**

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and the monitoring activities.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are not compliant with the UNFCCC criteria and relevant guidance provided by the COP/CMP and the CDM EB (clarifications and/or guidance).

## **5.13. Hints for next periodic Verification**

There is no open issue identified during the ongoing verification period which needs to be considered during the next periodic verification.





## 6. VERIFICATION AND CERTIFICATION STATEMENT

Ratnamani Metals and Tubes Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 2nd periodic verification of the project: “13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat”, with regard to the relevant requirements for CDM project activities. The project reduces GHG emissions due to generation of electricity using wind which is a renewable source of energy. This verification covers the period from 2010-11-01 to 2012-03-31(including both days).

In the course of the verification 07 Corrective Action Requests (CAR) and 01 Clarification Requests (CR) were raised and successfully closed. No Forward Action Request (FARs) was raised during the course of verification. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the registered PDD, the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS ID ver. 13
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

As the result of the 1<sup>st</sup> periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: **28,177** t CO<sub>2e</sub>

Vadodara, 2012-12-06

Essen, 2012-12-06

A handwritten signature in black ink, appearing to read 'P. Patel'.

Pankaj Patel

TÜV NORD JI/CDM Certification  
Program

Verification Team Leader

A handwritten signature in black ink, appearing to read 'Stefan Winter'.

Stefan Winter

TÜV NORD JI/CDM Certification  
Program

Final Approval

## 7. REFERENCES

**Table 7-1:** Documents provided by the project participant(s)

Reference	Document																					
/CAL/	Calibration certificates of the energy meters.																					
	Substation meters:																					
	<table><tr><td>Sub Station</td><td>Sr. No</td><td colspan="2">Calibration date</td></tr><tr><td rowspan="2">Vanku</td><td>GJ-2123-A</td><td colspan="2">2012-07-17, 2008-10-22</td></tr><tr><td>GJ-2150-A</td><td colspan="2">2012-07-17, 2008-10-22</td></tr><tr><td rowspan="2">Suthri</td><td>GJ-2104-A</td><td colspan="2">2010-03-08, 2009-01-01, 2008-08-14</td></tr><tr><td>GJ-2110-A</td><td colspan="2">2010-03-08</td></tr></table>				Sub Station	Sr. No	Calibration date		Vanku	GJ-2123-A	2012-07-17, 2008-10-22		GJ-2150-A	2012-07-17, 2008-10-22		Suthri	GJ-2104-A	2010-03-08, 2009-01-01, 2008-08-14		GJ-2110-A	2010-03-08	
	Sub Station	Sr. No	Calibration date																			
	Vanku	GJ-2123-A	2012-07-17, 2008-10-22																			
		GJ-2150-A	2012-07-17, 2008-10-22																			
	Suthri	GJ-2104-A	2010-03-08, 2009-01-01, 2008-08-14																			
		GJ-2110-A	2010-03-08																			
	33 kV yard meters:																					
	Site	Loc. No	Sr. no	Calibration date																		
	Suthri	M 64	GJB01348	2009-11-30																		
	Suthri	M 64	GJU04461	2011-02-21																		
				2012-02-12																		
	Suthri	M 80	GJB01709	2009-09-01																		
	Suthri	M 80	GJB00659	2011-02-21																		
				2012-02-12																		
	Suthri	M 81	GJB01624	2009-07-20																		
	Suthri	M 81	GJU03912	2011-06-08																		
	Suthri	M 82	GJB00664	2009-07-30																		
	Suthri	M 82	RJU00250	2011-06-08																		
	Suthri	M 98	GJU04500	2009-09-12																		
	Suthri	M 98	GJB01697	2011-02-21																		
				2012-02-12																		
	Suthri	M 123	GJB01306	2009-07-31																		
	Suthri	M 123	GJB01071	2011-02-08																		
				2012-02-10																		
	Suthri	M 143	GJB01627	2009-07-20																		
Suthri	M 143	GJB00796	2012-02-10																			
Suthri	M 147	GJU03892	2009-06-17																			
Suthri	M 147	GJU03902	2010-07-15																			
		GJB01294	2011-06-06																			
Vanku	V 12	GJU00856	2009-01-13																			
Vanku	V 12	GJB00128	2010-07-06																			
			2011-06-15																			

Reference	Document																																												
/CC/	Commissioning Certificate of the WTG's: <ul style="list-style-type: none"><li>• Ref. no. GEDA/PWF/SGWPL-RMTL/Vanku/244; dated 2006-04-18 for WTG V12.</li><li>• Ref. no. GEDA/PWF/SGWPL-RMTL/Abdasa/2006-07/262 dated 2007-04-16 for WTGs M80, M81, M98 &amp; M123.</li><li>• Ref. no. GEDA/PWF/SGWPL-RMTL/Abdasa/2006-07/266 dated 2007-04-13 for WTGs M64, M82 &amp; M143.</li><li>• Ref. no. GEDA/PWF/SGWPL-RMTL/Abdasa/2007-08 dated 2007-07-12 for WTG M147.</li></ul>																																												
/ELE-CERT/	Monthly electricity share certificates for the entire monitoring period, 2010-11-01 to 2012-03-31																																												
/INV/	Invoices raised by the PP against the electricity generated from the project activity each month for the entire monitoring period, 2010-11-01 to 2012-03-31																																												
/MTRCHNG/	33 kV yard meter change certificates with following details; <table><tr><td>Loc No.</td><td>Repl. date</td><td>Old meter</td><td>New Meter</td></tr><tr><td>M 64</td><td>2011-02-21</td><td>GJB01348</td><td>GJU04461</td></tr><tr><td>M 80</td><td>2011-02-21</td><td>GJB01709</td><td>GJB00659</td></tr><tr><td>M 81</td><td>2011-06-08</td><td>GJB01624</td><td>GJU03912</td></tr><tr><td>M 82</td><td>2011-06-08</td><td>GJB00664</td><td>RJU00250</td></tr><tr><td>M 98</td><td>2011-02-21</td><td>GJU04500</td><td>GJB01697</td></tr><tr><td>M 123</td><td>2011-02-08</td><td>GJB01306</td><td>GJB01071</td></tr><tr><td>M 143</td><td>2011-02-08</td><td>GJB01627</td><td>GJB00796</td></tr><tr><td>M 147</td><td>2011-06-06</td><td>GJU03902</td><td>GJB01294</td></tr><tr><td></td><td>2010-07-20</td><td>GJU03892</td><td>GJU03902</td></tr><tr><td>V12</td><td>2010-07-06</td><td>GJU00856</td><td>GJB00128</td></tr></table>	Loc No.	Repl. date	Old meter	New Meter	M 64	2011-02-21	GJB01348	GJU04461	M 80	2011-02-21	GJB01709	GJB00659	M 81	2011-06-08	GJB01624	GJU03912	M 82	2011-06-08	GJB00664	RJU00250	M 98	2011-02-21	GJU04500	GJB01697	M 123	2011-02-08	GJB01306	GJB01071	M 143	2011-02-08	GJB01627	GJB00796	M 147	2011-06-06	GJU03902	GJB01294		2010-07-20	GJU03892	GJU03902	V12	2010-07-06	GJU00856	GJB00128
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M 147	2011-06-06	GJU03902	GJB01294																																										
	2010-07-20	GJU03892	GJU03902																																										
V12	2010-07-06	GJU00856	GJB00128																																										
/MR1/	Monitoring report of the project titled, “13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat”, version 1 dated 2012-05-21																																												
/MR2/	Monitoring report of the project titled, “13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat”, version 1.1 dated 2012-12-05																																												
/O&MAGR/	Operation and Maintenance contract signed between the Ratnamani Metals and Tubes Pvt. Ltd. And Suzlon Infrastructure Services Limited.																																												
/XLS1/	Emission reduction calculation spread sheet w.r.t. monitoring report version 1																																												

