

# VALIDATION REPORT

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**Mahalaxmi Commercial Services Private  
Limited**

**Wind Power Project in Maharashtra  
State, India**

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<b>Date of Issue:</b>		<b>Project Number:</b>	
15/05/2015		CDM.VAL3632	
<b>Project Title:</b>			
Wind Power Project in Maharashtra State, India			
<b>Organisation:</b>		<b>Client:</b>	
SGS United Kingdom Limited		Mahalaxmi Commercial Services Private Limited	
<b>Publication of PDD for Stakeholders Consultation</b>			
<b>Commenting Period:</b>		13/11/2013 – 12/12/2013	
First PDD Version and Date:		Version 1, dated 05/11/2013	
Final PDD Version and Date:		Version 1.9, dated 25/04/2015	
<b>Summary:</b>			
<p>Mahalaxmi Commercial Services Private Limited has commissioned SGS to perform the validation of the proposed CDM project entitled "Wind Power Project in Maharashtra State, India", using methodology AMS-I.D. Version 17 dated 03/06/2011.</p> <p>The scope of the validation is defined as an independent and objective review of the project design document, the project baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against CDM Validation and Verification Standard (Version 07.0), Kyoto Protocol requirements, CDM Executive Board/UNFCCC rules.</p> <p>The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable simplified methodology and underlying formulae and calculations.</p> <p>The report and its annexes describe a total of 10 findings which include:</p> <ul style="list-style-type: none"> <li>• 05 Corrective Action Requests (CARs);</li> <li>• 05 Clarification Requests (CLs);</li> <li>• 00 Forward Action Requests (FARs);</li> </ul> <p>All findings have been closed satisfactorily. The project will be recommended to the CDM Executive Board for registration.</p>			
<b>Subject:</b>		<b>Document Distribution</b>	
CDM Validation			
<b>Validation Team:</b>			
Vijaybhai Patel – Lead Assessor /Local Assessor Chandra Prakash Singh – Financial Expert Ravikant Soni –Technical Area Expert (TA 1.2)		<input checked="" type="checkbox"/> No Distribution (without permission from the Client or responsible organisational unit)	
<b>Technical Review:</b>		<input type="checkbox"/> Limited Distribution	
Date: 15/05/2015 Name: Ramkrishna Patil			
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## Abbreviations

AMS	Approved Methodology for Small-scale CDM project activities
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified emission reduction
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CM	Combined Margin
CMS	Central Monitoring Station
COP/MOP	Conference of Parties/Meeting of Parties
CUF	Capacity Utilization Factor
D/E	Debt-to-Equity
DDMMSS	Degree Minute Seconds (For Geo-coordinates)
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EB	Executive Board
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
HCA	Host Country Approval
INR	Indian Rupee
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISHC	International Stakeholders Consultation
ISO	International Organization for Standardization
JMR	Joint Meter Reading
kV	Kilovolts
kW	Kilowatt
kWh	Kilowatt-hour
LoA	Letter of Approval
MAT	Minimum Alternate Tax
MoC	Modalities of Communication
MoEF	Ministry of Environment and Forest
MoM	Minutes of Meeting
MoV	Means of Verification
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt-hour
MSEDCL	Maharashtra State Electricity Distribution Company Limited
NCMDA	National CDM Authority
NEWNE	North East West North-East
NOC	No Objection Certificate
O&M	Operation and Maintenance
OM	Operating Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PLF	Plant Load Factor
PLR	Prime Lending Rate
PP	Project Participant
PPA	Power Purchase Agreement

PS	Project Standard
QA/QC	Quality Assurance and Quality Control
SBI	State Bank of India
SLDC	State Load Despatch Centre
SLM	Straight Line Method
SSC	Small Scale
SV	Site Visit
UNFCCC	United Nations Framework Convention on Climate Change
VCB	Vacuum Circuit Breaker
VVS	Validation and Verification Standard
WEC / WTG	Wind Energy Converter / Wind Turbine Generator

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## 1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Mahalaxmi Commercial Services Private Limited to perform a validation of the proposed CDM project activity entitled "Wind Power Project in Maharashtra State, India".

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), Validation and Verification Standard (Version 7.0) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Through the installation of a grid connected 10.5 MW wind power project at the villages of Mendhegiri and Muchangi, Jath Taluka, in the District of Sangli, State of Maharashtra State, in India; and the supply of the generated electricity to MSEDCL via the NEWNE Grid, the project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC, CDM criteria and all relevant host country criteria. The project correctly applies methodology AMS-I.D. version 17. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be **162,234** t of CO<sub>2</sub>e over a 10 year crediting period, averaging **16,223** t of CO<sub>2</sub>e annually. The emission reduction forecast has been checked and is deemed achievable, provided the assumptions made in the PDD do not change during implementation.

The project will hence be recommended by SGS for registration with the UNFCCC.

### Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Jonathan Hall

Date: 24/06/2015

## 2. Introduction

### 2.1 Objective

Mahalaxmi Commercial Services Private Limited has commissioned SGS to perform the validation of the proposed CDM project activity entitled “Wind Power Project in Maharashtra State, India”, against the relevant requirements for Clean Development Mechanism (CDM) project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project baseline, the monitoring plan (MP) and the project compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

### 2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

### 2.3 GHG Project Description

The project participant, Mahalaxmi Commercial Services Private Limited, has developed a 10.5 MW wind power project at the villages of Mendhegiri and Muchangi, Jath Taluka, in the District of Sangli, State of Maharashtra State, in India. The project activity will generate electricity utilising wind energy and will supply the generated electricity to the MSEDCL which is under purview of the NEWNE grid. In the absence of the project activity, the equivalent amount of electricity would have otherwise been generated by existing and new power plants with emission intensive activities, connected to the NEWNE electricity grid.

The assessment team has validated the accuracy of the project description through the combination of steps consisting of review of the commissioning certificates<sup>21/</sup> for the WTGs, site visit observations and interviews with the project participant and their representatives.

The generated electricity from the project activity will be supplied to the MSEDCL (Maharashtra State Electricity Distribution Company Limited), which falls under the NEWNE regional grid of India.

The project aims to reduce GHG emissions by replacing the same amount of electricity from the NEWNE regional grid which would have otherwise be generated by fossil fuel based power plants. The corroboration that the electricity will only be exported and not used for captive consumption is available through signed PPA with the state electricity board of Maharashtra.

### 2.4 The Names and Roles of the Validation Team Members

Assessment Team	Role
Vijaybhai Patel	Lead Assessor and Local Assessor
Ravikant Soni	Technical Area Expert (TA 1.2)

### 3. Methodology

#### 3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project design document Version 1 dated 05/11/2013 and the subsequent versions: version 1.1 dated 06/02/2014, version 1.2 dated 30/04/2014, version 1.3 dated 12/06/2014, version 1.4 dated 28/09/2014, version 1.5 dated 11/10/2014, version 1.6 dated 03/11/2014, version 1.7 dated 29/11/2014, version 1.8 dated 24/02/2015 and version 1.9 dated 25/04/2015 (final version). The assessment is performed by trained assessors using a validation protocol attached as Annex 2 Table 2.

The site visit was performed on 17/12/2013. The results are summarised in a separate checklist as Annex 1. The validation team has confirmed the statements of the PDD through site visit, interviews and review of the documents.

#### 3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the Validation and Verification Standard; Version 7.0 dated 1 June 2014. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Conclusion/ CARs/CLs
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex 2 to this report

#### 3.3 Findings

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

**A Clarification Request (CL)** is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met

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

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.



The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

**A Forward Action Request (FAR)** is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

### **3.4 Internal Quality Control**

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation is forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and client must address them within agreed timeline.

<b>Technical Review</b>	<b>Role</b>
Ramkrishna Patil	Technical Reviewer and Technical Area Expert (TA 1.2)

## 4. Validation Findings

### 4.1 Approval

The Letter of approval<sup>/4/</sup> bearing no. 4/17/2014-CCC dated 25/04/2014 issued by the Indian DNA (Ministry of Environment & Forests, Government of India) has been submitted by the Project Participant to the assessment team. The title of the project activity and the name of the Project Participant in the LoA<sup>/4/</sup> was verified against that on the title page and section A.4 of the PDD<sup>/1.8/</sup>. The LoA<sup>/4/</sup> confirms that:

- (a) The Government of India has ratified the Kyoto Protocol in August 2002 and hence is a Party to the Kyoto Protocol.
  - (b) The participation in the proposed CDM project activity is voluntary.
  - (c) The project contributes to Sustainable Development of India
- And;
- (d) The LoA refers to the precise proposed CDM project activity – “Wind Power Project in Maharashtra State, India” – mentioned in the PDD being submitted for registration.

The LoA<sup>/4/</sup> is unconditional with respect to (a) to (d) mentioned above.

The LoA<sup>/4/</sup> was further verified against the website of the Host Party DNA at the following link: [http://www.cdmindia.gov.in/project\\_details\\_view.php?id=2076&oid=1&page=1&reporttype=1](http://www.cdmindia.gov.in/project_details_view.php?id=2076&oid=1&page=1&reporttype=1) to confirm its authenticity (Project ID 1772/11/2013). The website confirms the status as approved.

The LoA<sup>/4/</sup> has been checked by the assessment team and is found to be in accordance with paragraphs 39 to 42 of the VVS Version 07.0<sup>/6/</sup>. The requirement of paragraph 44 are checked and followed during validation of the project activity. The LoA<sup>/4/</sup> does not refer to a specific version of the validation report. Hence, paragraph 45 of VVS Version 07.0<sup>/6/</sup> is not applicable. The Host Party DNA has confirmed the contribution of the project to the sustainable development of the host Party. This is in line with the paragraphs 51-52 of VVS version 07.0.

It was checked that the person who signed the HCA on behalf of the DNA (.Dr. A. Duraisamy) was the official DNA representatives at the time, as indicated on UNFCCC <https://cdm.unfccc.int/DNA/index.html>. However when UNFCCC web page was assessed again (in November 2014 and February 2015), it was observed that the authorized contact person/focal point for the Indian DNA has changed and is now currently Dr. Subrata Bose. The assessment team sent an e mail to [subrata.bose@nic.in](mailto:subrata.bose@nic.in) on 12/11/2014 and no objection was ever received.

Hence it is concluded that the Host Country Approval received for the project activity is appropriate and authentic.

### Discussion of CARs/CLs

**CAR #1 (Issue 1)** was raised requesting the PP to submit the letter of approval from the Host country for the proposed CDM project activity. In response, the PP submitted the Host Country approval (Ref. 4/17/2014-CCC) dated 25/04/2014<sup>/4/</sup>. The LoA has been assessed as described above and is found to be satisfactory. Hence **CAR #1 (Issue 1)** was **closed out**. For detailed discussion please refer CAR #1 in section Annex 3 of this report.

### Opinion

The validation team is of the opinion that the LoA submitted by the PP satisfies the requirement of paragraph 39 and 43 of the VVS<sup>/6/</sup> Version 07.0.

### 4.2 Authorization

The host country for this project is India which is a non-annex 1 country and India has ratified the Kyoto Protocol on 26<sup>th</sup> August 2002. This was checked from the UNFCCC website at:

[http://unfccc.int/kyoto\\_protocol/status\\_of\\_ratification/items/2613.php](http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php). Hence, India is a Party to the Kyoto Protocol.

The PP listed in tabular form in section A.4 of the PDD<sup>/1.8/</sup> is Mahalaxmi Commercial Services Private Limited. The LoA<sup>/4/</sup> from the Indian DNA approves the participation of Mahalaxmi Commercial Services Private Limited. Therefore the participation of the Project Participant mentioned in section A.4 of the PDD<sup>/1.8/</sup> has been approved in a LoA by the host country.

The name of the PP in section A.4 of the PDD is consistent with that mentioned in Appendix 1 (contact information of the PP) of the PDD. SGS has a contractual relationship with Mahalaxmi Commercial Services Private Limited, which is listed as the PP in the webhosted PDD as well as the final PDD<sup>/1.8/</sup>. The assessment team confirms that no entity, other than Mahalaxmi Commercial Services Private Limited, is listed in Section A.4 and Appendix 1 of the final PDD<sup>/1.8/</sup>.

No Annex I Party has been identified in the PDD at validation stage and therefore no further Letter of Approval from Annex 1 country is needed at this stage. It is observed that the CDM EB has agreed that the registration of a CDM project activity can take place without an Annex I Party being involved at the stage of registration; although it should be noted that before CER can be transferred to an Annex 1 Party, a Letter of Approval from Annex 1 Party will need to be submitted.

The LoA<sup>/4/</sup> issued by the Indian DNA approves the participation of Mahalaxmi Commercial Services Private Limited. Therefore, the PP is approved by a Party to the Kyoto Protocol.

## Opinion

Based on the requirements of paragraphs 46 to 49 of the VVS Version 07.0<sup>/6/</sup> the validation team confirms that the PP has been authorized by a Party involved in a Letter of Approval.

### 4.3 Modalities of Communication and MoC Statement

The PP has submitted the MoC<sup>/5/</sup> statement using the latest version (02.1) of the form available on the UNFCCC website. The assessment team has checked the submitted MoC statement, including its Annex 1, and confirms that the form has been correctly completed and duly authorised.

The PP details i.e. name of PP, address, name of authorized signatory, title of authorized signatory and signature in the MoC statement<sup>/5/</sup> has been verified against the minutes of board meeting<sup>/31/</sup> and are found to be consistent. The assessment team confirms that the details in the MoC statement are consistent with the details in the PDD<sup>/1.8/</sup>.

The PP has submitted a written confirmation on the company letterhead which states that all corporate and personal details, including specimen signatures, in the MoC are valid and accurate. This is inline with paragraph 55 of the VVS Version 7.0. Further, the MoC was received from the PP through email this is in line with the paragraph 56 of VVS Version 7.0. The host country approval is also addressed to Mr. Siddesh Kumar Sharma, who signed the MoC. This information is further crosschecked with publicly available website (<http://corporatedir.com/company/mahalaxmi-commercial-services-private-limited>). Hence, this is evident that, he is duly authorized to sign on behalf of the project participant. This is in line with the paragraph 57 of VVS Version 7.0.

## Discussion of CARs/CLs

**CAR #1 (Issue –2)** – The PP was requested to submit the MoC statement. In response, the PP has submitted the MoC statement<sup>/5/</sup> dated 30/04/2014. The MoC statement complies with all relevant requirements of VVS version 07.0<sup>/6/</sup> and has been correctly completed. Hence accepted and **CAR #1 (Issue 2) was closed out**. For detailed discussions please refer CAR #1 in Annex 3 of this report.

## CAR #1 is closed out

## Opinion

Based on the requirements of paragraphs 54 to 58 of the VVS Version 07.0<sup>/6/</sup> the validation team confirms that it has performed a due diligence on the MoC statement<sup>/5/</sup>. The validation team also confirms that the MoC statement complies with all the relevant forms and requirements.

#### 4.4 Project Design Document including Project Description

The PP has used the project design document form for small-scale CDM project activities (CDM-SSC-PDD-FORM) Version 05.0 and has followed the Guidelines for completing the project design document form for small-scale CDM project activities included in the PDD template. These are the latest available versions at the time of completion of the validation report and have been confirmed from the UNFCCC website. This meets the requirements of paragraphs 63 of VVS Version 07.0<sup>6/</sup>.

The title of the proposed CDM project activity “Wind Power Project in Maharashtra State, India”, as mentioned on the title page of the PDD<sup>1.8/</sup> was checked on the UNFCCC website and it was found that no other project has used this exact project title. The project title was further verified against that mentioned in the LoA<sup>4/</sup> and it was consistent.

The table indicating the name of the PP i.e. Mahalaxmi Commercial Services Private Limited has been correctly completed in section A.4 of the PDD and is consistent with that mentioned in Appendix 1 of the PDD.

The proposed CDM project activity is a wind power project which involves the installation of 5 WTGs of 2.1 MW each, with a total installed capacity of 10.5 MW, at the villages of Mendhegiri and Muchangi, Jath Taluka, in the District of Sangli, State of Maharashtra State, in India. The details about the WEC ID nos.; specific geographical location and commissioning dates are as follows:

Sr. No.	WEC No.	Survey Fiedl No. / Gat No.	Commissioning date	Latitude	Longitude
1	JTH-247	109	08/06/2013	N16° 59' 50.5"	E 75° 14' 10.4'
2	JTH-292	59	08/06/2013	N16° 58' 46.3	E 75° 14' 31.3'
3	JTH-293	128/1 & 128/2	08/06/2013	N16° 59' 40.4	E 75° 13' 46.5'
4	JTH-294	91	11/02/2014	N16° 58' 56.5	E 75° 14' 18.9'
5	JTH-300	32	11/02/2014	N17° 00' 09.0'	E 75° 17' 00.9'

The WEC ID nos., capacity and commissioning dates have been verified against the commissioning certificates<sup>21/</sup> for this project activity. The PPA<sup>18/</sup> signed specifically for this project activity has been checked to confirm grid connectivity and project ownership. The technical details of the project activity were verified from the WTG supplier (Suzlon) proposal<sup>12/</sup>, the commissioning certificate<sup>21/</sup>, and the physical inspection during the site visit. The PP has provided the geographical coordinates of the WECs which allows for clear identification of the project activity. These coordinates were verified using Google earth and during site visit. The geo coordinates were confirmed by Suzlon through letter<sup>30/</sup> to the PP. The proposed CDM project activity does not involve any alteration of existing installations and processes. The WTGs installed as a part of the project activity are new as confirmed from the purchase orders issued to Suzlon<sup>13/</sup> and cross verified during the site visit. It was observed during the site visit that there is a dedicated metering system for the current project activity. This is clearly described under section B.7 of the final PDD.

The project falls under Type (I) “Renewable Energy Projects”, which is correct as the project activity involves the generation of electricity using wind energy (which is a renewable energy); and Category D, “Grid connected renewable electricity generation” which is also correct as the generated electricity by the project will be exported to the grid. Hence, according to the simplified modalities and procedures for small-scale CDM project activities, the type and category of the project activity has been correctly identified in the PDD.

The proposed CDM project activity is expected to reduce emissions by supplying zero emission electricity to the NEWNE grid, which is dominated by fossil fuel based power plants. Therefore, the net electricity generated by the project will displace the same amount of electricity that would have otherwise been generated by fossil fuel based power plants and the corresponding amount of GHG emissions will be consequently avoided as well. The proposed CDM project activity is estimated to achieve an annual

emission reduction of 16,223 tCO<sub>2</sub>e. This is reflected in the table on the title page of the PDD<sup>/1.8/</sup>. The table in section B.6.4 reflects the estimated amount of emission reductions over the entire crediting period.

The PP has given a written declaration to confirm that there is no ODA<sup>/26/</sup> funding in the project activity and that there will be no substitution of technology for the entire crediting period.

The description of the project mentioned in the PDD<sup>/1.8/</sup> was found to be accurate and complete. It is consistent and in compliance with the actual situation. All details have been consistently mentioned throughout the PDD<sup>/1.8/</sup>.

#### Discussion of CARs/CLs

**CL #2 (point 1):** Project implementation status and type of metering involved in the project is not clear in section A.1 of the PDD. The PP was requested to clarify the issue. In response, the PP has provided the commissioning detail under section A.1 of the revised PDD version 1.2. These details are in line with commissioning certificates. This is checked and is found to be appropriate. Hence **CL #2 (point 1)** is closed out.

**CL #2 (point 2):** The PP was requested to provide documentary evidence for lifetime of project activity 20 years, mentioned in sections A.3 and C.1.2 of the PDD version 1. In response, the PP has provided proposal of WTG supplier which has clearly mentioned O & M until the 20th year. Hence it is confirmed that the lifetime of the project activity is 20 years. This is checked and is found to be appropriate. Hence **CL #2 (point 2)** is closed out.

**CL #2 (point 3):** The PP was requested to clarify why latest version of tool was not used under Section B.1 of the PDD version 1. In response, the PP has referred to the latest version 4.0 of the "Tool to calculate the emission factor of an electricity system" in the revised PDD Version 1.1. Further, the PP was asked to provide a separate ER sheet. In response, the PP has provided a separate ER sheet. This is checked and is found to be appropriate. Hence **CL #2 (point 3)** is closed out.

**CL #2 (point 4):** The PP was requested to clarify why Section B.2 of the PDD version 01 did not include justification of the tool referred in section B.1 of the PDD version 1. In response, the PP has included justification of the tool referred in section B.1 of the PDD version 1.1. This is checked and is found to be appropriate. Hence **CL #2 (point 4)** is closed out.

Thus **CL #2** is closed out.

For details please refer **CL #2** in the discussion of findings in Annex 3 of this validation report.

**CL #3 (point 1):** Section A.2.3 of the PDD version 1 included village name as Mendhegiri. However during site visit, it was observed that one WTG is being installed at the village of Muchandi. The PP was requested to clarify the inconsistency observed. In response, name of the village of Muchandi was included under section A.2.3 of the revised PDD version 1.1 in line with the observation made during the site visit. This is checked and is found to be appropriate. Hence **CL #3 (point 1)** is closed out.

**CL #3 (point 2):** The PP was requested to provide geo-coordinates provided in section A.2.4 of the PDD in appropriate format (Deg Min Sec). Further, the PP was requested to provide documentary evidences for geo-coordinates included on section A.2.4 of the PDD version 1. In response, the PP has provided geo-coordinates in Deg, Min, Sec format. This is in line with the letter<sup>/30/</sup> provided by Suzlon. This is checked and is found to be appropriate. Hence **CL #3 (point 2)** is closed out.

Thus **CL #3** is closed out.

For details please refer **CL #3** in the discussion of findings in Annex 3 of this validation report.

**CAR #9 (point 1):** As per the latest EB guidelines, latest PDD template version 5.0 was not used by the PP. Further, the PP was requested to follow the PDD completion guideline while completing the PDD template. In response, latest PDD template version 5.0 was used by the PP in revised PDD Version 1.4. However, the PP was requested to follow the PDD completion guideline while completing the PDD template. In response, the PP has completed PDD Version 1.5 in line with the PDD completion guidelines. This is checked and is found to be appropriate. Hence **CAR #9 (point 1)** is closed out.

**CAR #9 (point 2):** Under section B.4, the PP was requested to check and correct equation numbers appropriately. In response, the PP has corrected equation number appropriately in revised PDD Version 1.4. This is checked and is found to be appropriate. Hence **CAR #9 (point 2)** is closed out.



**CAR #9 (point 6):** Web link for footnotes 3 and 13 were not working. The PP was requested to correct the web links appropriately. In response, the PP has corrected web links in revised PDD Version 1.5. This is checked and is found to be appropriate. Hence **CAR #9 (point 6)** is closed out.

**CAR #9 (point 7):** Paragraph numbers of reference documents used in the PDD are not correct. The PP is requested to correct the paragraphs in line with the reference documents. In response, paragraph numbers are corrected in the revised PDD Version 1.4 appropriately in line with the respective guideline. This is checked and is found to be appropriate. Hence **CAR #9 (point 7)** is closed out.

**CAR #9 (point 12):** Under section F of PDD Version 1.3, approval and authorization details were not provided. The PP was requested to provide complete details. In response, under section F of the revised PDD Version 1.4, approval and authorization details are provided. This is checked and is found to be appropriate. Hence **CAR #9 (point 12)** is closed out.

**CAR #9 (point 13):** The instructions for PDD completion have not been followed completely. Section B.7.4 and history of PDD Version 1.5 were not completed as per PDD completion requirement. In response, the instructions for PDD completion have been followed completely in the revised PDD Version 1.6. Furthermore, error message is seen in section B.7.4 of the PDD Version 1.6. The PP was requested to clarify the same. In response, the PP has made necessary correction and error message is removed under section B.7.4 of the revised PDD version 1.7. This is checked and is found to be appropriate. Hence **CAR #9 (point 13)** is closed out.

For details, please refer **CAR #9** in the discussion of findings in Annex 3 of this validation report.

**CAR #10 (point 1):** On page 3 of PDD Version 1.7, the PP has mentioned annual estimated CERs as 16,305. However, this was not consistent with the title page of the PDD. The PP was requested to clarify the inconsistency observed. In response, on page 3 of PDD Version 1.8, the PP has mentioned annual estimated CERs as 16,223. This is consistent with other part of the PDD and ER sheet. This is checked and is found to be appropriate. Hence **CAR #10 (point 1)** is closed out.

**CAR #10 (point 2):** On page 8 of PDD Version 1.7, the PP has provided justification for meth applicability condition 2. However, the point which was applicable for AMS. I.D. was not transparently mentioned. The PP was requested to clarify the inconsistency observed. In response, on page 8 of PDD Version 1.8, the PP has mentioned which point is applicable for AMS. I.D. This is checked and is found to be appropriate. Hence **CAR #10 (point 2)** is closed out.

**CAR #10 (point 3):** On page 14 of PDD Version 1.7, the PP has mentioned "CEA used option A." to calculate OM. The PP was requested to clarify, who has calculated Operating Margin, Build Margin and Combined Margin. In response, on page 14 of PDD Version 1.8, the PP has corrected the sentence. This is checked and is found to be appropriate. Hence **CAR #10 (point 3)** is closed out.

**CAR #10 (point 4):** On page 19 of PDD Version 1.7, the PP has provided reference of "Project Standard (PS) Version 7.0<sup>33/</sup> paragraph 44". However, the text was not consistent with the paragraph number in the PS version 7. The PP was requested to clarify the inconsistency observed. In response, on page 19 of PDD Version 1.8, the PP has corrected the PS (version 7) paragraph number appropriately. This is checked and is found to be appropriate. Hence **CAR #10 (point 4)** is closed out.

**CAR #10 (point 5):** On page 21 of the PDD Version 1.7, the two footnotes (19 and 20) were given next to the same text "IT Act 2012-2013". The reference was the same however the web links were different. The PP was requested to clarify the inconsistency observed. In response, the references are corrected appropriately in line with the web links. This is checked and is found to be appropriate. Hence **CAR #10 (point 5)** is closed out.

**CAR #10 (point 6):** In the PDD Version 1.7 footnotes 21 and 23 were not working. The PP was requested to clarify the inconsistency observed. In response, in the PDD Version 1.8 footnote 21 now has a statement which refers to the report submitted to the DOE and footnote 23 is corrected and is working. This is checked and is found to be appropriate. Hence **CAR #10 (point 6)** is closed out.

**CAR #10 (point 7):** On page 27 of PDD Version 1.7 under parameter EGexport, y, the PP was requested to explain reference of "b87y" in the sentence "Main meter reading will be taken.....". In response, on page 27 of PDD Version 1.8 under parameter EGexport, y, the PP has removed "87". This was a typographical error. This is checked and is found to be appropriate. Hence **CAR #10 (point 7)** is closed out.

**CAR #10 (point 8):** On page 28 of PDD Version 1.7, the PP has mentioned “the Power Purchase Agreement to be signed by the Project Participant with the state electricity utility, MSEDCL.”. The PP was requested to provide appropriate information as per the current scenario. In response, on page 28 of PDD Version 1.8, the PP has mentioned “the Power Purchase Agreement has been signed by the Project Participant with the state electricity utility, MSEDCL.”. The PP has provided signed PPA<sup>/18/</sup>. This is checked and is found to be appropriate. Hence **CAR #10 (point 8)** is closed out.

**CAR #10 (point 9):** Under Tab “EF - NEWNE Grid” of the ER calculation sheet, the PP was requested to provide appropriate information as per the current scenario. In response, under Tab “EF - NEWNE Grid” of the ER calculation sheet, the PP has updated text in cell E46. The start date of crediting period is mentioned as date of registration. This is checked and is found to be appropriate. Hence **CAR #10 (point 9)** is closed out.

**CAR #10 (point 10):** Under section B.6.4, the table was not consistent with the PDD template. The PP was requested to adhere to the PDD completion instructions. In response, under section B.6.4, the table has been corrected as per the PDD template. This has been checked with the PDD template and found consistent. Hence **CAR #10 (point 10)** is closed out.

**CAR #10 (point 11):** On pages 13, 14 and 15 of PDD Version 1.8, the text stated that the OM, BM and CM were calculated by CEA. The PP was requested to clarify, who has calculated Operating Margin, Build Margin and Combined Margin for current project activity. In response, on pages 14, 15 and 16 of PDD Version 1.9, the text is corrected to represent that, the OM, BM and CM are calculated by the PP. This is consistent with the calculation approach followed in the PDD. This is checked and is found to be appropriate. Hence **CAR #10 (point 11)** is closed out.

**CAR #10 (point 12):** The consultant submitted the MoC (on behalf of the PP) to the DoE, along with response to the findings during validation. However, the PP was requested to submit MoC from the email ID mentioned in the MoC (who is also the project participant with whom the DOE has a contractual relationship). In response, the PP has submitted MoC through email ID [pranavketan@hotmail.com](mailto:pranavketan@hotmail.com) on 26/04/2015. This email id is presented in MOC dated 30/04/2014 as a focal point. This is in line with the requirement of paragraph 56 of VVS version 7.0 and is found to be appropriate. Hence **CAR #10 (point 12)** is closed out.

Thus **CAR #10** is closed out.

For details, please refer **CAR #10** in the discussion of findings in Annex 3 of this validation report.

## Opinion

The assessment team is of the opinion that the description of the proposed CDM project activity mentioned in the PDD<sup>/1.8/</sup> provides a clear understanding of the precise nature of the project activity and the technical aspects of its implementation. Thus, the assessment team confirms that the project description in the PDD<sup>/1.8/</sup> is accurate and complete as per the requirements of paragraph 65 of the VVS version 7.0<sup>/6/</sup>.

## 4.5 Eligibility as a Small Scale Project

The proposed CDM project activity is a renewable energy project with a total installed capacity of 10.5 MW that supplies the generated power to the NEWNE grid. This has been confirmed from the technical specification of WTGs mentioned in the Supplier Proposal<sup>/12/</sup>; cross-checked by physical verification of the WTGs during the site visit, the purchase order<sup>/13/</sup> to the Supplier and the PPA<sup>/18/</sup> signed specifically for this project with the state utility.

Thus, the proposed CDM project activity qualifies within the threshold of 15 MW and meets the eligibility criteria for small-scale CDM project activities mentioned in paragraph 6 (c) (i) of decision 17/CP.7. Also, the project activity conforms to type (I) (Renewable Energy Projects) and category D (Grid connected renewable electricity generation).