Reference	Document
/XLS2/	Emission reduction calculation spread sheet w.r.t. monitoring report version 1.1

**Table 7-2:** Background investigation and assessment documents

Reference	Document
/AMS ID/	AMS ID ver. 13, "Grid connected renewable electricity generation"
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/COMWEBH/	Email communication between UNFCCC and TUV-NORD regarding the confirmation of web hosting of the MR on dated 2011-05-22
/GLMP/	Guidelines for completing the monitoring report form (EB 66 Annex 20)
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/MRT/	Monitoring Report Form (F-CDM-MR) Version 2.0
/PDD-REV/	Revised/ approved Project Design Document for CDM project: "13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat" version 1.3, dated 2011-06-14
/PS/	Project Standard (EB 65 Annex 5)
/TS/	Technical Specifications of the WTGs verified by the verification team during site visit
/VAL-R/	Validation Report for CDM project "13.25 MW Wind Power Generation by RMTL, In Kutch, Gujarat" version 1, dated 2009-03-26
/VER-1ST/	Documents of previous (1 <sup>st</sup> ) verifications (Monitoring report, verification report, ER calculation sheet)
/VVS/	UNFCCC Validation and Verification Standard (Version 2.0, EB 65)

**Table 7-3:** Websites used

Reference	Link	Organisation
/CEA/	<a href="http://www.cea.nic.in/">http://www.cea.nic.in/</a>	Central Electricity Authority, India
/DNA-INDIA/	<a href="http://moef.nic.in/">http://moef.nic.in/</a>	Ministry of Environment and forest, DNA of India
/UNFCCC/	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	UNFCCC

**Table 7-4:** List of interviewed persons

Reference	Mol <sup>1</sup>		Name	Organisation / Function
/IM01/	T,E	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Aniruddh Dave	Ratnamani Metals and Tubes Ltd
/IM01/	V,T,E	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Amit Gupta	Emergent Ventures India (EVI)

<sup>1)</sup> Means of Interview: (Telephone, E-Mail, Visit)

# ANNEX

- A1:** Verification Protocol
- A2:** Statements of Competence of  
involved Personnel

## ANNEX 1: VERIFICATION PROTOCOL

**Table A-1:** GHG calculation procedures and management control testing / detailed audit testing of residual risk areas and random testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<b>Raw data generation</b>				
<ul style="list-style-type: none"> <li>• Installation of measuring equipment</li> <li>• Dysfunction of installed equipment</li> <li>• Maloperation by operational personnel</li> <li>• Downtimes of equipment</li> <li>• Exchange of equipment</li> <li>• Change of measurement equipment characteristic</li> <li>• Insufficient accuracy</li> <li>• Change of technology</li> </ul>	<ul style="list-style-type: none"> <li>• Installation of modern and state of the art equipment</li> <li>• Process control automation</li> <li>• Internal data review</li> <li>• Regular visual inspections of installed equipment</li> <li>• Only skilled and trained personnel operates the relevant equipment</li> <li>• Daily raw data checks</li> <li>• Immediate exchange of dysfunctional equipment</li> <li>• Stand-by duty is</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate installation / operation of the monitoring equipment</li> <li>• Inadequate exchange of equipment</li> <li>• Change of personnel</li> <li>• Undetected measurement errors</li> <li>• Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies)</li> <li>• Non-application of management system procedures</li> <li>• Insufficient accuracy</li> <li>• Inappropriate QA/QC</li> </ul>	<ul style="list-style-type: none"> <li>• Site – visit</li> <li>• Check of equipment</li> <li>• Check of technical data sheets</li> <li>• Check of suppliers information / guarantees</li> <li>• Check of calibration records, if applicable</li> <li>• Check of maintenance records</li> <li>• Counter-check of raw data and commercial data</li> <li>• Check of CDM management system</li> <li>• Check of CDM related procedures</li> </ul>	<ul style="list-style-type: none"> <li>• <b>See Table A-2</b></li> </ul>



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<ul style="list-style-type: none"> <li>Accuracy of values supplied by Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>organized</li> <li>Training</li> <li>Internal audit procedures</li> <li>Internal check of QA/QC measures of involved Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>measures of Third Parties</li> </ul>	<ul style="list-style-type: none"> <li>Application of CDM management system procedures</li> <li>Check of trainings</li> <li>Check of responsibilities</li> <li>Check of QA/QC documentation / evidences of involved Third Parties</li> </ul>	
<b>Raw data collection and data aggregation</b>				
<ul style="list-style-type: none"> <li>Wrong data transfer from raw data to daily and monthly aggregated reporting forms</li> <li>IT Systems</li> <li>Spread sheet programming</li> <li>Manual data transmission</li> <li>Data protection</li> <li>Responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Cross-check of data</li> <li>Plausibility checks of various parameters.</li> <li>Appropriate archiving system</li> <li>Clear allocation of responsibilities</li> <li>Application of CDM Management system procedures</li> <li>Usage of standard software solutions</li> </ul>	<ul style="list-style-type: none"> <li>Unintended usage of old data that has been revised</li> <li>Incomplete documentation</li> <li>Ex-post corrections of records</li> <li>Ambiguous sources of information</li> <li>Non-application of management system procedures</li> <li>Manual data transfer mistakes</li> </ul>	<ul style="list-style-type: none"> <li>Check of data aggregation steps</li> <li>Counter-calculation</li> <li>Data integrity checks by means of graphical data analysis and calculation of specific performance figures</li> <li>Check of management system certification</li> <li>Check of data archiving system</li> </ul>	<ul style="list-style-type: none"> <li><b>See Table A-2</b></li> </ul>



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
	(Spreadsheets) <ul style="list-style-type: none"> <li>Limited access to IT systems</li> <li>Data protection procedures</li> </ul>	<ul style="list-style-type: none"> <li>Unintended change of spread sheet programming or data base entries</li> <li>Problems caused by updating/upgrading or change of applied software</li> </ul>	<ul style="list-style-type: none"> <li>Check of application of Management system procedures</li> </ul>	
<b>Other calculation parameters</b>				
<ul style="list-style-type: none"> <li>Emission factors, oxidation factors, coefficients</li> </ul>	<ul style="list-style-type: none"> <li>The values and data sources applied are defined in the PDD and monitoring plan</li> </ul>	<ul style="list-style-type: none"> <li>Unintended or intended Modification of calculation parameters</li> <li>Wrong application of values</li> <li>Misinterpretations of the applied methodology and/ or the PDD</li> <li>Missing update of applicable regulatory framework (e.g. IPCC values)</li> </ul>	<ul style="list-style-type: none"> <li>Update-check of regulatory framework</li> <li>Countercheck of the applied MP in the MR against the methodology and the PDD</li> </ul>	<ul style="list-style-type: none"> <li><b>See Table A-2</b></li> </ul>
<b>Calculation Methods</b>				