The PP has used AMS I.D Version 17, which is an approved small-scale methodology and has been verified from the UNFCCC site. The applicability criteria of the methodology have been described in section 4.6 below.

The PDD<sup>/1.8/</sup> mentions that the PP did not have any registered small scale CDM activity or applied for registration of another small scale CDM project activity within 1 (one) km of the respective project boundaries

of this project activity in the same project category and technology/measure. The project activity is not a de-bundled project activity as mentioned in the PDD<sup>1.8/</sup>. This has been checked through the UNFCCC web site and during the site visit by the assessment team at the Suzlon CMS through details of all the project developers (including the project activity) are displayed. The O & M Team of Suzlon was also interviewed during the site visit to confirm the same.

## Opinion

As per the requirements of paragraphs 157-159 of VVS version 07.0<sup>6/</sup>, the assessment team is of the opinion that the proposed project activity is eligible as a small-scale CDM project activity.

### 4.6 Applicability of selected methodology to the project activity

The proposed CDM project activity uses the small scale methodology AMS I.D. Version 17<sup>7/</sup>. The following steps have been undertaken for assessing the applicability conditions of the methodology mentioned in paragraphs 1 to 8 of the methodology:

**Paragraph 1** *“This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:*

- (a) *Supplying electricity to a national or a regional grid; or*
- (b) *Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.”*

The project activity is a grid connected wind power project and therefore is a renewable energy project. The project activity supplies electricity to the NEWNE regional grid of India. Therefore option (a) is applicable to the project activity. The use of WTGs for power generation was confirmed during the site visit and through the purchase order<sup>13/</sup>. The grid connectivity of the project was verified through the PPA<sup>18/</sup> with the state utility MSEDCL. Hence this criterion is met.

**Paragraph 2** – *“Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies.”*

The Project supplies electricity to a regional grid as validated under paragraph 1 above. Hence the methodology AMS-I.D (only one applied) is applicable. Hence this criterion is met.

**Paragraph 3,** *“This methodology is applicable to project activities that (a) install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s)”*

The purchase order<sup>13/</sup> issued for the project activity to the WTGs supplier, indicates that the project activity is a Greenfield plant. Thus option (a) is applicable to project activity. It is not a capacity addition or retrofit or replacement as defined in the methodology. This is also confirmed during site visit through onsite observations and interview of the PP representative and WTG supplier. Hence this criterion is met.

**Paragraph 4** – *“Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:*

- a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir;*
- b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2;*
- c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.”*

The proposed CDM project activity is a wind power project. Hence, this criterion is not applicable to this project.

**Paragraph – 5,** *“If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.”*



The project activity only involves renewable components, as validated under paragraph 1 above. Hence, this criterion is not applicable to this project.

**Paragraph – 6,** *“Combined heat and power (co-generation) systems are not eligible under this category.”*

The proposed CDM project activity is a grid connected wind power project as validated under paragraph 1. Hence, this criterion is not applicable to this project.

**Paragraph – 7,** *“In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.”*

This criterion is not applicable since the project is a Greenfield plant as validated under paragraph 3.

**Paragraph – 8,** *“In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.”*

This criterion is not applicable since the project is a Greenfield plant as validated under paragraph 3.

### Opinion

In accordance with paragraphs 74 to 78 of VVS Version 07.0<sup>/6/</sup>, the applicability of the methodology has been validated and the validation team confirms that the proposed CDM project activity meets all the applicability conditions of the applied methodology AMS I.D Version 17.

### 4.7 Project Boundary

The selected methodology AMS I.D Version 17<sup>/7/</sup> paragraph 9 states that *“The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.”*

The PP has correctly described the project boundary in section B.3 of the PDD<sup>/1.8/</sup> and included the WTGs, sub-station and the NEWNE grid, to which the proposed CDM project activity is connected. This was verified through physical inspection during the site visit, the commissioning certificates<sup>/21/</sup> and the PPA<sup>/18/</sup> signed specifically for this project activity.

The NEWNE regional grid has been correctly identified for the calculation of electricity emission factor, as the project displaces electrical energy from the NEWNE grid, as per the CEA database version 08<sup>/9/</sup>. This database version was published in 01/01/2013 and was the latest available version at the time of webhosting the PDD for ISHC (from 13/11/2013 to 12/12/2013). The diagrammatic description of the project boundary mentioned in section B.3 of the PDD<sup>/1.8/</sup> correctly describes the project boundary.

It is established through review of final PDD<sup>/1.8/</sup> and physical inspection during the site visit that there are no additional greenhouse gas emissions occurring within the proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the applied methodology.

### Opinion

The assessment team is of the opinion that the project boundary has been correctly identified in the PDD and is in line with paragraphs 84 to 87 of VVS version 07.0<sup>/6/</sup>.

### 4.8 Baseline Selection

The PP has correctly identified the baseline of the proposed CDM project activity as per paragraph 10 of the selected methodology AMS I.D Version 17<sup>/7/</sup>:

*“The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.”*

The baseline emissions have been calculated as per paragraph 11 of the methodology:

*“The baseline emissions are the product of electrical energy baseline  $EG_{BL,y}$  expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.”*

$$BE_y = EG_{BL,y} * EF_{CO2, grid, y}$$

Where:

$BE_y$  Baseline Emissions in year y (t CO<sub>2</sub>)

$EG_{BL,y}$  Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EF_{CO2,grid,y}$  CO<sub>2</sub> emission factor of the grid in year y (t CO<sub>2</sub>/MWh)”

The emission factor has been calculated as per paragraph 12(a) of the applicable methodology:

*“The Emission Factor can be calculated in a transparent and conservative manner as follows: A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the ‘Tool to calculate the emission factor for an electricity system’.”*

The emission factor has been calculated using the combined margin approach as prescribed in the latest version of the Tool to calculate emission factor for an electricity system Version 4.0.

The demonstration of additionality has been described in detail in sections 4.8.1 to 4.8.6 below.

## Opinion

Based on the requirements of paragraph 98 of the VVS version 07.0<sup>/6/</sup>, the assessment team confirms that:

- All the assumptions and data used by the PP are listed in the PDD, including their references and sources.
- All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD.
- Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.
- Relevant national and/or sectoral policies and circumstances are of Government of India considered in the PDD.

The information mentioned in PDD has been cross checked during the site visit and found to be appropriate. The baseline scenario is as per methodology requirement. This is as per paragraph 99 of VVS and is accepted.

### 4.8.1 Additionality of a project activity

The proposed CDM project activity has demonstrated additionality by applying the Guidelines on the demonstration of additionality of small-scale project activities, version 09<sup>/8,2/</sup> paragraph 1(a) i.e. Investment barrier. The detailed steps, including an assessment of the suitability and authenticity of the facts and the documentation referred in the PDD<sup>/1.8/</sup> for the demonstration of additionality are described in the sections below. The PP has appropriately selected the benchmark analysis to demonstrate additionality. The approach used in the PDD<sup>/1.8/</sup> was first assessed by verifying the following documents:

1. Proposal issued by Suzlon<sup>/12/</sup>
2. Board resolution<sup>/11/</sup> to implement wind power project
3. Purchase order placed by the PP<sup>/13/</sup>
4. Commissioning certificate<sup>/21/</sup>
5. Third Party PLF assessment report issued by SR Energy Consultancy<sup>/10/</sup>,
6. Power Purchase Agreement between the PP and the state utility<sup>/18/</sup>
7. CEA database<sup>/9/</sup>
8. MERC Tariff Order<sup>/14/</sup>

The data, rationales, assumptions and justifications mentioned in the final PDD<sup>/1.8/</sup> and final IRR calculation spreadsheet<sup>/2/</sup> were crosschecked against local knowledge of the validation team about regulatory and applicable legal requirements in the host country India. The documents were also verified by a sectoral and financial expert.

The information in the above mentioned documents were also verified against the actual situation on the site and found to be accurate. The staff at the sub-station and the representatives of the WEC provider were interviewed to verify the authenticity of the documents.

The validation of the input parameters used in the investment analysis and the benchmark analysis has been described in detail in section 4.8.4 below.

## Opinion

Based on the responses of the various approaches mentioned above and section 4.8.4 of this report and the requirements of paragraphs 106-109 of the VVS version 07.0<sup>/6/</sup>, the validation team confirms that the documents provided for the project activity are appropriate. Hence, the data, rationales, assumptions and justifications provided in the final PDD<sup>/1.8/</sup> and the final IRR calculation spreadsheet<sup>/2/</sup> are reliable and credible.

### 4.8.2 Prior Consideration of the Clean Development Mechanism

The start date of the proposed CDM project activity has been mentioned in the PDD<sup>/1.8/</sup> as 28/12/2012. The evidence for the same submitted by the PP is the purchase order<sup>/13/</sup> dated 28/12/2012 issued to Suzlon for the supply of the WECs. The date of this purchase order is the earliest date on which the PP has committed to expenditure related to the implementation of the project activity. It represents a real action towards project implementation. Hence, as per the definition of start date, the purchase order is accepted as evidence for the start date of the project activity. The purchase order was checked for the date and was found to be consistent with that mentioned in the PDD. Thus, the start date was found to be in line with the definition of start date mentioned in the latest Glossary of CDM Terms.

The start date of the proposed CDM project activity is after 02/08/2008. Hence as per paragraph 33 of the Project Standard Version 07.0<sup>/33/</sup>, the project participant shall inform the host Party's designated national authority (DNA) and the UNFCCC secretariat of their intention to seek CDM status in accordance with the Project cycle procedure (PCP) Version 7.0<sup>/32/</sup>. As per the PCP, the PP shall notify the DNA and the UNFCCC Secretariat in writing of the commencement of the project activity and their intention to seek the CDM status within 180 days of the start date of the project activity.

As per the list of prior consideration notifications on the UNFCCC website<sup>/22/</sup>, the prior consideration notification has been received by the UNFCCC on 19/06/2013<sup>/22/</sup>, which is within 180 days of the project activity start date (28/12/2012). The UNFCCC has acknowledged the receipt of the prior consideration notification through email<sup>/23/</sup>.

The PP has also notified the NCDMA of India (MoEF) of the commencement of the project activity and their intention to seek CDM status through email dated 19/06/2013<sup>/24/</sup>, which is within 180 days of the project activity start date of 28/12/2012. The email sent to the MoEF contains the completed prior consideration form. The form contains a brief description of the proposed project activity and the precise geographical location of the project activity. This is consistent with the information seen during site visit and provided in final PDD. The MoEF has acknowledged the receipt of the prior consideration notification through email<sup>/24/</sup>.

The PP has considered carbon credit revenue for the current project activity. This has been checked from minutes of board meeting<sup>/31/</sup> in line with paragraph 111 of the VVS Version 07.0<sup>/6/</sup>. The assessment team confirms that the notification for prior consideration meet the requirements of paragraph 113 of the VVS Version 07.0<sup>/6/</sup>.

## Discussion of CARs/CLs

**CAR #5** The PP was requested to clarify how requirement of paragraph 107 of VVS version 5.0 is met specifically in the context of prior consideration notification to host country DNA along with documentary evidences. In response, the PP has referred to the latest Project Standard version 7 in the revised PDD version 1.3 for prior CDM consideration. The Project Standard is the reference document for the PP, therefore the PP has referred to it correctly. This is checked and is found to be appropriate. Hence **CAR #5** was closed out.

Detail discussion on this CAR #5 can be referred in Annex 3 of this validation report.

**CAR #9 (point 8):** Under section B.5, “Prior CDM consideration”: the PP has mentioned that, online application has been made to the NCDMA. The PP is requested to provide the screenshot for the same. In response, the PP has removed the sentence. However, the prior CDM consideration is checked through the letter. This is checked and is found to be appropriate. Hence **CAR #9 (point 8)** is closed out.

For details, please refer **CAR #9** in the discussion of findings in Annex 3 of this validation report.

## Opinion

Based on the above discussion of the validated objective evidence the validation team confirms that the proposed project activity complies with the applicable requirements related to the prior consideration of the CDM. As per the requirements of paragraphs 111 - 117 of VVS version 7.0<sup>6/</sup>, the validation team is of the opinion that the CDM was seriously considered in the decision to implement the project activity.

### 4.8.3 Identification of alternatives

Not Applicable. This is a new wind power project and hence no alternatives are identified. The additionality of the current project activity is determined by investment analysis.

### 4.8.4 Investment analysis

The PP has referred to paragraph 1(a) investment barrier mentioned in the “Guidelines on the demonstration of additionality of small-scale project activities”, Version 09<sup>8.2/</sup> to demonstrate additionality and carry out the investment analysis. The investment analysis described in the PDD has been validated against the requirements of the “Guidance on assessment of Investment Analysis”, version 05<sup>8.3/</sup>. In the investment analysis spreadsheets provided by the PP, the project IRR has been calculated using the IRR function. The function has been correctly applied in the IRR spreadsheet<sup>2/</sup>. The assessment team has validated the key input parameters from the proposal<sup>12/</sup> issued by the WTG supplier to the PP. It was confirmed that the proposal was available with the PP at the time of investment decision. This is in line with “Guidance on the Assessment of Investment Analysis”, Version 05, paragraph 6 (EB 62 annex 5).

The PP has selected the project IRR as the financial indicator. The commercial lending rate available during decision making is 12.5% which is considered as benchmark. The appropriateness of the financial indicator has been verified by the assessment team, it was confirmed that the project IRR is a widely accepted financial metric used by many corporations and financial institutions for investment decision-making and is a long-established benchmark for investment decisions in the Indian power sector. The selected benchmark is appropriate for the type of financial indicator. This is confirmed by financial expert (a member of the assessment team) and found to be appropriate and acceptable. The PP has selected the commercial lending rate available at the time of the decision making, which is in line with paragraph 12 of EB 62 Annex 5.

The proposed CDM project activity is a wind power project which could be developed by an entity other than the PP. Hence the benchmark has been based on parameters that are standard in the market, which is suitable in the context of the underlying project activity. This meets the requirement of paragraph 13 of EB 62 Annex 5.

The PP has provided the commercial prime lending rate (12.5%) available at the time of the decision making as the benchmark in the PDD<sup>1.8/</sup> and IRR analysis spreadsheet<sup>2/</sup>.

As per the Guidance on the Assessment of Investment Analysis, Version 05, EB 62, Annex 5, paragraph 12 *Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR.* The assessment team has confirmed that the benchmark is calculated appropriately by the PP.

Therefore the **benchmark** is calculated to be **12.50%**.

The decision date of project activity is verified from the Minutes of Meeting<sup>11/</sup> of the Board of Directors dated 26/12/2012 and has been checked and found to be satisfactory and acceptable. The authenticity of the decision date and MoM letter<sup>11/</sup> was cross checked by interviewing Mr. Sidhesh Kumar Sharma. Mr. Sharma was present in the Board of Directors meeting.

The validation of the input parameters is discussed below:

**Project Capacity: 10.5 MW**

The project capacity has been checked against the proposal<sup>/12/</sup> issued by Suzlon to the PP for 5 WTGs of capacity 2.1 MW each. The project capacity has been cross-checked against the Supply agreement (purchase order) placed to Suzlon<sup>/13/</sup> and the commissioning certificate<sup>/21/</sup> issued by the state utility for this project activity.