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
<ul style="list-style-type: none"> <li>Applied formulae</li> <li>Miscalculation</li> <li>Mistakes in spread-sheet calculation</li> </ul>	<ul style="list-style-type: none"> <li>Advanced calculation and reporting tools</li> <li>A CDM coordinator is in charge of the CDM related calculations</li> <li>Usage of tested / counterchecked Excel spreadsheets</li> <li>Involvement of external consultants</li> </ul>	<ul style="list-style-type: none"> <li>The danger of miscalculation can only be minimized.</li> </ul>	<ul style="list-style-type: none"> <li>Countercheck on the basis of own calculation.</li> <li>Spread sheet walk-through.</li> <li>Plausibility checks</li> <li>Check of plots</li> </ul>	<ul style="list-style-type: none"> <li>See Table A-2</li> </ul>
<b>Monitoring reporting</b>				
<ul style="list-style-type: none"> <li>Data transfer to the author of the monitoring report</li> <li>Data transfer to the monitoring report</li> <li>Unintended use of outdated versions</li> </ul>	<ul style="list-style-type: none"> <li>An experienced CDM consultant is responsible for monitoring reporting.</li> <li>CDM QMS procedures are defined</li> </ul>	<ul style="list-style-type: none"> <li>The danger of data transfer mistakes can only be minimized</li> <li>Inappropriate application of QMS procedures</li> </ul>	<ul style="list-style-type: none"> <li>Counter check with evidences provided.</li> <li>Audit of procedure application</li> </ul>	<ul style="list-style-type: none"> <li>See Table A-2</li> </ul>

**Table A-2:** (Project specific) Periodic Verification Checklist

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>A. Description of the project activity</b>				
<b>A.1. Purpose and general description of the project activity</b> <b>(EB 66 Annex 20, A.1)</b> <i>Check if section A.1 of the MR includes the following:</i> <ul style="list-style-type: none"> <li>- Purpose of the PA and the measures taken to reduce GHG emissions</li> <li>- Brief description of the installed technology and equipment</li> <li>- Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc.)</li> <li>- Total emission reductions achieved in this monitoring period</li> </ul>	/MR1/	<p>The verification team has checked section A.1 of the MR and confirms that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Purpose of the PA and the measures taken to reduce GHG emissions</li> <li><input checked="" type="checkbox"/> Brief description of the installed technology and equipments</li> <li><input checked="" type="checkbox"/> Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc)</li> <li><input checked="" type="checkbox"/> Total emission reductions achieved in this monitoring period</li> </ul> <p>In this context the following findings have been identified: N/A</p>	OK	OK
<b>A.2. Location of project activity</b> <b>(EB 66 Annex 20, A.2)</b> <i>Check if section A.2 of the MR reflects correctly the following:</i> <ul style="list-style-type: none"> <li>- Host Party(ies)</li> <li>- Region / State / Province etc.</li> <li>- City / Town / Community etc.</li> </ul>	/MR1/ /PDD-REV/ /IM01/	<p>The verification team has checked section A.2 of the MR and confirms by means of comparison with the information given in the PDD and information gathered during the site visit that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Host Party(ies)</li> <li><input checked="" type="checkbox"/> Region / State / Province</li> <li><input checked="" type="checkbox"/> City / Town / Community</li> </ul>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
- <i>Physical / geographical location (e.g. Latitude and Longitude)</i>		<input checked="" type="checkbox"/> Physical / Geographical location In this context the following findings have been identified: N/A		
<b>A.3. Parties and Project Participants</b> <b>(EB 66 Annex 20, A.3)</b> Check if section A.3 of the MR includes the following: <ul style="list-style-type: none"> <li>- All PPs as displayed on the UNFCCC website</li> <li>- A correctly filled table as per the MR template</li> </ul>	/MR1/ /UNFCCC/ C/	The verification team has checked section A.3 of the MR as well as the UNFCCC website and confirms that: <ul style="list-style-type: none"> <li><input type="checkbox"/> all PPs as displayed on the project related UNFCCC website are correctly listed</li> <li><input checked="" type="checkbox"/> the table as per the template MR has been correctly filled</li> </ul> In this context the following findings have been identified:  CAR A1 As verified from the UNFCCC website, there is another party, i.e. Switzerland involved in the project activity. The same is required to be included in section A.3 of the monitoring report.	CAR A1	OK
<b>A.4. Reference of applied methodology</b> <b>(EB 66 Annex 20, A.4)</b> Check if section A.4 of the MR correctly describes / includes the following: <ul style="list-style-type: none"> <li>- Reference to the applicable version of the methodology</li> <li>- Reference to the applicable version(s) of</li> </ul>	/MR1/ /PDD- REV/ /unfccc/	The verification team has checked section A.4 of the MR and confirms by means of comparison with the information given in the PDD and displayed on the UNFCCC website that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Number, title and version of the applicable CDM Methodology</li> <li><input checked="" type="checkbox"/> Name and version of applicable CDM methodological</li> </ul>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>relevant methodological tools</i> - <i>Relevant EB decisions, if applicable</i>		tools <input type="checkbox"/> Relevant EB decisions In this context the following findings have been identified: N/A		
<b>A.5. Crediting period of project activity (EB 66 Annex 20, A.5)</b> <i>Check if section A.5 of the MR correctly includes the following:</i> - <i>Start date of the crediting period. In this context please check, if applicable, whether post registration changes to the start date have been accepted by the EB.</i> - <i>Length and type of the crediting period</i>	/MR1/ /UNFCCC/ C/	The verification team has checked section A.5 of the MR and confirms by means of comparison with the information displayed on the UNFCCC website that the information provided is complete and correct with regards to the following: <input checked="" type="checkbox"/> Start date of the crediting period. <input checked="" type="checkbox"/> Type and length of the crediting period  In this context the following findings have been identified: N/A	OK	OK
<b>A.6. Publication of the Monitoring Report (EB 65 Annex 4, 207)</b>  <i>Check if the monitoring report has been made publicly available on the UNFCCC website before the verification commenced.</i> <i>Check if comments have been received and if yes, how they have been addressed.</i>	/UNFCCC/ C/	The verification team has ensured and confirms by means of checking the respective project information on the UNFCCC website that: <input checked="" type="checkbox"/> The draft monitoring report, as received from the project participants, has been made publicly available prior to the start of the verification activities. <input checked="" type="checkbox"/> No comments have been received. In this context the following findings have been identified:	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		N/A		
<b>A.7. Compliance with standardized format of the Monitoring Report</b> <i>(EB 65 Annex 4, 212 h)</i> <i>Check (only) if the latest applicable MR template has been used. For compliance assessment with the MR guideline pl. refer to the respective MR sections.</i>	/MRT/	The verification team has checked all sections of the MR and confirms by means of comparison with the MR template that: <input checked="" type="checkbox"/> the standardized MR template has been used In this context the following findings have been identified: N/A	OK	OK
<b>B. Implementation of project activity</b>				
<b>B.1. Description of implemented registered project activity</b> <i>(EB 66 Annex 20, B.1)</i> <i>Check if section B.1 of the MR correctly describes / includes the following:</i> <ul style="list-style-type: none"> <li>- Implementation status of the PA</li> <li>- Detailed description of installed technology(ies) / technical processes and equipment applied</li> <li>- Diagrams (where appropriate)</li> </ul>	/MR1/ /PDD-REV/ /PS/ /IM01/	The verification team has checked section B.1 of the MR and confirms by means of comparison with the information given in the PDD, the project standard and information gathered during the site visit that: <input checked="" type="checkbox"/> the description of the implementation status of the PA is in line with the applicable provisions of the project standard <input checked="" type="checkbox"/> an appropriate description of the installed technology(ies), technical process and equipment incl. diagrams, where applicable, has been included In this context the following findings have been identified: N/A	OK	OK
<b>B.1.1. Initial project implementation</b> <i>(EB 65 Annex 4; § 225 a, 226)</i> <i>Assess whether the project has been implemented and operated as per the registered PDD and are all physical features of the project in place?</i>	/IM01/ /PDD-REV/ /CC/ /INV/	<i>Description:</i> Project activity is implemented and operated as per the registered PDD <sup>/PDD-REV/</sup> . The project activity consists of 08 units of Wind Turbine Generators (WTGs) of 1500 kW and 01 WTG of 1250 kW, of Suzlon make making a total capacity of 13.25 MW.	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>Further focus on the potential phase wise implementation and check the reporting on the corresponding status and starting dates accordingly.</i></p> <p><i>Also, discuss – if applicable – any approvals of the necessary request of notification or request for approval of changes from the project activity as described in the registered PDD (EB 48 Annex 66/67).</i></p>	/ELE-CERT/	<p>There are no changes in the key equipments of the project activity.</p> <p><i>Verifier's action:</i></p> <p>The commissioning certificates<sup>/CC/</sup>, revised registered PDD<sup>/PDD-REV/</sup>, monthly electricity certificates and corresponding invoices<sup>/INV/</sup> was reviewed and concern persons were interviewed during onsite verification to confirm the same.</p> <p><i>Conclusion:</i></p> <p>The project has been implemented as it has been defined in the registered revised PDD<sup>/PDD-REV/</sup>.</p>		
<p><b>B.1.2. Technical equipment changes</b> <b>-(EB 65 Annex 4; § 225 a, 226)</b></p> <p><i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. Further ensure that consistent notations of key equipment (meters etc.) in PDD, MR and calculation spreadsheet are applied</i></p> <p><i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring</i></p>	/IM01/ /PDD-REV/	<p><i>Description:</i></p> <p>None of the major technical equipment of the project activity has been exchanged or modified during the said monitoring period. During site visit the name plate details of the wind turbines were verified with the WTG Nos. mentioned in the registered PDD<sup>/PDD-REV/</sup>.</p> <p>However, This is subject to the closure of CAR D1 which is raised to include the meter replacement at 33 kV transformer yard in the monitoring report.</p> <p><i>Justification of evidences:</i></p> <p>This has been confirmed by interview<sup>/IM01/</sup> with the O&amp;M personals during onsite verification conducted by the verification</p>	CAR D1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>		<p>team. Further, the equipment specifications<sup>/TS/</sup> including the WTGs identification number, capacity, meter serial number, make and model etc were verified by physical verification during site visit.</p> <p><i>Conclusion:</i> Pending closure of CAR D1.</p>		