**Total Project Cost: 741.55 Million INR**

The total project cost or capital cost of the project activity (INR 741.55 million for 5 WTGs i.e. INR 70.62 million/MW) has been considered by the PP based on the proposal<sup>/12/</sup> issued by Suzlon. This value was available with the PP at time of investment decision date on 26/12/2012.

The project cost per MW has been cross-checked against registered CDM projects in the host county. The following CDM registered projects were referred: UNFCCC project reference numbers: 9451, 9453, 9688, 9757 and 9795. The project cost per MW was found to vary from INR 56 Million to INR 71 Million. This variation in project costs are due to several reasons such as different suppliers; varying capacity of the projects; specific location of the project activity, negotiation capability of the client etc. The corresponding cost per MW for the current CDM project activity in the same region is INR 70.62 million/MW. Hence, the project cost considered for the proposed project activity is acceptable and appropriate. The value of project cost was also checked by the sectoral scope expert and confirmed to be appropriate. Furthermore, the actual project cost is lower by 4.75% than the offer letter. The PP has already applied sensitivity up to 10% and actual project cost is within the sensitivity range and hence accepted.

**Debt /Equity Ratio: 75/25**

The means of finance for the project activity was based on debt to equity ratio of 75:25 (i.e. INR 556 Million: INR 185 Million). The debt equity ratio is considered from the Memorandum of Information presented to board<sup>/11/</sup> and in line with standard practise in wind sector. Hence the applied debt/equity ratio is appropriate and is in line with paragraph 18 of EB 62 Annex 5.

**Plant Load Factor (PLF): 18.50%**

The PLF considered for the investment analysis is 18.50% which has been obtained from the third party PLF assessment report<sup>/10/</sup> issued by SR Energy Consultancy. This is as per the guideline in paragraph 3(b) of EB 48 Annex 11, which states, "the plant load factor shall be defined ex-ante by a third party contracted by the PP. The PLF obtained from the third party report was available at the time of decision making hence accepted.

The validation team has cross-checked the considered PLF value against the Tariff Order<sup>/14/</sup> issued by MERC. The tariff order mentions a PLF of 20% which is generic and not project site specific. The MERC is the government body which is mandated to regulate the Electricity Sector in the state of Maharashtra. Even with 20% PLF, the IRR is well below the benchmark. Furthermore, the assessment team has reviewed the PLF for registered CDM projects: UNFCCC reference numbers 8715 and 9795 in the same region, and it was found that the PLF values considered were 18.53% and 19.86% respectively. The variations in PLF are due to project locations, however the PLF value is in the range of the registered project activity. The PLF values were further confirmed through sectoral expert and financial expert involved in the team.

**Assessment Period (Life Time of project activity): 20 years**

The lifetime of the project activity is 20 years which has been considered from the WTG supplier proposal<sup>/12/</sup> issued to the PP by the WTG supplier. This is consistent with the lifetime of wind power projects and has been confirmed by the technical expert. The crediting period of the proposed CDM project activity is 10 years as mentioned in the PDD. However the period of assessment considered for the investment analysis is 20 years. This has been confirmed from the IRR-benchmark spreadsheet submitted by the PP. Hence the considered assessment period of 20 years meets the requirement of paragraph 3 of EB 62 Annex 5.

**O&M cost: INR 12.5 Million/WTG**

**Annual Escalation: 5%**

The annual O&M cost of INR 12.5 million for all WTGs (without the applicable service tax) has been considered from the proposal<sup>/12/</sup> issued by the WTG supplier (Suzlon). This is approximately as 2% (with the



applicable service tax) of the total project cost considered in the WTG supplier proposal. The O&M is free for the first two years and has an annual escalation of 5.72% from year 4, as per the proposal issued by Suzlon<sup>/12/</sup>.

The validation team has cross-checked the considered O&M cost and its escalation against the MERC Order dated 30/03/2012<sup>/14/</sup>, which mentions the O&M cost as 1.5% of the capital cost with annual escalation of 5% for the purpose of tariff determination, the assessment team confirms that the O&M cost and annual escalation considered for project activity is appropriate. The O&M cost for the following registered CDM project Nos. 9451, 9453, 9688, 9757 and 9795 (all from the same region), were found to vary from 1% to 2% of the capital cost with an annual escalation of 5% to 6%. The variation on O&M costs are due to reasons such as different suppliers; varying capacity of projects; negotiation capability of the clients; etc. In view of the above information, the assessment team confirms that the O&M cost and annual escalation considered for project activity is appropriate.

#### **Interest rate on term loan: 12.5%**

The interest on term loan considered for the Memorandum of information presented to board during board meeting on 26/12/2012<sup>/11/</sup>. This was available to the PP at the time of the investment decision on 26/12/2012. The rate of interest was crosschecked from publicly available website (<http://profit.ndtv.com/news/corporates/article-sbi-to-cut-lending-rates-on-sme-loans-by-up-to-2-soon-302702>) which mentions minimum lending rate as 12.5%. Hence the considered rate is appropriate and in line with applicable guidance in paragraph 11 of EB 62 Annex 5.

#### **Repayment period: 120 months**

##### **Moratorium: 12 months**

The PP has considered a repayment period of 120 months with a moratorium period of 12 months based on Memorandum of information presented to board<sup>/11/</sup>. The considered repayment schedule was available to the PP at the time of investment decision on 26/12/2012. The repayment period of 10 years (120 months) have been cross-checked from the MERC tariff order<sup>/14/</sup> and found to be comparable.

#### **Tariff Rate: INR 5.67/kWh**

The applicable tariff rate has been appropriately considered from the MERC tariff order<sup>/14/</sup>. It was confirmed that the tariff order was the latest available official document which was valid and applicable for this project at the time of the investment decision (on 26/12/2012). The tariff rate was further cross-checked with the PPA<sup>/18/</sup>. Hence the PP has considered a fixed tariff of INR 5.67/kWh for 13 years. The PP has considered a tariff rate at INR. 4.05/kWh after the 13<sup>th</sup> year as per the Crisil report<sup>/29/</sup>. In order to be conservative, the assessment team checked the IRR with 5.67 INR/kWh for 20 years (life time of the project activity) and found that the IRR is well below the benchmark.

#### **Book Depreciation Rate:**

The Depreciation on plant and machinery is calculated at 15.00% and civil works as 10.00% on Straight Line Method (SLM) as per the Companies Act<sup>/16/</sup>, Schedule XIV, Item II (i) (b) published by the Government of India.

#### **Residual or Salvage value or Terminal Value:**

Salvage value is calculated by deducting book depreciation at 10% for plant & machinery, 15% on civil work from total project cost and 100% of land cost based on the publically available source (Schedule XIV, The Companies Act 1956<sup>/16/</sup>) published by the Government of India. As the data has been published by the government, the same is acceptable to the assessment team. The calculation has been checked and confirmed to be appropriate/applied correctly by the financial expert involved in the assessment team.

#### **Corporate Tax Rate: 32.40%**

##### **Service Tax Rate: 12.36%**

The PP has considered the Corporate tax rate from the Income tax rules<sup>/17/</sup> published by the Government of India. The service tax rate has been considered from the service tax guidelines published by the Government of India. The values and sources were available to the PP at the time of decision making. This is found to be appropriate and hence accepted.

The values considered for all the above discussed parameters were available at the time of investment decision and hence are valid and applicable to the project activity. All input values have been consistently mentioned and applied in all calculations. This meets the requirement of paragraph 6 of EB 62 Annex 5. The appropriateness of the same has been checked and confirmed by financial expert involved in the project activity. This is found to be appropriate and hence accepted.

Based on the above parameters, the Project IRR for the project activity is calculated to be 8.61%. This is lower than the debt rate or prime lending rate (benchmark) of 12.50%. This signifies that the proposed CDM project activity is not financially attractive and is therefore additional.

### Sensitivity Analysis

The PP has appropriately selected the following parameters to conduct the sensitivity analysis:

1. Project cost
2. Plant Load Factor (PLF)
3. O&M cost
4. Tariff rate

The selected parameters constitute more than 20% of either total project cost or total project revenues. The results of the sensitivity analysis have been presented in the PDD. The results have also been presented in the excel spreadsheet in a reproducible manner. Thus, it satisfies the requirements of paragraph 20 of EB 62 Annex 5. The sensitivity analysis for the variables covers a range from +10% to -10% which is appropriate in context of the project requirements. Thus, it satisfies the requirements of paragraph 21 of EB 62 Annex 5<sup>8.3/</sup>. The outcome of the sensitivity analysis for each parameter along with the threshold limit (point at which the IRR touches the benchmark) and the selected benchmark is summarized in the tables below.

Parameter	Sensitivity % applied	Project IRR	Threshold limit at which IRR touches the Benchmark	Benchmark of project activity
PLF	10% increase	10.58%	20.50% increase	12.50%
	10% decrease	6.47%		
Project Cost	10% increase	7.25%	21.50% decrease	
	10% decrease	10.22%		
Tariff Rate	10% increase	10.58%	20.50% increase	
	10% decrease	6.47%		
O&M Cost	10% increase	8.18%	114.00% decrease	
	10% decrease	9.01%		

### Plant Load factor

In the above table, it is observed that the project IRR is below the selected benchmark even after a 10% increase in PLF. The project IRR touches the benchmark if the PLF for the project activity increases by 20.50% (i.e. an effective PLF of 22.29%). The PLF obtained from the third party report is 18.5%, which has been considered in the investment analysis. Hence, an increase in the PLF by 20.50% is highly unlikely.

### Project Cost

As per the above table, it is confirmed that even after 10% reduction in project cost, the project IRR does not cross the benchmark. It is observed that the project IRR touches the benchmark, if the project cost reduces by 21.50%. However, the actual reduction in project cost is only 4.75%. This has been confirmed by checking the purchase order. Reduction of the project cost by more than that verified from purchase order is

not possible since the project cost has been fixed in the firm purchase order on their placement and the project has already been executed and commissioned.

### **Tariff Rate**

In the above table, it is observed that the project IRR is below the selected benchmark even after a 10% increase in tariff. The project IRR touches the benchmark if the tariff for the project activity increases by 20.50%, which is not a realistic scenario. The tariff rate for the project activity has been considered to be fixed for the entire duration of the crediting period since the PP has entered into a PPA with the state utility which fixes the tariff rate at INR 5.67/kWh for 13 years. The PP has considered tariff rate at INR. 4.05/kWh after the 13<sup>th</sup> year, as per the Crisil report<sup>29/</sup>. Conservatively, the assessment team has checked IRR with 5.67 INR/kWh for 20 years (lifetime of the project activity) and found that the IRR is well below the benchmark.

### **O&M Cost**

From the above table it is observed that even with a 100% decrease in O&M cost (i.e. zero O&M cost), the IRR does not cross the benchmark. Hence, the IRR crossing the benchmark for the O&M cost is ruled out.

Based on the above discussions, it can be established that the proposed CDM project activity is financially not viable without the benefits of CDM. Hence the proposed CDM project activity is additional.

### **Discussion of CARs/CLs:**

#### **The issues related to the PDD:**

**CAR #4 (point 1):** The PP was requested to clarify why the references/sources for all the input values used in project IRR calculations for the project activity are not provided in section B.5 of the PDD version 1. In response, the PP has included reference/sources of all the values in the revised PDD version 1.2. This is checked and is found to be appropriate. Hence **CAR #4 (point 1)** is closed out.

**CAR #4 (point 2):** The PP was requested to justify the suitability of project IRR as financial indicator for the project activity in section B.5 of the PDD version 1. In response, the PP has provided justification on the suitability of project IRR as financial indicator in section B.5 of the revised PDD version 1.1. This is checked and is found to be appropriate. Hence **CAR #4 (point 2)** is closed out.

**CAR #4 (point 3):** The PP was requested to clarify why section B.5 of the PDD version 01 refers to Validation and Verification Manual, version 1.2. In response, the PP has corrected the reference to the Project Standard Version 7.0<sup>33/</sup>. This is in line with the PDD completion guideline. This is checked and is found to be appropriate. Hence **CAR #4 (point 3)** is closed out.

#### **The issues related to the IRR calculation:**

**CAR #4 (point 1):** The PP was requested to provide documentary evidences to confirm the suitability of all input values in accordance with requirement set out in Para 6 of EB62 Annex 5. Also decision date of the project activity was not clear from PDD version 1. References mentioned in the assumption spreadsheet are not specific with dates and clear traceability. In response, the PP has included references with specific dates and clear traceability in the revised IRR sheet version 1.2. This is checked and is found to be appropriate. Hence **CAR #4 (point 1)** is closed out.

**CAR #4 (point 2):** The PP was requested to clarify the basis of electricity tariff considered for the project activity. Also the reason for reduction in tariff from 14th year was not clear. In response, the PP has provided justification for the basis of electricity tariff consideration. This is evident from the Crisil report that the electricity tariff may reduce in the future. Hence, the tariff considered by the PP after 13<sup>th</sup> year in the calculation is conservative. This is checked and is found to be appropriate. Hence **CAR #4 (point 2)** is closed out.

**CAR #4 (point 3):** The PP was requested to clarify why escalation of 10% mentioned in Key Assumption tab is not clear. In response, the PP has used the source of the data available at the time of decision making. This is checked and is found to be appropriate. Hence **CAR #4 (point 3)** is closed out.

**CAR #4 (point 4):** The PP was requested to clarify the appropriateness of Service tax applicable on Civil and Infrastructure cost is added into Plant and Machinery cost. In response, the PP has added the Service tax



applicable on Civil and Infrastructure cost into Plant and Machinery cost in line with the offer letter provided by the WTG supplier. This is checked and is found to be appropriate. Hence **CAR #4 (point 4)** is closed out.

**CAR #4 (point 5):** The PP was requested to clarify how the income tax rate is in line with the link provided in assumption sheet. In response, the PP has corrected link appropriately. This is checked and is found to be appropriate. Hence **CAR #4 (point 5)** is closed out.

**CAR #4 (point 6):** The PP was requested to clarify why project cost in tab “project cost and “interest paid” is not consistent. In response, the PP has corrected the project cost in tab “project cost and “interest paid”. This is checked and is found to be appropriate. Hence **CAR #4 (point 6)** is closed out.

**CAR #4 (point 7):** The PP was requested to clarify why MAT was not applied on book profit. In response, the PP has provided justification in line with the existing taxation practice in the host country. This was confirmed from the financial expert. This is checked and is found to be appropriate. Hence **CAR #4 (point 7)** is closed out.

**CAR #4 (point 8):** The PP was requested to clarify the appropriateness of PLF used in line with requirement set out in EB48 Annex 11. In response, the PP has considered PLF for the project activity from third party report prepared by SR Energy Consultant dated 12/12/2012. This report was available with the PP during decision making. Hence, this is in line with requirement set out in EB48 Annex 11 (b) and paragraph 6 of EB 62 Annex 5. This is checked and is found to be appropriate. Hence **CAR #4 (point 8)** is closed out.

**CAR #4 (point 9):** The PP was requested to clarify the basis for rate of interest considered for working capital in project IRR calculations for the project activity. In response, the PP has removed working capital calculations and links from PDD and excelsheet. This is checked and is found to be appropriate. Hence **CAR #4 (point 9)** is closed out.

**CAR #4 (point 10):** Loan Interest rate and calculation: The PP was requested to clarify the basis for interest rate considered for the project activity in project IRR calculations. In response, the PP has confirmed that this was the latest interest available at the time of decision making with the PP. This is checked and is found to be appropriate. Hence **CAR #4 (point 10)** is closed out.