<p><b>B.1.3. Operation of the project activity</b> <b>-(EB 65 Annex 4; § 225 a, 226)</b></p> <p><i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i></p> <p><i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>	<p>/IM01/ /PDD-REV/</p>	<p><i>Description:</i></p> <p>The operation modes of the project activity have not been exchanged or modified during the monitoring period and the operation modes are still in line with the registered monitoring plan<sup>/PDD-REV/</sup>.</p> <p><i>Verifier's action:</i></p> <p>This has been confirmed by interview<sup>/IM01/</sup> with the plant personnel during onsite verification conducted by the verification team.</p> <p><i>Conclusion:</i></p> <p>The verification team concludes that the operation modes of the project activity have not been exchanged or modified during the monitoring period under consideration and is in line with the registered revised PDD<sup>/PDD-REV/</sup>.</p>	OK	OK
<p><b>B.1.4. Incidents</b> <b>(EB 65 Annex 4; § 225 a, 226)</b></p>	<p>/IM01/ /ELE-</p>	<p><i>Description:</i></p> <p>No significant incidents or deviation in operating procedure have</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i></p> <p><i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i></p>	CERT/	<p>occurred during the monitoring period.</p> <p><i>Verifier's action:</i></p> <p>This has been confirmed by interview<sup>/IM01/</sup> with the plant personnel and data integrity check<sup>/ELE-CERT/</sup> by the verification team during onsite verification</p> <p><i>Conclusion:</i></p> <p>The verification team concludes that no incident had occurred during the monitoring period which may affect the implementation status of the project as mentioned in registered PDD.</p>		
<p><b>B.1.5. Legislation</b></p> <p>Find out – esp. in the context of methodological requirements - whether relevant legislation with effect on the project activity in the host country has been changed.</p> <p>Assess, in case of changes, whether consequences for the PA with regard to relevant CDM requirements have been accounted for.</p> <p>In case of changes data sources shall be referenced.</p>	/IM01/ /MOEF/ /VAL-R/ /PDD-REV/	<p><i>Description:</i></p> <p>None of the legislation with effect on the project activity has been observed to be changed during the monitoring period in host country India.</p> <p><i>Verifier's action:</i></p> <p>The registered PDD<sup>/PDD-REV/</sup> and the validation report<sup>/VAL-R/</sup> have been checked and it was confirmed that the statutory clearances applicable for the project activity are still valid. Also Ministry of environment and Forests website <a href="http://envfor.nic.in/legis/eia/eia-2006.htm">http://envfor.nic.in/legis/eia/eia-2006.htm</a> was checked for prevailing legislation in the host country<sup>/MOEF/</sup>.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><i>Conclusion:</i></p> <p>The verification team concludes that none of relevant legislation with effect on the project activity has been changed during the monitoring period under consideration.</p>		
<p><b>B.1.6. Open issues from validation</b>  <b>-(EB 65 Annex 4; § 213)</b></p> <p><i>Check (esp. in case of 1<sup>st</sup> periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i></p>	/VAL-R/	<p><input checked="" type="checkbox"/> There were no open issues addressed in the validation report</p> <p><input type="checkbox"/> All open issues from the validation have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the validation have not yet been appropriately addressed:</p>	OK	OK
<p><b>B.1.7. Open issues from previous verification</b>  <b>-(EB 65 Annex 4; §§ 213; 284 h)</b></p> <p><i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification reports (FAR) and take into consideration the guidance as specified in VVS.</i></p>	/VER-1ST/	<p><input checked="" type="checkbox"/> There were no open issues addressed in the previous verification report</p> <p><input type="checkbox"/> All open issues from the previous verification have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the previous verification have not yet been appropriately addressed:</p>	OK	OK
<b>B.2. Post registration changes</b>				
<b>B.2.1. Are post registration changes</b>		<input checked="" type="checkbox"/> No, by means of site visit, document check and interview it	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																															
<b>applicable to the proposed project activity?</b>		could be verified that the project is implemented and operated in line with the registered PDD and the applied methodology. <i>(Please proceed with section C)</i> <input type="checkbox"/> Yes, post registration changes have been identified and are assessed in detail in the subsequent steps. <i>(Please proceed with B.2.2.)</i>																																	
<b>B.2.2. Temporary deviations from the registered monitoring plan or applied methodology (TDfrMP; TDfMM)</b> <i>(EB 66 Annex 20, B.2.1; EB 65 Annex 4; §§ 251 - 256))</i>  <i>Indicate whether any temporary deviations have been applied during this monitoring periods.</i> <i>In cases where approval has been sought from the EB please provide reference.</i> <i>If applied, provide a description of the deviation(s).</i> <i>This should include the reasons for the deviation(s), how it deviates from the monitoring plan and/or applied methodology(ies), the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach. Indicate if the deviation will lead to a reduction in the accuracy and if so, which conservative assumptions and discount factors have been applied.</i> <i>For deviation(s) that require prior approval by the Board, include the date of approval and reference number.</i>	/PS/ /UNFCCC/ C/	<table><tr><td><input checked="" type="checkbox"/></td><td colspan="3">No TDfrMP or TDfMM have been submitted to the UNFCCC prior to the current monitoring period</td></tr><tr><td rowspan="8"><input type="checkbox"/></td><td rowspan="4">1</td><td>Title</td><td></td></tr><tr><td>Status</td><td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td></tr><tr><td>Appr.date</td><td></td></tr><tr><td>Ref. No.</td><td></td></tr><tr><td rowspan="4">2</td><td>Title</td><td></td></tr><tr><td>Status</td><td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td></tr><tr><td>Appr.date</td><td></td></tr><tr><td>Ref.No.</td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td colspan="3">During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td></tr><tr><td><input type="checkbox"/></td><td colspan="3">An approval of the following TDfrMP or TDfMM is to be</td></tr></table>	<input checked="" type="checkbox"/>	No TDfrMP or TDfMM have been submitted to the UNFCCC prior to the current monitoring period			<input type="checkbox"/>	1	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref. No.		2	Title		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr.date		Ref.No.		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA			<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be			OK	OK
<input checked="" type="checkbox"/>	No TDfrMP or TDfMM have been submitted to the UNFCCC prior to the current monitoring period																																		
<input type="checkbox"/>	1	Title																																	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved																																
		Appr.date																																	
		Ref. No.																																	
	2	Title																																	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved																																
		Appr.date																																	
		Ref.No.																																	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA																																		
<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be																																		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<div> <div>requested from the EB for the current MP as appendix 1 of the project standard does not apply.</div> <div> <div>1</div> <div>Issue:</div> <div></div> </div> <div> <div>2</div> <div>Issue:</div> <div></div> </div> </div> <div> <input type="checkbox"/> The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied: <div> <div>1</div> <div>Issue:</div> <div></div> </div> <div> <div>2</div> <div>Issue:</div> <div></div> </div> </div> <div> <p><i>In cases of approved TDfrMP or TDfM the EB guidance has been applied as follows:</i></p> <p><i>Detailed description and justification each TDfrMP or TDfM for which appendix 1 is applicable:</i></p> <p>In this context the following findings have been identified: N/A</p> </div>		
<b>B.2.3. Corrections</b> (EB 66 Annex 20, B.2.2)		<div> <input checked="" type="checkbox"/> During the verification of the current MP no need for </div>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.														
<p>Indicate whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.</p> <p>In cases where the correction(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised PDD.</p> <p>Please check and report that the corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.</p>		<table><tr><td></td><td colspan="3">corrections has been identified.</td></tr><tr><td rowspan="3"><input type="checkbox"/></td><td colspan="3">The following corrections have been applied:</td></tr><tr><td>1</td><td>Issue:</td><td></td></tr><tr><td>2</td><td>Issue:</td><td></td></tr></table> <p>Detailed description and justification each correction:</p> <p>In this context the following findings have been identified:</p> <p>CAR B1</p> <p>To write “not applicable” against the sections B.2.1, B.2.2, B.2.4, and B.2.5 of the monitoring report is not appropriate. The sections are to be filled with relevant information. Moreover, the section B.2.3 is applicable for the revision in monitoring plan, not for PDD correction. The monitoring report is to be corrected accordingly.</p>		corrections has been identified.			<input type="checkbox"/>	The following corrections have been applied:			1	Issue:		2	Issue:			
	corrections has been identified.																	
<input type="checkbox"/>	The following corrections have been applied:																	
	1	Issue:																
	2	Issue:																
<p><b>B.2.4. Permanent changes from the registered monitoring plan or applied methodology (PCfrMP; PCfMM)</b></p> <p><i>(EB 66 Annex 20, B.2.3)</i></p>		<table><tr><td><input checked="" type="checkbox"/></td><td colspan="3">No PCfrMP or PCfMM have been submitted to the UNFCCC prior to the current monitoring period</td></tr><tr><td><input type="checkbox"/></td><td colspan="3">The following PCfrMP or PCfMM have been approved</td></tr></table>	<input checked="" type="checkbox"/>	No PCfrMP or PCfMM have been submitted to the UNFCCC prior to the current monitoring period			<input type="checkbox"/>	The following PCfrMP or PCfMM have been approved			OK	OK						
<input checked="" type="checkbox"/>	No PCfrMP or PCfMM have been submitted to the UNFCCC prior to the current monitoring period																	
<input type="checkbox"/>	The following PCfrMP or PCfMM have been approved																	

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.			
<p>Indicate whether any permanent changes from the registered monitoring plan or applied methodologies have been approved during this monitoring period or submitted with this monitoring report.</p> <p>In cases where the change(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised PDD.</p>		or are under approval by the UNFCCC					
		1			Title		
					Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	
					Appr.date		
					Ref. No.		
		2			Title		
					Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	
					Appr.date		
					Ref.No.		
		<input checked="" type="checkbox"/>			During the verification of the current MP no need for a PCfrMP or PCfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
		<input type="checkbox"/>			An approval of the following PCfrMP or PCfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		
					1	Issue:	
					2	Issue:	
		<input type="checkbox"/>			The following PCfrMP or PCfMM for which appendix 1 of the PS is applicable have been applied:		
					1	Issue:	
2	Issue:						

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																					
		<p><i>In cases of approved PCfrMP or PCfMM the EB guidance has been applied as follows:</i></p> <p><i>Detailed description and justification each TDfrMP or TDfM for which appendix 1 is applicable:</i></p> <p>In this context the following findings have been identified: N/A</p>																							
<p><b>B.2.5. Changes to the project design of the registered project activity (CoPD)</b> <i>(EB 66 Annex 20, B.2.4)</i></p> <p><i>Indicate whether any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>In cases where the change(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date</i></p>		<table><tr><td><input type="checkbox"/></td><td colspan="3">No CoPD has been submitted to the UNFCCC prior to the current monitoring period</td></tr><tr><td rowspan="5"><input checked="" type="checkbox"/></td><td colspan="3">The following CoPD has been approved or are under approval by the UNFCCC</td></tr><tr><td rowspan="4">1</td><td>Title</td><td>NA</td></tr><tr><td>Status</td><td><input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved</td></tr><tr><td>Appr.date</td><td>2011-07-27</td></tr><tr><td>Ref. No.</td><td>NA</td></tr><tr><td>2</td><td>Title</td><td colspan="2"></td></tr></table>	<input type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period			<input checked="" type="checkbox"/>	The following CoPD has been approved or are under approval by the UNFCCC			1	Title	NA	Status	<input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved	Appr.date	2011-07-27	Ref. No.	NA	2	Title			OK	OK
<input type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period																								
<input checked="" type="checkbox"/>	The following CoPD has been approved or are under approval by the UNFCCC																								
	1	Title	NA																						
		Status	<input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved																						
		Appr.date	2011-07-27																						
		Ref. No.	NA																						
2	Title																								

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)			Draft Concl.	Final Concl.	
of the revised PDD.				Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		
				Appr.date			
				Ref.No.			
		<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA				
		<input type="checkbox"/>	An approval of the following CoPD.is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.				
			1	Issue:			
			2	Issue:			
		<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:				
			1	Issue:			
			2	Issue:			
		In cases of approved CoPD the EB guidance has been applied as follows:					
		Detailed description and justification each CoPD for which appendix 1 is applicable:					



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		In this context the following findings have been identified: N/A		
<b>C. Description of monitoring system</b>				
<b>C.1. Monitoring Plan – PDD Compliance</b> <b>(EB 65 Annex 1, § 233-236)</b> <i>Check if the monitoring plan is in accordance with the monitoring plan contained in the registered PDD (or any accepted revised MP).</i> <i>Please check esp. if</i> <ul style="list-style-type: none"> <li>- all parameters stated in the MP of the registered PDD have been monitored and updated as applicable</li> <li>- the monitoring equipment has been controlled and calibrated as per the MP</li> <li>- the monitoring results are consistently recorded as per the approved frequency</li> <li>- QA/QC procedures have been applied in accordance with the MP</li> </ul>	/MR1/ /PDD- REV/	By means of comparison of the MR with the registered PDD (or any revisions thereof) the verification team has checked whether the MP is in compliance with the registered PDD. The outcome is as follows: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <input checked="" type="checkbox"/> The MP is completely in accordance with the last registered/approved version of the PDD / MP. </div> In this context the following findings have been identified: N/A	OK	OK
<b>C.2. Monitoring Plan – Meth Compliance</b> <b>(EB 65 Annex 4, § 229-232)</b>	/MR1/ /PDD-	By means of comparison of the MR with the applied CDM methodology and related tools the verification team has checked whether the MP is in compliance with the MP related	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																																
<p><i>Check if the monitoring plan is in accordance with the applied methodology.</i></p> <p><i>In case the methodology references applicable tools it has to be ensured that the MP is also compliant with those tools.</i></p> <p><i>Also please specify if monitoring aspects have been identified that are not specified in the methodology but may enhance the level of accuracy and completeness of the monitoring plan – this esp. applies for SSC PAs.</i></p>	REV/ /AMS ID/	<p>requirements of the applied methodology. The outcome is as follows:</p> <table><tr><td><input checked="" type="checkbox"/></td><td colspan="3">The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PDD)</td></tr><tr><td><input checked="" type="checkbox"/></td><td colspan="3">The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:</td></tr><tr><td rowspan="3">1</td><td>Title (of the tool)</td><td colspan="2">Tool to calculate the emission factor for an electricity system</td></tr><tr><td>Version</td><td colspan="2">01</td></tr><tr><td>MP compliance</td><td colspan="2"><input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)</td></tr><tr><td rowspan="3">2</td><td>Title (of the tool)</td><td colspan="2">Tool to calculate baseline, project and/or leakage emissions from electricity consumption</td></tr><tr><td>Version</td><td colspan="2">1</td></tr><tr><td>MP compliance</td><td colspan="2"><input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)</td></tr><tr><td>3</td><td>Title (of the tool)</td><td colspan="2">Combined tool to identify the baseline scenario and</td></tr></table>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PDD)			<input checked="" type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:			1	Title (of the tool)	Tool to calculate the emission factor for an electricity system		Version	01		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)		2	Title (of the tool)	Tool to calculate baseline, project and/or leakage emissions from electricity consumption		Version	1		MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)		3	Title (of the tool)	Combined tool to identify the baseline scenario and			
<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PDD)																																			
<input checked="" type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:																																			
1	Title (of the tool)	Tool to calculate the emission factor for an electricity system																																		
	Version	01																																		
	MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)																																		
2	Title (of the tool)	Tool to calculate baseline, project and/or leakage emissions from electricity consumption																																		
	Version	1																																		
	MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)																																		
3	Title (of the tool)	Combined tool to identify the baseline scenario and																																		

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)		Draft Concl.	Final Concl.						
			<table><tr><td></td><td>demonstrate additionality</td></tr><tr><td>Version</td><td>2.1</td></tr><tr><td>MP compliance</td><td><input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)</td></tr></table>		demonstrate additionality	Version	2.1	MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)		
	demonstrate additionality										
Version	2.1										
MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)										
		In this context the following findings have been identified: N/A									
<b>C.3. Management System (EB 65 Annex 4, § 217 (iii))</b>  <i>Check if the GHG data monitoring system can be assessed as appropriate.</i>  <i>In case reference is made to a (certified) company quality management system, check if all CDM related monitoring procedures have been fully integrated in the project participant's quality management system.</i>  <i>In case of a stand-alone system, check how the GHG management system has been implemented and effectiveness is ensured.</i>	/IM01/ /O&MAG R/	<i>Description:</i>  Though the project proponent, Ratnamani Metals and Tubes Ltd (RMTL) is an ISO certified company, the GHG data monitoring system is not embedded with the company quality management system. However, the relevant GHG management system has been implemented as per the registered monitoring plan. The project proponent has entered into an agreement with SISL for the operation and maintenance service of the WTGs. The Company managing director directly coordinates with the O&M team at site for the operation and maintenance of the WTGs and data monitoring, capturing and recording.  <i>Verifier's action:</i>  This has been confirmed by interview with the concerned persons by the verification team. The operation and maintenance agreement signed between Ratnamani Metals and tubes Pvt. Ltd. and Suzlon infrastructure Services Ltd. has been reviewed by the verification team and found to be appropriate.		OK	OK						