**CAR #4 (point 11):** Sensitivity analysis: PP has considered sensitivity in tariff only up to 13th year. The PP was requested to justify the reason for same. Also the threshold limits were not specified for the variable parameters. In response, the PP has carried out sensitivity analysis in tariff for 20 years. This is checked and is found to be appropriate. Hence **CAR #4 (point 11)** is closed out.

#### **The issues related to the Benchmark:**

**CAR #4 (point 1):** The PP was requested to provide the publically available reference for the benchmark. In response, the PP has confirmed that this was the latest interest available at the time of decision making with the PP. This is checked and is found to be appropriate. Hence **CAR #4 (point 1)** is closed out.

**CAR #4 (point 2):** The PP was requested to clarify whether benchmark is pretax or post tax. In response, the PP has confirmed that the lending rate is pretax benchmark. This was confirmed from the financial expert. This is checked and is found to be appropriate. Hence **CAR #4 (point 2)** is closed out.

Thus **CAR #4** is closed out.

Detail discussion on this CAR #4 can be referred in Annex 3 of this validation report.

**CL #7** The PP was requested to provide documentary evidence for the start date of the project activity mentioned in section C.1.1 of the PDD version 01. In response, the PP has provided the WTG purchase order, this is in line with the start date of the project activity. This is checked and is found to be appropriate. Hence **CL #7** is closed out.

Detail discussion on this CL #7 can be referred in Annex 3 of this validation report.

**CAR #9 (point 4):** In PDD Version 1.3 and IRR excel sheet, sources for input parameters were not appropriately mentioned. The PP was requested to provide source of the input parameters appropriately. In response, the PP has provided revised PDD Version 1.4 and IRR excel sheet with sources for input parameters appropriately. This is checked and is found to be appropriate. Hence **CAR #9 (point 4)** is closed out.

**CAR #9 (point 5):** The sensitivity analysis was not transparently followed in PDD Version 1.3. The PP was requested to provide actual IRR and threshold values for the sensitivity analysis transparently. In response, the PP has provided sensitivity analysis transparently in the revised PDD Version 1.4 and IRR sheet. This is checked and is found to be appropriate. Hence **CAR #9 (point 5)** is closed out.

**CAR #9 (point 9):** The PP has considered lower tariff after 13<sup>th</sup> year. The PP was requested to clarify the lower tariff. In response, the PP has provided justification as per the Crisil report for lower tariff after 13<sup>th</sup> year. The IRR was checked with 5.67 INR/kWh for 20 years. With this tariff the IRR is well below the benchmark. This is checked and is found to be appropriate. Hence **CAR #9 (point 9)** is closed out.

**CAR #9 (point 14):** The PP was requested to confirm how the source of the offer letter for debt equity ratio, financing terms, tax rate, etc were appropriate. Further, the PP was requested to clarify why deration factor was not considered for estimation of ER consistent with IRR calculations. In response, the PP has referred to the Memorandum<sup>/11/</sup> of information presented to board during board meeting on 26/12/2012 for debt equity ratio, financing terms, tax rate. This document was available at the time of decision making. Further, the PP has considered deration factor from 11<sup>th</sup> year from commissioning for estimation of ER. This is consistent with IRR calculations and ER calculations. This is checked and is found to be appropriate. Hence **CAR #9 (point 14)** is closed out.

**CAR #9 (point 15):** Under section B.5 of the PDD Version 1.6, pre tax IRR was mentioned. The PP was requested to clarify how the financial indicator is appropriate with benchmark. In response, under section B.5 of the PDD Version 1.7, the word “pre tax” is removed. The IRR is the project IRR considering taxes. This is checked with the financial expert involved in the assessment team and is found to be appropriate. Hence **CAR #9 (point 15)** is closed out.

For details, please refer **CAR #9** in the discussion of findings in Annex 3 of this validation report.

## Opinion

The validation team is of the opinion that the investment analysis meets the requirements of paragraphs 124 and 129 of the VVS Version 07.0<sup>/6/</sup> and satisfies all the relevant requirements of the Guidelines on the assessment of investment analysis (EB 62 Annex 5).

### 4.8.5 Barrier analysis

Not Applicable. The additionality of the current project activity is determined by investment analysis.

### 4.8.6 Common practice analysis

Not Applicable. The additionality of the current project activity is determined by investment analysis and project activity is small scale project activity.

## 4.9 Application of Baseline Methodology and Calculation of Emission Factors

The proposed CDM project activity uses the simplified baseline and monitoring methodology AMS I.D Version 17<sup>/7/</sup>. The applicability conditions of the methodology have been discussed above in section 4.5. The PP has correctly identified the baseline as per paragraph 10 of AMS I.D Version 17. This has been described in section 4.8 above.

Baseline emissions (BE<sub>y</sub>) – The combined margin emission factor, baseline emissions and emission reductions calculations have been mentioned in the CER calculation sheet<sup>/3/</sup> and the PDD<sup>/1.8/</sup>. The baseline emissions equivalent to tCO<sub>2</sub> due to the project have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per the combined margin approach described in the ‘Tool to calculate the emission factor for an electricity system’ (version 4.0)<sup>/8.1/</sup>. The power produced will be exported to the NEWNE regional grid. Hence, the grid emission factor and the corresponding baseline emissions have been calculated for the NEWNE regional grid.

The grid emission factor has been arrived at as per paragraph 12(a) of AMS I.D Version 17 (as mentioned in section 4.8 above) in the following manner.

The values of OM and BM have been determined ex-ante as per the CEA database version 8<sup>/9/</sup> published by the Ministry of Power, Government of India. As per the Tool to calculate the emission factor for an electricity

system Version 04.0.0, regional or national average default values can be used for calculation of CO<sub>2</sub> Emission Factor if values are reliable and documented in regional or national energy statistics / energy balances. The CEA is the sole authority for publication of such data in India and hence, accepted. The version of the database referred is the latest available at the time of webhosting the PDD<sup>1.8/</sup> for the ISHC. Thus the selection of the values of OM and BM is appropriate. The values OM, BM, and CM for the NEWNE grid have been identified as follows:

EF <sub>grid OM simple,y</sub> (tCO <sub>2</sub> /MWh)	EF <sub>grid BM,y</sub> (tCO <sub>2</sub> /MWh)	EF <sub>grid CM,y</sub> (tCO <sub>2</sub> /MWh)
0.9723	0.9164	0.9582

The OM has been determined as the average of the previous 3 years values mentioned in the CEA database. The value of the BM has been identified directly from the CEA database. The combined margin emission factor has been arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The baseline emission for the project activity has been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per paragraph 11 of AMS I.D. Version 17. The PP has rounded down the value of total baseline emissions in order to be conservative. The baseline emissions for the project activity have been calculated to be 16,223 tCO<sub>2</sub> per year.

Project emissions (PE<sub>y</sub>) – The project activity involves the generation of electricity using wind energy. Hence, there are no project emissions associated with this project activity as per paragraph 20 and 21 of AMS I.D. Version 17. Further based on the observation at the project site and boundary on ground reality, no potential project emission sources have been identified.

Leakage (LE<sub>y</sub>) – Leakage has not been considered for the project activity. According to paragraph 22 of AMS I.D. Version 17, if the energy generating equipment is transferred from another activity, leakage is to be considered. The proposed project activity uses new energy generating equipment which has been verified from the purchase order<sup>13/</sup>. Thus, not considering leakage for the project activity is appropriate.

Emission Reductions (ER<sub>y</sub>) – The emission reductions for the project activity have been calculated as per paragraph 23 of AMS I.D. Version 17 as follows: **ER<sub>y</sub> = BE<sub>y</sub> – PE<sub>y</sub> – LE<sub>y</sub>**

Based on the values of baseline emissions, project emissions and leakage the annual average emission reductions have been estimated to be 16,223 tCO<sub>2</sub>/year.

## Discussion of CARs/CLs

**CL #6 (point 1):** Section B.6.2 of the PDD version 1 has mentioned that, BM value was calculated as 3-year generation-weighted average of latest three years, 2009-2010, 2010-2011 and 2011-12. The PP was requested to clarify the same. In response, under Section B.6.2 of the revised PDD version 1.1, the PP has corrected choice of data appropriately. This is checked and is found to be appropriate. Hence **CL #6 (point 1)** is closed out.

**CL #6 (point 2):** Detailed monitoring procedure was included in section B.7.2 (Sampling Plan) of the PDD version 1. The PP was requested to clarify the appropriateness of same in line with PDD completion guidelines. In response, the PP has shifted all the information from section B.7.2 to B.7.3 of the PDD version 1.3. This is in line with the PDD completion guideline. This is checked and is found to be appropriate. Hence **CL #6 (point 2)** is closed out.

**CL #6 (point 3):** Section B.7.2 of the PDD version 1 includes apportioning procedure to calculate net electricity supplied to grid by the project activity. However during site visit, it was observed that dedicated metering is involved for the project activity. The PP was requested to clarify the inconsistency observed. In response, the PP has removed the text apportioning Procedure is removed. This is checked and is found to be appropriate. Hence **CL #6 (point 3)** is closed out.

**CL #6 (point 4):** Under section B.6.4 PDD version 1.1: the format of the PDD template has been changed; the PP was requested to clarify the same in line with paragraph 15 of GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT FORM. In response, the PP has retained the PDD template in line with the PDD completion requirement. This is checked and is found to be appropriate. Hence **CL #6 (point 4)** is closed out.

**CL #6 (point 5):** Under sections B.6.2 and B.7.1 of PDD version 1.1, the purpose of the data was not provided in line with the PDD completion guidelines. The PP was requested to clarify the inconsistency observed. In response, the PP has corrected sections B.6.2 and B.7.1 in line with the PDD completion guideline. This is checked and is found to be appropriate. Hence **CL #6 (point 5)** is closed out.

Thus **CL #6** is closed out.

Detail discussion on this CL #6 can be referred in Annex 3 of this validation report.

### Opinion

Based on the above discussion and the requirements of paragraphs 101 to 103 of the VVS version 07.0, the validation team confirms that:

1. All assumptions and data used by the PP are listed in the PDD, including their references and sources
2. All documentation used by the PP as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD
3. All values used in the PDD are reasonable in the context of the proposed CDM project activity
4. The applied methodology AMS I.D Version 17 has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions.
5. All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

### 4.10 Application of Monitoring Methodology and Monitoring Plan

The project activity applies the simplified baseline and monitoring methodology AMS I.D Version 17. The applicability conditions of the methodology have been discussed in section 4.6 above.

The PP has defined the monitoring parameters as per the requirements of paragraph 24 of the methodology AMS I.D Version 17 and taking into consideration the actual procedure followed on the site. In line with this, the PP has defined the monitoring parameter  $EG_{BL,y}$ , in section B.7.1 of the PDD.

$EG_{BL,y}$  – (MWh/year) this refers to “Net electricity supplied to the grid by the project activity in year y”. This is calculated monthly by the state utility based on the measured values of electricity exported and imported to/from the grid at substation. The value is obtained from the JMR issued by the state utility. This value is directly used for the ER calculations. The monitoring data will be cross-checked with the actual sale receipts/invoices. This is found to be in line with monitoring requirement stipulated in the methodology.

This parameter is calculated by the state utility using parameter  $EG_{export,y}$  and  $EG_{import,y}$  as described under section B.7.1 of the PDD. At present, there is dedicated metering arrangement for project activity and that arrangement may change in future, as it is not under the control of the PP. The calculation is in the control of the state utility alone. The PP has no role in the calculations. The value of the parameter  $EG_{BL,y}$  which is obtained from the monthly certificate issued by the state utility, is directly used for the ER calculations. Invoices are raised by the PP based on this certificate and payment will be received by the PP based on the value in the certificate. The state utility is a third party Government entity. Since the PP will be paid based on this certificate prepared by the third party Government entity, the source and the procedure to arrive at the net electricity exported to the grid is considered to be appropriate and authentic.

Thus, the monitoring plan is in compliance with the requirements of the methodology.

In section B.7.3 of the PDD, the PP has provided the detailed monitoring plan. Diagram of meter location at project site is provided under section B.3 of the PDD. The metering arrangement was checked and found to be in-line with the interview with the PP and Site Engineer from O&M service provider (Suzlon Private Limited) during the site visit, hence accepted. All energy meters have to be calibrated by state utility annually.

The PP has mentioned that all the monitored data would be archived electronically and on paper regularly throughout the crediting period. Also, data will be archived for a minimum of 2 years after the end of the

crediting period or the last issuance of CERs for this project activity, whichever occurs later. This is stated in section B.7.3 of the PDD.

The assessment team confirms that the description in the PDD correctly represents the metering system available at the project activity site and that the defined monitoring plan can be implemented in the context of the project activity.

The monitoring plan in section B.7.3 of the PDD<sup>1.8/</sup> clearly mentions the calibration procedure, QA/QC procedure, procedure in case of data uncertainty, data reporting and archiving, staff training and the management structure. These details were cross checked against the details mentioned in the PPA<sup>18/</sup>.

Suzlon Private Limited, the O&M service provider, who is also the supplier of the WTGs, is an ISO 9001, 14001 and OHSAS 18001 certified organisation with an experience in monitoring and managing the O&M of numerous other wind farm CDM projects. The validation team is therefore of the opinion that the project participant through the O&M agency is capable of implementing the monitoring plan in the context of the project activity.

#### Discussion of CARs/CLs:

**CAR #9 (point 3):** The PP was requested to elaborate the metering procedure under sections B.7.1 and B.7.3 of the PDD. Further, the PP was requested to correct the project boundary diagram accordingly. In response, the PP has provided metering procedure as per actual practice at site. This is checked and is found to be appropriate. Hence **CAR #9 (point 3)** is closed out.

**CAR #9 (point 10):** The PP was requested to check and confirm the accuracy class of the meters in line with the actual scenario. In response, the PP has corrected the accuracy class of the meters in line with the actual scenario. This is checked and is found to be appropriate. Hence **CAR #9 (point 10)** is closed out.

**CAR #9 (point 11):** The PP was requested to provide Operational and Organisation Structure of Monitoring system in line with the actual scenario. In response, the PP has corrected the Operational and Organisation Structure of Monitoring system in line with the actual scenario. This is checked and is found to be appropriate. Hence **CAR #9 (point 11)** is closed out.

Thus **CAR #9** is closed out.

For details, please refer **CAR #9** in the discussion of findings in Annex 3 of this validation report.

#### Opinion

Based on the above discussion and the requirements of paragraphs 138 to 139 of the VVS version 07.0<sup>6/</sup>, the validation team confirms that:

1. The monitoring plan included in the PDD is based on the approved methodology AMS I.D Version 17 which has been applied to the proposed CDM project activity
2. The monitoring plan is in compliance with the applied methodology AMS I.D Version 17
3. The monitoring arrangements described in the monitoring plan are feasible within the project design

The PP has the ability to implement the monitoring plan as per the PDD.

#### 4.11 Environmental Impacts

The PP has not carried out an EIA for the proposed wind power project. The Schedule (Page no 10) of the notification S.O. 1533 (E)<sup>27/</sup> dated 14/09/2006 and Office Memorandum dated 24/12/2013<sup>28/</sup> published by the Ministry of Environment and Forests (MoEF), Government of India gives a list of the project activities that require a prior environmental clearance. According to this schedule wind power projects do not require a prior environmental clearance and hence an EIA need not be carried out.