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><i>Conclusion:</i></p> <p>The verification team concludes that GHG management system implemented by the project proponent is adequate.</p>		
<p><b>C.4. Metering diagram</b> (EB 66 Annex 20, C; EB 65 Annex 5 §190)</p> <p><i>Check first if the MR includes a metering diagram showing all relevant monitoring points.</i></p> <p><i>Check further if this diagram reflects the actual situation and is in line with the registered PDD and with the requirements of the applied methodology.</i></p>	/MR1	<p><i>Description:</i></p> <p>The monitoring report does not include a metering diagram showing all relevant monitoring points. The verification team has raised CAR C1 for this.</p> <p><i>Verifier's action:</i></p> <p>The monitoring report has been reviewed by the verification team to confirm the same.</p> <p><i>Conclusion:</i></p> <p>Pending closure of CAR C1.</p>	CAR C1	OK
<p><b>C.5. Roles and Responsibilities</b> (EB 66 Annex 20, C; EB 65 Annex 5 §190)</p> <p><i>Check if all roles and positions of each person in the GHG data management process are clearly defined and implemented as stated in the monitoring plan. Please consider the complete data trail from raw data generation to submission of the final data.</i></p> <p><i>Identify, if relevant personnel w.r.t. monitoring has been exchanged?</i></p> <p><i>If so, have appropriate training measures been</i></p>	/MR1/ /PDD- REV/	<p><i>Description:</i></p> <p>The monitoring report does not provide information on roles and responsibilities of each person in the GHG data management process. CAR C2 has been raised by the verification team for this.</p> <p><i>Verifier's action:</i></p> <p>The monitoring report has been reviewed by the verification team to confirm the same.</p>	CAR C2	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>carried out.</i></p> <p><i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>		<p><i>Conclusion:</i></p> <p>Pending closure of CAR C2.</p>		
<p><b>C.6. Emergency procedures for the monitoring system</b> (EB 54 Annex 34, C; EB 65 Annex 5 §190)</p> <p><i>Check, as appropriate, whether relevant emergency procedures for the monitoring system have been included in the MR and assess whether these procedures have been implemented, when required</i></p>	<p>/PS/ /MR1/ /IM01/</p>	<p><i>Description:</i></p> <p>A detail regarding emergency procedure for the monitoring system is included in the Section C of monitoring report. It has been observed that the emergency preparedness plan is prepared by the PP to ensure safe operation of the project activity.</p> <p><i>Verifier's action:</i></p> <p>The information provided in the monitoring report are reviewed and the site personals were interviewed to confirm the same.</p> <p><i>Conclusion:</i></p> <p>The verification team concludes that appropriate emergency procedure has been implemented by the project proponent and the same has been described in the monitoring report appropriately.</p>	OK	OK
<p><b>C.7. Data archive and data protection</b> (EB 65 Annex 5 §56 b)</p> <p>Check whether all records of monitoring parameters are archived according to the monitoring plan.</p> <p>Assess further whether appropriate measures have</p>	<p>/IM01/ /PDD-REV/</p>	<p><i>Description:</i></p> <p>The project proponent has a provision to keep the records of the monitoring parameters till 2 yrs after the completion of the credit period.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
been taken in order to avoid unintended or intended manipulation or loss of the measured data.		<p><i>Verifier's action:</i></p> <p>This has been confirmed by interview with the concerned person. The registered revised PDD has been checked to confirm the provision for the same.</p> <p><i>Conclusion:</i></p> <p>The verification team concludes that archiving procedure of the monitoring parameters is in line with the monitoring plan.</p>		
<b>D. Data and parameters</b>				
<b>D.1. Data and Parameters fixed ex ante</b>				
<p><b>a) Compliance with registered PDD</b>  <b>(EB66 Annex 20; D1)</b>  Check whether the value applied is in compliance with the registered PDD.</p>	<p>/MR1/  /PDD-REV/</p>	<p><i>Description:</i></p> <p>Combined margin (CM) CO2 emission factor of the grid is the only ex-ante fixed parameter which is sourced from the registered revised PDD for the calculation of emission reduction.</p> <p><i>Verifier's action:</i></p> <p>The registered revised PDD has been checked by the verification team to confirm the correctness of the value.</p> <p><i>Conclusion:</i></p> <p>Grid emission factor is the only ex-ante fixed parameter which is correctly used for the emission reduction calculation.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>b) Compliance with the applied methodology (EB66 Annex 20; D1)</b>  <i>Check whether the value applied is in compliance with the applied methodology or any other tool.</i>	/PDD-REV/	<p><i>Description:</i></p> <p>The ex-ante combined margin (CM) grid emission factor was fixed in the registered revised PDD in accordance with the applied methodology, AMS ID, version 15 and “Tool to calculate emission factor of an electricity system”, version 1.</p> <p><i>Verifier’s action:</i></p> <p>The registered revised PDD has been checked to confirm the same.</p> <p><i>Conclusion:</i></p> <p>The ex-ante grid emission factor is in compliance with the applied methodology and other relevant tool.</p>	OK	OK
<b>D.2. Data and Parameters monitored</b>				
<b>D.2.1. GEN</b>		<b>Description:</b> Net electricity supplied by WTGs per annum in the project activity		
<b>a) Measurement / Determination method (EB 65 Annex 4, § 233, 236)</b>  <i>Describe how the monitoring parameter was measured / determined.</i>  <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the</i>	/MR1/ /PDD-REV/ /ELE-CERT/ /IM01/	<p><i>Description:</i></p> <p>Net electricity supplied by WTGs per annum in the project activity is directly sourced from the monthly share of electricity certificates. The SLDC statements are prepared on the basis pro-rata approach using the meter readings recorded both at 33 kV transformer yard and substation. This is in line with the registered monitoring plan<sup>/PDD-REV/</sup>.</p> <p>However, as observed from the details of calibration provided in</p>	CAR D1	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>		<p>annex-1 of the monitoring report, multiple energy meters are used for same locations of the 33 kV transformer yard. But the details for the meter replacement i.e. date and reasons for the replacement are not provided. CAR D1 has been raised by the verification team for the same.</p> <p><i>Verifier's action:</i></p> <p>The registered revised PDD, monitoring report and monthly electricity certificates were reviewed and the site personals were interviewed during onsite verification to confirm the same.</p> <p><i>Conclusion:</i></p> <p>Pending closure of CAR D1.</p>		
<p><b>b) Accuracy and QA/QC Procedure</b> <b>(EB 65 Annex 4, §§ 237-241)</b></p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p>	/CAL/ /MM/	<p><i>Description:</i></p> <p>The accuracy of the measuring equipments i.e. the energy meters is as per the registered monitoring plan. However, as per the revised registered PDD and as stated in section D2 of the monitoring report, the calibration of the energy meters were to be carried out as per UNFCCC requirements i.e. at least once in three years while in annex-1 of the monitoring report, the calibration frequency of the substation energy meters is mentioned to be once in 5 years. CL D1 has been raised for this issue.</p> <p><i>Verifier's action:</i></p>	<del>CL-D1</del>	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The details provided in the monitoring report along with the registered revised PDD and the calibration certificates are reviewed to confirm the same.</p> <p><i>Conclusion:</i> Pending closure of CL D1.</p>		
<p><b>c) Correctness</b> <b>(EB 65 Annex 4, §§ 233, 236)</b></p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/MR1/ /ELE- CERT/	<p><input checked="" type="checkbox"/> Correct      <input type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p> <p>The values of energy generations used for the emission reduction calculation are verified from the monthly electricity certificates and found to be correct. However, the project proponent has not submitted the invoice for the entire monitoring period raised against the monthly electricity supplied to the grid. CAR D2 has been raised by validation team for this.</p> <p><i>Verifier's action:</i></p> <p>The monthly SLDC generation statements for the entire monitoring period have been verified to confirm the correctness of the values considered for emission reduction calculation.</p> <p><i>Conclusion:</i> Pending closure of CAR D2</p>	<b>CAR D2</b>	OK
<b>E. Calculation of Emission reductions</b>				

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<b>E.1. Traceability</b> <b>(EB 65 Annex 4, §§ 212, 214)</b> <i>Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.</i>	/XLS1/	<p><i>Description:</i></p> <p>The calculation for the emission reduction is fully traceable; the project proponent has submitted an excel calculation spread sheet along with the monitoring report to the verification. All the formulae used for the emission reduction calculation are visible in the calculation sheet.</p> <p><i>Verifier's action:</i></p> <p>The emission reduction calculation spread sheet submitted by the project proponent has been reviewed to confirm the same.</p> <p><i>Conclusion:</i></p> <p>The calculation approach used for the emission reduction calculation is traceable.</p>	OK	OK
<b>E.2. Parameter consistency</b> <b>(EB 65 Annex 4, § 214)</b> <i>Assess whether all internal and external parameters and data used for calculation are applied consistently in the monitoring report and the calculation spreadsheet?</i> <i>Consider only the correct data exchange between the monitoring report and the calculation spreadsheet (if any). Further ensure the consistency of notations for all parameters in the PDD, MR, calculation</i>	/XLS1/ /MR1/	<p><i>Description:</i></p> <p>All the internal and external parameters and data used for calculation are observed to be consistently applied in the monitoring report and emission calculation spread sheet. And the data are found to be correctly exchanged between the monitoring report and calculation sheet.</p> <p><i>Verifier's action:</i></p> <p>The monitoring report and emission reduction calculation spread sheet are reviewed to confirm the same.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>spreadsheet.</i>		<p><i>Conclusion:</i></p> <p>All the parameters are consistently applied in the monitoring report and emission reduction calculation sheet. And the data are correctly exchanged.</p>		
<p><b>E.3. Correctness of calculation</b> <b>(EB 65 Annex 1, §§ 235-236)</b></p> <p><i>Check if the applied formulae and methods for calculating baseline emissions, project emissions and leakage are in accordance with the monitoring plan and / or the approved methodology.</i></p> <p><i>Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan.</i></p> <p><i>Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.</i></p>	<p>/XLS1/ /MR1/ /PDD-REV/</p>	<p><i>Description:</i></p> <p>The formulae and calculation method used the emission reduction calculation are verified to be appropriate and in line with the registered revised PDD.</p> <p><i>Verifier's action:</i></p> <p>The monitoring report and emission reduction calculation spread sheer are verified to confirm the same.</p> <p><i>Conclusion:</i></p> <p>The verification team concludes that the applied formula and methods used for emission reduction calculation are correct.</p>	OK	OK
<p><b>E.4. Emission reductions table</b> <b>(EB 66 Annex 20, E.4)</b></p> <p><i>Check if the MR includes a summary table of the emission reductions calculation specifying separately</i></p>	<p>/MR1/ /XSL1/</p>	<p><input checked="" type="checkbox"/> The MR includes in section E.4 a summary table of the emission reductions calculation.</p> <p><input checked="" type="checkbox"/> The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately.</p>	OK	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<ul style="list-style-type: none"> <li>- Total baseline emissions</li> <li>- Total project emissions:</li> <li>- Total leakage</li> <li>- Total emission reductions.</li> </ul> <p>Assess whether the values are correct or need to be revised as a consequence of issues identified above.</p>		<input checked="" type="checkbox"/> The values as specified in the ER summary table are correct; no issues have been identified during the verification which require changes in the ER calculation.  <input type="checkbox"/> During the verification issues with impact on the ER calculation have been identified. Thus subject to the closure of above listed findings the summary table in E.4 needs to be revised.  In this context the following additional findings have been identified:  N/A		
<b>E.5. Comparison with ex-ante determined emission reductions (EB 66 Annex 20, E.5; E.6)</b>  Check if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD.  Check further whether in case of an increase an appropriate explanation is included in the MR.  Assess in case of a significant increase whether this is due to technical or organisational changes within or outside the control of the PP which might require a notification / approval of changes (as per EB 48 Annex 66/67).	/XLS1/ /MR1/ /PDD- REV/	Description:  The section E.5 of the monitoring report includes a comparison of actual value of emission reduction of the monitoring period and ex-ante estimated value as per the registered PDD. The actual emission reduction has been found to be less as compared to the ex-ante estimated value as per the registered PDD.  However, since the value of ex-ante emission reduction mentioned in section E5 of the monitoring report is not directly sourced from the registered PDD, it is not traceable where the value has been taken from. CAR E1 has been raised for this.  Verifier's action:	CAR E1	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The monitoring report, emission reduction calculation sheet and the registered revised PDD are reviewed by the verification team to confirm the same.</p> <p><i>Conclusion:</i> Pending closure of CAR E1</p>		

## ANNEX 2: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



### Statement of Competence

Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Pankaj Patel**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2013-06-21
Validation, Verification		
VCS	Lead Assessor	2013-06-21

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
2.2	Heat Distribution
3.1	Energy Demand

031– Rev. 0, Date: 2011-03-23

031\_S01-F003\_2011-03-23\_rev0

S01-F003 rev0 / 2010-04-19



### Statement of Competence

Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Hemang Shah**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2014-06-22
Validation, Verification		
VCS	Lead Assessor	2014-06-22

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal Energy Generation
1.2	Renewable Energies
2.1	Electricity Distribution
2.2	Heat Distribution
3.1	Energy Demand
13.1	Waste handling and disposal

087 – Rev. 1, Date: 2011-06-23

087\_S01-F003\_2011-06-22\_rev1

S01-F003 rev0 / 2010-04-19



**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Saroj Kumar Sahoo**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2014-08-02
VCS	Lead Assessor	2014-08-02

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

088 – Rev. 2, Date: 2011-08-03

088\_S01-F003\_2011-08-03\_rev2

S01-F003 rev2 / 2010-04-19



**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Indrapal Parmar**

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2014-03-27
VCS	Assessor	2014-03-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

191 – Rev. 1, Date: 2011-06-16



### Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD Ji/CDM Certification Program

**Mr. Stefan Winter**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2014-06-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	
1.2	Renewable Energy	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
2.2	Heat distribution	
3.1	Energy demand	
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management
13.2	Animal waste management	
15.2	Animal waste management	

163 – Rev. 2, Date: 2011-08-10

163\_S01-F003\_2011-08-10\_rev2

S01-F003 rev1 / 2011-08-02



### Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD Ji/CDM Certification Program

**Mr. Tahsin Choudhury**

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	
8.2	Oil and Gas Industry	
10.2	Oil and Gas Industry	

281 – Rev. 0, Date: 2011-10-10

281\_S01-F003\_2011-10-10\_rev0

S01-F003 rev1 / 2011-08-02