#### Discussion of CARs/CLs:

**CL #8 (point 1):** The PP was requested to clarify if Schedule 1 of notification issued by Ministry of Environment and Forests (MoEF), Government of India on September 14, 2006 (included in section D.1 of the PDD) is latest available reference for no EIA requirement for the project activity. In response, the PP has provided direct reference of the EIA notifications in the revised PDD version 1.2. This is checked and is found to be appropriate. Hence **CL #8 (point 1)** is closed out.



**CL #8 (point 2):** The PP was requested to provide NOC or clearances obtained for the project activity for further validation purpose. In response, the PP has provided clearance certificate from MEDA. This is checked and is found to be appropriate. Hence **CL #8 (point 2)** is closed out.

Thus **CL #8** is closed out.

Detail discussion on this CL #8 can be referred in Annex 3 of this validation report.

### Opinion

The assessment team is of the opinion that the project complies with environmental regulations in India. This has been checked in line with the requirements of paragraphs 141 to 143 of the VVS version 07.0<sup>6/</sup>.

### 4.12 Local Stakeholder Comments

The local stakeholder consultation process has been described in section E of the PDD<sup>1.8/</sup>. The PP has identified people including local villagers, Sarpanch (head of village), employees of Suzlon, representatives of the project participants, etc. as the stakeholders.

The PP has conducted stakeholder consultation meeting<sup>20/</sup> on 24/09/2013 in coordination with Suzlon Private Limited, the technology provider. Stakeholders were invited through public notice<sup>19/</sup> on 16/09/2013 given by the PP. The documentary evidence provided as proof of date of the invitation, meeting; and mode of invitation<sup>19/</sup> has been checked by the assessment team and found to be appropriate. Based on the observations of the assessment team during the site visit and as per the definition of 'stakeholder' in the Glossary of CDM terms, the identification of stakeholders for consultation was found to be appropriate.

After sharing information with the local stakeholders about the company and the purpose of proposed activity, the stakeholders were briefed about non-conventional energy sources and their importance. The PP also informed the stakeholders about their intention of securing CDM benefits for the proposed project activity. The Minutes of the meeting of the stakeholder meeting and attendance sheet<sup>20/</sup> have been submitted by the PP.

During the site visit the assessment team interviewed some of the local villagers. Based on the replies of the villagers, the validation team is convinced that the process of stakeholder consultation was carried out as described in the PDD<sup>1.8/</sup>. The villagers also confirmed that they were invited for the meeting through public notice. This was found to be consistent with the invitation process mentioned in the PDD<sup>1.8/</sup>.

The PP has provided summary of comments in the PDD and this has been checked and confirmed through document review and interviews with local stakeholders in line with paragraph 146 of VVS version 07.0. Overall, there was agreement among the stakeholders that the proposed project activity would lead to the overall development of the area, mainly by generating employment opportunities and improving the infrastructure leading to an improved life for the villagers. The minutes of the meeting<sup>20/</sup> were checked and no adverse comments were received. The local stakeholders interviewed during the site visit endorsed this view.

### Opinion

According to the requirements of paragraphs 145-146 of the VVS version 07.0, the validation team is of the opinion that the local stakeholder consultation process has been satisfactorily carried out.

## 5. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

### 5.1 Description of How and When the PDD was Made Publicly Available

The Project Design Document for this project was made available on the UNFCCC website <http://cdm.unfccc.int/Projects/Validation/DB/3OMFMKI5JVUZ3F632Z0ZQ5DLQ0M0H4/view.html> and was open for comments from 13/11/2013 until 12/12/2013. Comments were invited through the UNFCCC CDM homepage.

### 5.2 Compilation of all Comments Received

Comment Number	Date Received	Submitter	Comment
Not Applicable (NA)	NA	NA	NA

### 5.3 Explanation of How Comments Have Been Taken into Account

Not Applicable

## 6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
17/12/2013	Shrikant Dubey	O & M Incharge, Mahalaxmi	<ul style="list-style-type: none"> <li>Project design, Baseline and project boundary</li> <li>Financial additionality and IRR calculations</li> <li>Emission Reduction Calculation</li> <li>Monitoring procedure, monitoring parameters</li> <li>Operation maintenance, calibration, data recording and invoicing</li> <li>Environmental impacts</li> <li>Stakeholder consultation</li> <li>Visit to WTGs</li> </ul>
17/12/2013	Ankur Garg	Sr. Engineer, Suzlon	<ul style="list-style-type: none"> <li>Monitoring Procedure, monitoring parameters</li> <li>Operation maintenance, calibration, data recording and invoicing</li> <li>Project participant details and PP wise installed capacity details.</li> <li>Stakeholder consultation</li> </ul>
17/12/2013	Yogesh Mahajan	Local villager	<ul style="list-style-type: none"> <li>Stakeholder consultation</li> </ul>
17/12/2013	Prakash Patil	Local villager	<ul style="list-style-type: none"> <li>Stakeholder consultation</li> </ul>



## 7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1/ PDD version 1 dated 05/11/2013 (Webhosted)
- /1.1/ PDD version 1.1 dated 06/02/2014
- /1.2/ PDD version 1.2 dated 30/04/2014
- /1.3/ PDD version 1.3 dated 12/06/2014
- /1.4/ PDD version 1.4 dated 28/09/2014
- /1.5/ PDD version 1.5 dated 11/10/2014
- /1.6/ PDD version 1.6 dated 03/11/2014
- /1.7/ PDD version 1.7 dated 29/11/2014
- /1.8/ PDD version 1.8 dated 24/02/2015
- /1.9/ PDD version 1.9 dated 25/04/2015
- /2/ Investment Analysis (Project IRR Calculation) Sheet (provided with PDD Version 1.6 dated 03/11/2014)
- /3/ ER Calculation sheet (provided with PDD Version 1.8 dated 24/02/2015)
- /4/ Host Country Letter of Approval (Ref. 4/17/2014-CCC) dated 25/04/2014
- /5/ Modalities of Communication signed by Project Participant on 30/04/2014

Discuss the key changes in the final PDD against the version published for the international stakeholder consultation

PDD Version	Date of Revision	Main changes reason for Revision
1.0	05/11/2013	Published for ISHC
1.9	25/04/2015	<ul style="list-style-type: none"> <li>Section A.1: The description of project implementation status is updated. (Refer CL#2)</li> <li>Section A.2.3: Name of the village Muchandi included. (Refer CL#3)</li> <li>Section A.2.4: Geo-coordinates corrected as DDMMSS. (Refer CL#3)</li> <li>Section B.4: Equation numbers are corrected (Refer CAR#9)</li> <li>Section B.5: References/sources for all the input values used in project IRR calculations are included (Refer CAR#4)</li> <li>Section B.5: Suitability of project IRR included (Refer CAR#4)</li> <li>Section B.5: Latest version of the Project Standard included (Refer CAR#4 and CAR#5)</li> <li>Word pretax is removed from the PDD (Refer CAR #9)</li> <li>Section B.6.2: BM calculation year corrected. (Refer CL#6)</li> <li>Section B.6.4: The format of the PDD template retained in line with the PDD completion guideline. (Refer CL#6)</li> <li>Section B.6.2 and B.7.1: Purpose of data included in line with the PDD completion guideline. (Refer CL#6)</li> <li>Section B.7.2: Corrected in line with the PDD completion guideline. (Refer CL#6)</li> <li>Error message is removed from section B.7.4 of the PDD (Refer CAR #9)</li> <li>Section D.1: The direct reference of the EIA notifications are provided. (Refer CL#8)</li> <li>PDD template revised to Version 5.0 (Refer CAR #9)</li> </ul>

PDD Version	Date of Revision	Main changes reason for Revision
		<ul style="list-style-type: none"> <li>Annual estimated CER value updated (Refer CAR #10)</li> <li>PS paragraph reference corrected (Refer CAR #10)</li> <li>Applicability criteria updated (Refer CAR #10)</li> <li>Editorial changes made (Refer CAR #10)</li> <li>Section B.6.4 ER table updated (CAR #10)</li> </ul>

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

- /6/ Clean Development Mechanism Validation and Verification Standard Version 07.0
- /7/ Approved methodological standard version/s AMS-I.D. version 17
- /8/ /8.1/ Tool to calculate the emission factor for an electricity system' (version 4.0) (EB 75, Annex 15)  
/8.2/ Guidelines on the demonstration of additionality of small-scale project activities, Version 09 (EB68 Annex 27)  
/8.3/ Guidance on assessment of Investment Analysis, version 05 (EB 62, Annex 05)
- /9/ CEA database version 8 [http://www.cea.nic.in/reports/planning/cdm\\_co2/cdm\\_co2.htm](http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)
- /10/ Third party PLF assessment report issued by SR Energy Consultancy dated 12/12/2012
- /11/ Memorandum of Information presented to board meeting dated 26/12/2012 for current project activity.
- /12/ Offer letter received from Suzlon dated 14/12/2012
- /13/ Purchase order issued to the Suzlon dated 28/12/2012
- /14/ MERC tariff order Case no. 10 of 2012 dated 30/03/2012
- /15/ CERC notification dated 19/01/2009
- /16/ The Companies Act 1956 (Schedule XIV) [www.fastfacts.co.in/resources/DepCoAct.rtf](http://www.fastfacts.co.in/resources/DepCoAct.rtf)
- /17/ Income Tax Rules <http://www.lesstax.com/577income-tax-rates-for-companies/>
- /18/ Power purchase agreement :  
6.3 MW (2.1 MW X 3 WTGs) dated 11/03/2014 between the PP and MSEDCL.  
4.2 MW (2.1 MW X 2 WTGs) dated 02/08/2014 between the PP and MSEDCL.
- /19/ Local Stakeholder consultation documents, public notice dated 16/09/2013
- /20/ Local Stakeholder consultation documents, minutes of meeting and attendance sheet dated 24/09/2013
- /21/ Commissioning certificate:  
Location No. JTH-247, 292 & 293 for 6.3 MW (2.1 MW X 3 WTGs) dated 20/07/2013 (commissioning date 08/06/2013)  
Location No. JTH-294, 300 for 4.2 MW (2.1 MW X 2 WTGs) dated 25/03/2014 (commissioning date 11/02/2014)
- /22/ CDM Prior consideration website <http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html>
- /23/ Email from UNFCCC for acceptance of information for Prior CDM consideration dated 19/06/2013 in response to PP's notification email dated 19/06/2013
- /24/ Email from NCDMA for acceptance of information for Prior CDM consideration dated 09/09/2013 in response to PP's notification email dated 19/06/2013
- /25/ Validation service agreement with SGS dated 17/09/2013
- /26/ No ODA funding confirmation through Memorandum of Information presented to board meeting dated 26/12/2012 for current project activity
- /27/ Notification S.O. 1533 dated 14/09/2006 (<http://envfor.nic.in/legis/eia/so1533.pdf> )
- /28/ Office Memorandum dated 24/12/2013 (<http://envfor.nic.in/sites/default/files/ia-24122013.pdf> )
- /29/ Crisil Report: India – Power sector: Emerging Developments & Critical issues
- /30/ Suzlon letter to the PP for confirmation of Geo coordinate dated 20/01/2014
- /31/ Minutes of Board Meeting dated 26/12/2012 for current project activity.
- /32/ Project Cycle Procedure Version 7.0 dated 01/06/2014
- /33/ Project Standard Version 7.0 dated 01/06/2014

## A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for “**Wind Power Project in Maharashtra State, India**”

It serves as a “**reality check**” on the project that is completed by a local assessor from SGS India

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
1. Host Country Approval	Host Country Approval was pending. The same is provided.	Host Country Approval No. 4/17/2014-CCC) dated 25/04/2014 is received	CAR#1 (Issue 1) was raised and closed
2. Modalities of Communication for the project activity.	MoC provided by project participant	MoC	CAR#1 (Issue 2) was raised and closed. Appropriate and accepted
3. Purchase orders for WTGs	Purchase orders for project activity has been checked	Purchase orders for WTGs	Appropriate and accepted
4. Ownership documents or Licenses for each wind mill	Commissioning certificate and government approval have been submitted by PP	Commissioning certificate, and government approval	Appropriate and accepted
5. Excel for calculation of emission reduction with sources of data	Emission reduction calculation sheet submitted by PP	Emission reduction calculation sheet	Appropriate and accepted
6. Power Purchase Agreement between wind mill owner and electricity board	PPA for the project activity has been submitted by PP	PPA for project activity	Appropriate and accepted
7. Financial calculation excel sheet, IRR calculations and source of each assumptions	Financial analysis sheets submitted by PP	Financial analysis excel spread sheet	Appropriate and accepted

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
used ,Suitability of Benchmark			
8. Proof for CDM consideration for wind mill	PP has provided the board resolution extract as proof for prior consideration of CDM	Board resolution, Intimation mail to UNFCCC and MoEF	Appropriate and accepted
9. Evidence is required to be submitted that the technology used would not be changed during the crediting period from each windmill owner.	Undertaking is provided by project participant	Undertaking for No technology change	Appropriate and accepted
10. Evidence for no use of ODA	Undertaking for no use of ODA submitted	No ODA certificate	Appropriate and accepted
11. Evidence for start date of the project activity.	Date on purchase orders for WTGs were checked	Purchase orders for WTGs	Appropriate and accepted
12. Consents and approval from pollution control board, EIA requirement needs to be checked. No objection certificate, commissioning certificates	EIA is not required for the project activity. NOC/clearances and commission certificates have been submitted by the PP.	Schedule attached to Environment Impact Assessment Notification S.O. 3067  Commissioning certificates for WTGs	Appropriate and accepted
13. Proof for media used to invite the local stakeholders and date of stakeholders meeting	Invitation letters and MoM provided by project participant	Invitation Public notice and MoM	Appropriate and accepted
14. MoM of local stakeholder consultation is required. Discussion with the local stakeholders is required	Discussions with stakeholders were carried out during the site visit to confirm the local stakeholder consultation process. PP has submitted the MoM of the meeting.	MoM	Appropriate and accepted

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
during the site visit			
15. QA/QC procedures for data monitoring or ISO certificates for the company (if applicable) and personnel training programme, Operation and maintenance procedure and contract	QA/QC procedures for data monitoring were checked during the site visit	Checked during site visit	Appropriate and accepted
16. Debundling criteria need to be checked during site visit	The debundling criteria have been checked during the site visit	Checked during site visit	Appropriate and accepted
17. Location of all monitoring meters for each wind mill should be checked during site visit.	The locations of the monitoring meters have been checked during the site visit.	Checked during site visit	Appropriate and accepted

## A.2 Annex 2: Validation Checklist

**Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)**

Requirement	Means of Validation Reference	Comments	Conclusion/C ARs/ CLs
<p>All Parties involved have approved the project activity</p> <p>1.1. Has the DNA of each Party involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval which confirms</p> <p>1.1.1. The country is a Party to the Kyoto Protocol</p> <p>1.1.2. Participation is Voluntary</p> <p>1.1.3. The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country Non-Annex 1 Party shall submit a letter of approval</p> <p>1.1.4. It refers to the precise proposed CDM project activity title in the PDD being submitted for registration</p>	<p>Annex 4, Clean Development Mechanism, Validation and Verification Standard, Version 7.0 (from this point forwarded referenced as VVS) –</p> <p>Paragraph 37 CDM Modalities and procedures</p>	<p>Project participant has submitted Host Country Approval (Ref. 4/17/2014-CCC dated 25/04/2014 from Indian DNA (MoEF). HCA confirms that the project activity is a voluntary participation and contributes to sustainable development of country. The country (India) has ratified Kyoto protocol 26/08/2002.</p> <p>Initially PP isn't submitted Host Country Approval for the project activity; hence CAR #01 was raised.</p> <p>In response, PP submitted Host Country Approval (Ref. 4/17/2014-CCC dated 25/04/2014 from Indian DNA (MoEF). The same is checked and it is found to be appropriate; thus it is accepted &amp; CAR #01 was closed out.</p>	<p>CAR #1 (Issue 1)</p> <p>Y</p> <p>CAR #1 (Issue 1) was closed</p>
<p>1.2. If the project participant(s) listed in the PDD published at international stakeholder<sup>1</sup> consultation are not included in the PDD submitted with request for registration, a letter should be obtained from the withdrawn project participant(s) confirming its voluntary withdrawal from the proposed project activity.</p>	VVS Version 7.0	Not Applicable as none of the project participant has withdrawn from the project activity.	NA
<p>1.3. The letter/s of approval are unconditional with respect to 1.1.1 to 1.1.4 above</p>	VVS Version 7.0	Host Country Approval is found to be unconditional with respect to 1.1.1 to 1.1.4	Y

<sup>1</sup> Stakeholders mean the public, including individuals, groups or communities affected, or likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity

Requirement	Means of Validation Reference	Comments	Conclusion/C ARs/ CLs
		above.	
Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days, and the project design document and comments have been made publicly available	VVS Version 7.0  Marrakech Accords, CDM Modalities, §40	The PDD is uploaded on UNFCCC website for global stakeholder consultation period from 13/11/2013 to 12/12/2013. This has been checked from <a href="http://cdm.unfccc.int/Projects/Validation/index.html">http://cdm.unfccc.int/Projects/Validation/index.html</a> No comments received.	Y
The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVS Version 7.0  Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	The present project activity uses CDM-SSC-PDD-FORM - Version 05.0 template and latest available guidance at the UN website for completion of small scale CDM project activity.	Y
The project participants shall submit a completed modalities of communication (MoC) Form	VVS Version 7.0 F_CDM_MOC form available on UNFCCC website <a href="http://cdm.unfccc.int/Reference/PDDs_Forms/index.html#reg">http://cdm.unfccc.int/Reference/PDDs_Forms/index.html#reg</a>	Modalities of Communication dated 30/04/2014 has been submitted by project participant. Same has been checked and it is found appropriate. CAR #1 (Issue 2) was raised to ask PP to submit Modalities of Communication for the project activity. In response, PP submitted the same in latest MOC template available with the UN website. Thus CAR #1 (Issue 2) was closed out.	CAR #1 (Issue 2) Y CAR #1 (Issue 2) was closed
Have the project participant been authorized by at least one Party involved in letter of approval	VVS Version 7.0	Yes the project participant is authorised by Host DNA.	Y
Has the DNA considered whether the proposed CDM project activity assists the host Party in achieving sustainable development	VVS Version 7.0	Yes, the Host DNA confirmed through their approval that proposed CDM project activity assists the host Party in achieving sustainable development.	Y

Table 2PDD

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
<b>General Description of Project Activity</b>				
<b>A.1. Project Title</b>				
A.1.1. Does the used project title clearly enable the reader to identify the unique CDM activity?	PDD	DR	The title "Wind Power Project in Maharashtra State, India" is found unique when checked in UNFCCC website. There is no other project with this title as assessed from the UNFCCC website <a href="http://cdm.unfccc.int/Projects/Validation/index.html">http://cdm.unfccc.int/Projects/Validation/index.html</a>	No issues were identified.
A.1.2. Has the PDD been completed using the latest version of the PDD form appropriate to the type of project activity?	VVS Version 7.0 CDM-SSC-PDD-FORM	PDD DR	The present project activity uses CDM-SSC-PDD-FORM - Version 05.0 template and latest available guidance at the UN website for completion of small scale CDM project activity.	
A.1.4. Is there an indication of a revision number and the date of the revision?	PDD	PDD DR	PDD mentions the PDD version and date of revision.	No issues were identified.
A.1.5. Does the PDD clearly indicate the project participant, host party, sectoral scope and selected methodologies correctly as per contract with SGS	PDD template version 5.0	DR	Yes, the PDD clearly indicate the project participant, host party, sectoral scope and selected methodologies correctly as per contract with SGS.	No issues were identified.
<b>A.2. Description of the Project Activity</b>				
A.2.1. Does the description of the proposed CDM project activity as contained in the PDD	VVS Version 7.0 PDD	DR	Section A.1 of the PDD for project description covers all relevant elements such as purpose of the project activity, how the proposed project activity reduces green house gas emissions, contribution of the project activity to sustainable development of the	No issues were identified.



Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
sufficiently cover all relevant elements accurately?			host country.	
A.2.2. Is all information provided consistent and in compliance with the actual situation or planning?	VVS Version 7.0 PDD	DR	Information provided for the project activity related to implementation of the project activity is clear to understand & in compliance with actual situation of the project activity. All information provided are crosschecked and found to be consistent.	No issues were identified.
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?	VVS Version 7.0 PDD	DR	Yes, all information provided in section A.1 of PDD is consistent with further chapters of the PDD.	No issues were identified.
<b>A.3. Location of Project Activity</b>				
A.3.1. Is the Host Party clearly mentioned in the section A.2.?	PDD	DR	Yes, the Host Party is clearly mentioned under section A.2.1 of the PDD.	No issues were identified.
A.3.2. Are Region/ State/ Province etc. in A.2.2. provided in consistency with details provided in further chapters of the PDD	PDD	DR	Yes, the State name is clearly mentioned under section A.2.2 of the PDD.	No issues were identified.
A.3.3. Are City/ Town/ Community etc. clearly mentioned in section A.2.3.?	PDD	DR	Yes, the City/town name is clearly mentioned under section A.2.3 of the PDD.	No issues were identified.
A.3.4. Is Physical/ Geographical location provided in A.2.4.?	PDD	DR	Yes, the co-ordinates and detail geographical locations are clearly mentioned under section A.2.4 of the PDD.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
<b>A.4. Technologies and/or measures</b>				
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)	VVS PDD	DR	Yes, the information of location of project is clear and detailed, it allows to identify project site easily. Latitudes & longitudes of the project activity are indicated properly.	No issues were identified.
A.4.2. Does the proposed CDM project activity involve the alteration of existing installations or process?	PDD	DR	Project activity involves installation of windmills to generate electricity and provide it to NEWNE Regional Grid. Thus project activity does not involve any alteration of the existing installations or the process.	No issues were identified.
A.4.3. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	VVS Version 7.0 PDD	DR	Project participants possess ownership or licenses which allow them the implementation of the project at those sites. PPs submitted below ownership documents for the project activity; a. Purchase orders <sup>/13/</sup> b. Commissioning certificates <sup>/21/</sup> c. PPAs <sup>/18/</sup> All above mentioned documents are checked and found to be acceptable.	No issues were identified.
A.4.4. Is (are) the category(ies) of the project activity correctly identified?	VVS Version 7.0 PDD	DR	Yes; the category of the project activity is identified correctly. The project activity applies Project Category: Type I – Renewable Energy Projects and Sub Category: D. Grid connected Renewable Energy Projects.	No issues were identified.
A.4.5. Is all information provided in compliance with actual situation or planning as available	VVS Version 7.0 PDD VVS Version 7.0	DR	Information provided for the project activity is clear to understand & in compliance with actual situation of the project activity. All information provided are crosschecked and found to be consistent.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
by the project participants?				
A.4.6. Is the table required for the indication of projected emission reductions correctly applied?	VVS Version 7.0 PDD	DR	The table required for the indication of projected emission reductions correctly applied	No issues were identified.
<b>A.5. Parties and Project participants</b>				
A.5.1. Are the parties and project participants correctly mentioned in the A.4 of the PDD	VVS Version 7.0 PDD	DR	The table under section A.4 of PDD is correctly applied.	No issues were identified.
<b>A.6. Public Funding</b>				
A.6.1. Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD	DR	Information on public funding is provided in PDD section A.5 and Annex 2. It is observed that no public funding is received for the project activity.	No issues were identified.
A.6.2. Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD	DR	Yes, all information provided is consistent with details provided by further chapters of the PDD & annex 2 of PDD.	No issues were identified.
A.6.3. In case of public funding from Annex 1 Parties is it confirmed that such funding does not result in a diversion	PDD	DR	According to PDD, Section A.5 as well as Annex 2, no public funding from Annex 1 Party is provided to this project. Please refer to section A.6.1 of this table.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/C Ls
of official development assistance				
<b>A.7. Debundling</b>				
A.7.1. If the project is a debundled component of a larger project, does the larger project fall within the limits for small-scale CDM project activities	VVS Version 7.0	DR	According to Paragraph 2 of Appendix C of the Simplified Modalities and Procedures for Small Scale CDM project activities, the project is not a debundled component of a large scale project activity. There are no other registered small-scale CDM project activities with the same project participants, in the same project category and technology/measure whose project boundary is within 1 km of another proposed small-scale activity.	No issues were identified.
<b>Baseline and Monitoring Methodology</b>				
<b>A.8. Reference of methodology and Project activity eligibility</b>				
A.8.1. Is the baseline and monitoring methodology a valid version approved by the CDM EB?	VVS Version 7.0 PDD	DR	Yes, the PDD applies an approved simplified methodology by EB: AMS I.D version 17 valid from 17 <sup>th</sup> June 2011. Applied methodology is still applicable and the latest available version at the time of webhosting. This is found to be appropriate and it is accepted.	No issues were identified.
A.8.2. Is there any specific guidance and or clarification provided by the board on this methodology/tool? If yes, is this correctly applied	VVS Version 7.0 PDD	DR	No, There is no specific guidance or clarification provided by the board on this methodology/tool.	No issues were identified.
A.8.3. Does the project activity qualify as small scale project?	VVS Version 7.0	DR	The project activity qualifies as small scale category as the total electricity generation capacity of windmills in the project is 10.5 MW. Hence, it fulfils the condition for Type I as capacity of project activity doesn't exceed 15 MW.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.8.4. Is the selected simplified methodology applicable to the project activity in the PDD?	VVS Version 7.0 PDD	DR	Yes, the selected simplified methodology AMS I.D is applicable to the project activity.	No issues were identified.
A.8.5. Does the project activity conform to one of the approved small-scale categories?	VVS Version 7.0	DR	Yes; the project activity confirm Project Category: Type I – Renewable Energy Projects and Sub Category: D. Grid connected Renewable Energy.	No issues were identified.
A.8.6. Is the project activity a bundle of several small scale activities and if so does it contain any sub-bundles?	VVS Version 7.0	DR	No, this is not a bundled project activity.	No issues were identified.
A.8.7. If the project activity is a bundle of several small scale activities, does the sum of the total bundle (including any sub-bundles) fall within the limits for small scale projects	Version 7.0	DR	Not applicable.	No issues were identified.
A.8.8. If the project activity is a bundle of several small scale activities, has the form with information related to the bundle been submitted and is it correctly used	Version 7.0	DR	Not applicable.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.8.9. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVS Version 7.0 PDD	DR	The justification provided in the registered PDD is in conformance with the applicability criteria of the applied methodology.	No issues were identified.
<b>A.9. Project Boundary</b>				
A.9.1. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner? Is there information on GHG emissions in proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.	VVS Version 7.0 PDD	DR, SV	Yes, project boundary gives clear understanding of emission sources related to the baseline scenario. No project emissions involved as project activity involve electricity generation through windmills. Also no leakage emissions involved as equipment isn't transferred from another activity or to another activity. Section B.3 of PDD clearly indicates pictorial representation of the project boundary.	No issues were identified.
A.9.2. In case of grid connected electricity	VVS Version 7.0	DR,	Yes, project activity supplies power to NEWNE Regional Grid, India. PP has considered combined margin ex-ante grid emission factor from CEA database version	No issues were



Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	PDD	SV	08 which is latest data available at the time of PDD submission for webhosting. Also it is found to be in line with version 4.0 of the tool.	identified.
A.9.3. Does the project boundary include the physical delineation of the proposed CDM project activity?	VVS Version 7.0 PDD	DR, SV	Yes, PDD section B.3 mentions physical description of the project activity and it is found to be in line with paragraph 9 of applied methodology AMS I.D version 17.	No issues were identified.
A.9.4. Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	VVS Version 7.0 PDD	DR, SV	Yes, all sources and GHGs required by the methodology have been included within the project boundary.	No issues were identified.
<b>A.10. Identification of the Baseline Scenario</b>				
A.10.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is	VVS Version 7.0 PDD	DR	The baseline selection is checked and "The baseline emissions are the product of electrical energy baseline $EG_{BL, y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor" which is found to be in line with paragraph 11 of the applied methodology AMS I.D version 17. This combined margin ex-ante grid emission factor is taken from version 08 of "CO <sub>2</sub> Baseline Database for the Indian Power Sector," published by Central Electricity Authority (CEA), Government of India available at the time of PDD submission for webhosting.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
the application of the methodology and the discussion and determination of the chosen baseline transparent?				
A.10.2. Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline scenario? This includes all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	VVS Version 7.0 PDD	DR	The project activity uses the latest available version of "Tool to calculate emission factor of an electricity system" version 4.0 available at the time of PDD webhosting. This is found to be appropriate and it is accepted.	No issues were identified.
A.10.3. Is the choice of the baseline compatible with the available data?	VVS Version 7.0 PDD	DR	Yes, the baseline emission factor is based on the published data of Central Electricity Authority.	No issues were identified.
<b>A.11. Additionality</b>				
A.11.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVS Version 7.0 PDD	DR	Documentation of barriers to demonstrate additionality is not required  Project participant has considered investment barrier as additionality criteria.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.11.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	PDD	DR	PP has used Attachment A to appendix B version 08 to demonstrate additionality of the project activity and same is inline with Non-binding best practice examples to demonstrate additionality for SSC project activities	No issues were identified.
A.11.3. Has all information been backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	VVS Version 7.0 PDD	DR	Project participant submitted references and sources for all input values used in the IRR and benchmark calculation for the project activity. This is found to be appropriate and it is accepted. However, CAR #04 was raised asking PP to provide all necessary documents.	CAR #04 Y CAR #04 was closed
A.11.4. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project activity start date is prior to the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project	VVS Version 7.0 PDD	DR	Project participant had submitted prior notification of commencement of the project activity and their intention to seek CDM status to UNFCCC as well as host country DNA. Notification was sent to UNFCCC and NCDMA on 19/06/2013 and same is checked and confirmed from <a href="http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html">http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html</a> .	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
activity				
A.11.5. If an investment analysis has been used, has it been demonstrated that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	VVS Version 7.0 PDD	DR	Here the alternative to the project activity is the supply of electricity from a grid this is not to be considered an investment; hence benchmark approach is considered to be appropriate and same has been demonstrated by the project participant.	No issues were identified.
A.11.6. If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project developer).	VVS Version 7.0 PDD	DR	Project IRR has been chosen as the financial indicator to assess the financial viability of the project which is debt rate considered by the PP.	CAR #04 Y CAR #04 was closed
A.11.7. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed	VVS Version 7.0 PDD	DR	Not applicable as PP has not opted for barrier analysis.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
project activity but would not have prevented the implementation of at least one of the alternatives?				
A.11.8. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVS Version 7.0 PDD	DR	Here the alternative to the project activity is the supply of electricity from a grid this is not to be considered an investment; hence benchmark approach is considered to be appropriate and same has been demonstrated by the project participant	No issues were identified.
A.11.9. If a barrier analysis has been used have the 'guidelines for objective demonstration and assessment of barriers' been followed? Have all applicable steps been considered and substantiated with objective evidence?	VVS Version 7.0	DR	Not applicable as PP is not opted for barrier analysis.	No issues were identified.
A.11.10. Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity. Do they also abide by the same applicable laws and legislations?	VVS Version 7.0 PDD	DR	The identified baseline scenario includes technologies and practices that include outputs or services comparable with the CDM project activity. Also the additionality confirms relevant financial national policies and circumstances are considered in the PDD.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.11.11. Has it been shown that the project is not common practice?	VVS Version 7.0 PDD	DR	Not applicable as PP is not opted for common practice analysis.	NA
A.11.12. What are the key distinctions between the project activity and any similar projects that are widely used as common practice?	VVS Version 7.0 PDD	DR	PDD hasn't demonstrated common practice analysis and it is not the requirement of methodology also. Thus Not applicable.	No issues were identified.
<b>A.12. Application of the Simplified Methodology</b>				
A.12.1. Has the simplified methodology been applied correctly for determining <b>baseline emissions</b> ?	VVS Version 7.0 PDD	DR	PP applied paragraph 11 and 12 of the applied simplified methodology AMS I.D Version 17 to determine baseline emissions for the project activity. PP used combined margin ex-ante grid emission factor based on CEA database version 8 data. This is found to be inline with Tool to calculate emission factor of an electricity system, version 4.0.	No issues were identified.
A.12.2. Has the simplified methodology been applied correctly for determining <b>project emissions</b> ?	VVS Version 7.0 PDD	DR	Since the project activity is electricity generation through wind power project, project emissions are not applicable here.	No issues were identified.
A.12.3. Has the simplified methodology been applied correctly for determining <b>leakage</b> ?	VVS Version 7.0 PDD	DR	Since the project activity is electricity generation through wind power project, leakage emissions are not applicable here.	No issues were identified.
A.12.4. Where applicable, has the simplified methodology been applied correctly for the <b>direct calculation of emission reductions</b> ?	VVS Version 7.0 PDD	DR	Approach mentioned in the applied methodology AMS I.D is used for emission reduction calculations.	No issues were identified.



Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.12.5. Where there is an option between different equations or parameters, has the methodological choices for the project been explained, have they been properly justified and are they correct?	VVS Version 7.0 PDD	DR	Applied methodology AMS I.D doesn't provide options for emission reduction calculations. Approach mentioned in the methodology is used for emission reduction calculations.	No issues were identified
A.12.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD	DR	No uncertainties in the GHG emissions estimates have been found in the PDD.	No issues were identified.
<b>A.13. Algorithm and /or formulae used to determine emission reductions</b>				
A.13.1. Are the data provided in compliance with the methodology?	VVS Version 7.0 PDD	DR	Yes, baseline emission factor from published data of CO <sub>2</sub> Baseline Database for the Indian Power Sector are used to calculate baseline emissions. This is in compliance with the applied methodology AMS I D version 17.	No issues were identified.
A.13.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	VVS Version 7.0 PDD	DR	Emission factor from "CO <sub>2</sub> Baseline Database for the Indian Power Sector, version 08 " published by Central Electricity Authority (CEA), Ministry of Power , Government of India is used for emission reduction calculations which is official published data.	No issues were identified.
A.13.3. Is the vintage of the baseline data correct?	PDD	DR	Yes. Latest available published data of CO <sub>2</sub> Baseline Database i.e. version 08 for the Indian Power Sector is used for emission factor at the time of PDD submission.	No issues were identified.
A.13.4. Is all the data appropriate and correctly applied to the CDM project activity?	VVS Version 7.0 PDD	DR	The baseline data is checked for accuracy & conservativeness. These are found to be conservatively applied to the CDM project activity.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.13.5. If the project activity uses the PLF does it follow the guidance provided in EB48 annex 11?	VVS Version 7.0	DR	PP had submitted third party PLF assessment study report dated 12/12/2012 <sup>10/</sup> prepared by SR Energy Consultancy. This was checked with the offer letter and found to be consistent.	No issues were identified.
<b>A.14. Calculation of Emissions Reductions</b>				
A.14.1. Has the simplified methodology been applied correctly for determining <b>emission reductions</b> ?	VVS Version 7.0 PDD	DR	Emission reduction calculations are found to be documented inline with approach indicated by the applied simplified methodology AMS I.D version 17.	No issues were identified.
A.14.2. Are the emission reduction calculations documented in a complete and transparent manner?	VVS Version 7.0 PDD	DR	Emission reduction calculations are found to be documented in a complete and transparent manner in the PDD.	No issues were identified.
A.14.3. Is the calculation of the emission reduction correct?	VVS Version 7.0 PDD	DR	Yes, same procedures for emission reductions calculations can be used for later monitoring.	No issues were identified.
<b>A.15. Emission Reductions</b>				
A.15.1. Is the form/table required for the indication of projected emission reductions correctly applied?	PDD	DR	Yes, the table required for indication of projected emission reductions is correctly applied.	No issues were identified.
<b>A.16. Monitoring Methodology</b>				
Are all parameters and data that are available at validation consistent	VVS Version 7.0 PDD	DR, SV, Intervi	Yes, all parameters and data are available at the time of validation and it is consistent with the simplified methodology. These data have been interpreted and applied correctly for this project activity.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
with the simplified methodology. Has this data been interpreted and applied correctly?		ew		
A.16.1. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	PDD	DR	Monitoring plan mentioned in section B.7.1 and B.7.3 and Appendix 5 of the PDD is found to be consistent for calculation of baseline emissions.	No issues were identified.
<b>A.17. Data and Parameters Monitored</b>				
A.17.1. Is the description of the monitoring plan included in the PDD based on approved monitoring methodology and the applicable tools	VVS Version 7.0 PDD	DR, SV, Interview	All parameters described by the methodology AMS I.D are considered in the monitoring plan mentioned in section B.7.	No issues were identified.
A.17.2. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	PDD	DR, SV, Interview	Yes, the information given for each monitoring variable by the presented table is sufficient to ensure the verification of a proper implementation of the monitoring plan.	No issues were identified.
A.17.3. Is the information given for each monitoring variable by the presented table sufficient to ensure the	PDD	DR, SV, Interview	Yes, the information given for each monitoring variable by the presented table is sufficient to ensure the delivery of high quality data free of potential for biases.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/C Ls
delivery of high quality data free of potential for biases or intended or unintended changes in data records?				
<b>A.18. Operational and Management Structure</b>				
A.18.1. Is the authority and responsibility of project management clearly described?	PDD	DR, SV	Roles and responsibility of the organizations involved in the project management is mentioned in the PDD in section B.7.	No issues were identified.
A.18.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD	DR, SV	Roles and responsibility of personnel involved for registration, monitoring, measurement and reporting has mentioned in the PDD.	No issues were identified.
A.18.3. Are procedures identified for training of monitoring personnel?	PDD	DR, SV	The O & M supplier has employed qualified personnel and they are imparted with routine trainings by the O & M supplier being ISO 9001:2008 certified. Training procedures are verified during site visit.	No issues were identified.
<b>A.19. Monitoring Plan (Annex 5)</b>				
A.19.1. Does the monitoring plan completely describe all measures to be implemented for monitoring all parameter required, including measures to be implemented for	VVS Version 7.0	DR, SV	Yes, the monitoring plan completely describe all measures to be implemented for monitoring all parameters required, including measures to be implemented for ensuring data quality.	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
ensuring data quality?				
A.19.2. Are procedures identified for calibration of monitoring equipment?	VVS Version 7.0	DR, SV	Yes, procedures are found to be identified for calibration of monitoring equipment and mentioned in the PDD.	No issues were identified.
A.19.3. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	VVS Version 7.0	DR, SV	Yes, these procedures have been checked during site visit. O & M contractor being an ISO certified organization, day to day data reporting & handling is well in place.	No issues were identified.
A.19.4. Is the monitoring plan in absolute compliance with the monitoring methodology?	VVS Version 7.0	DR, SV	Yes, the monitoring plan is in compliance with the monitoring methodology.	No issues were identified.
<b>A.20. Sampling</b>				
A.20.1. Is there any indication of a Sampling?	PDD	DR	No, 100% data is checked for this project activity. Hence, sampling is not applied.	No issues were identified.
A.20.2. Is the sampling consistent with the requirement of the methodology ?	VVS Version 7.0	DR	Not applicable	No issues were identified.
A.20.3. Is all data required provided in a complete manner by annex 5 of the PDD?	PDD	DR	Not applicable	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/C Ls
<b>Duration of the Project / Crediting Period</b>				
A.20.4. Are the project's starting date and operational lifetime clearly defined and reasonable?	VVS Version 7.0 PDD	DR	Yes. The start date of the project activity is 28/12/2012 and the operation lifetime is 20 years as described in the PDD. Evidence is submitted for the start date of the project activity as the Purchase order for the first set of Suzlon make WTGs <sup>/13/</sup> .	No issues were identified.
A.20.5. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	VVS Version 7.0 PDD	DR	The crediting period chosen is 10 years fixed crediting period.	No issues were identified.
A.20.6. Does the project's operational lifetime exceed the crediting period	VVS Version 7.0 PDD	DR	Yes, project's operational lifetime is exceeding the crediting period	No issues were identified.
A.20.7. Does the start date indicate whether this is a new project activity or a pre-existing project activity?	VVS Version 7.0 PDD	DR	Yes, this is a new project activity. Start date of the project activity is 28/12/2012 which is after 2 August 2008.	No issues were identified.
<b>Environmental Impacts</b>				
A.20.8. Does the project comply with environmental legislation in the host country?	VVS Version 7.0 PDD	DR	Yes. Generation of electricity from wind energy is a clean technology (project emission zero) so it comply with environmental legislation in the host country. Project activity doesn't require EIA study.	No issues were identified.



Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
A.20.9. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVS Version 7.0 PDD	DR	Environmental Impact Assessment is not required as generation of electricity from wind energy is a clean technology (project emission zero).	No issues were identified.
A.20.10. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	VVS Version 7.0 PDD	DR	According to host country DNA, the EIA is not a mandatory requirement for the project activity.	No issues were identified.
A.20.11. Will the project create any adverse environmental effects?	VVS Version 7.0 PDD	DR	No, project activity involves generation of electricity from wind energy. Hence is a clean technology (project emission zero).	No issues were identified.
A.20.12. Are trans-boundary environmental impacts considered in the analysis?	VVS Version 7.0 PDD	DR	No, project activity involves generation of electricity from wind energy. Hence is a clean technology (project emission zero).	No issues were identified.
A.20.13. Have identified environmental impacts been addressed in the project design?	VVS PDD	DR	No, project activity involves generation of electricity from wind energy. Hence is a clean technology (project emission zero).	No issues were identified.
<b>Stakeholder Comments</b>				
A.20.14. Have relevant stakeholders been consulted?	VVS Version 7.0 PDD	DR, SV, Interview	Yes. Local Stakeholder consultation is carried out for the project activity at Jath, Sangli, Maharashtra dated 24/09/2013 <sup>/20/</sup> .	No issues were identified.
A.20.15. Have appropriate media been used to invite comments by local stakeholders?	VVS Version 7.0 PDD	DR, SV, Interview	The public notice issued on 16/09/2013 by Suzlon to invite comments from the stakeholders <sup>/19/</sup> .	No issues were identified.

Checklist Question	Ref. ID	MoV	Comments	Conclusion/ CARs/CLs
		ew		
A.20.16. Is the undertaken stakeholder process described in a complete and transparent manner?	VVS Version 7.0 PDD	DR, SV, Interview	Yes. The undertaken stakeholder's process is described in a complete and transparent manner.	No issues were identified.
A.20.17. Is a summary of the stakeholder comments received provided?	VVS Version 7.0 PDD	DR, SV, Interview	Yes. The summary of the stakeholders comments received is provided in the PDD Section E.2.	No issues were identified.
A.20.18. Has due account been taken of any stakeholder comments received?	VVS Version 7.0 PDD	DR, SV, Interview	Yes, all comments related to project are positive. Documented evidence is provided.	No issues were identified.

### A.3 Annex 3: Overview of Findings

#### Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	05	05	-

Date:	25/12/2013		Raised by:	Assessment Team		
Type:	CAR	Number:	01		Reference:	MOC and HCA
<b>Lead Assessor Comment:</b>						
<div>1. PP is requested to provide a written letter of approval from the designated national authority (DNA) of each Party indicated as being involved in the proposed CDM project activity in section A.4 of the PDD in line with paragraph 38 of VVS version 5.0.</div> <div>2. PP is requested to provide Modalities of Communication for the project activity along with documentary evidences to validate the corporate identity of the project participant and focal points included in the Modalities of Communication (MoC) statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories in line with paragraph 54 of VVS version 5.0.</div>						
<b>Project Participant Response:</b>					<b>Date:</b> 05/02/2014	
<div>1. PP has applied for HCA . HCA will be submitted once the same has been received from DNA.</div> <div>2. Modalities of communication of the project activity, and personal identity of project participant (), specimen signatures, employment status is submitted as reference document folder no 1.</div>						
<b>Documentation Provided by Project Participant:</b>						
Doc no 1 MoC						
<b>Information Verified by Lead Assessor:</b>						
MoC dated 24/01/2014						
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>					<b>Date:</b> 02/04/2014	
<div>1. HCA is pending. Open.</div> <div>2. MoC is checked for consistency in the information. On page number 2 and 5 of the MoC, optional number provided in the MoC is not in proper format (ISD code is not mentioned). Please clarify.</div> <div>Thus CAR #1 is open</div>						
<b>Project Participant Response:</b>					<b>Date:</b> 30/04/2014	
<div>1. PP will be submit HCA, as soon the same has been received.</div> <div>2. PP is submitting revised MOC</div>						
<b>Documentation Provided by Project Participant:</b>						
<div>1. Revised MOC dated 30/04/2014 is submitted.</div> <div>2. HCA</div>						
<b>Information Verified by Lead Assessor:</b>						
HCA No. 4/17/2014-CCC dated 25/04/2014						
Revised MoC dated 30/04/2014						
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>					<b>Date:</b> 31/05/2014	

1. The PP has provided HCA provided by host DNA i.e. India. This approval confirms voluntary involvement of the PP. Hence, accepted.
2. The phone numbers on page 2 and 5 of the MoC are changed appropriately. This is consistent with the numbers provided in Appendix 1 of the PDD. Hence accepted

Thus CAR #1 is closed.

**Acceptance and Close out by Lead Assessor:**

**Date:** 31/05/2014

Date:	25/12/2013	Raised by:	Assessment Team		
Type:	CL	Number:	02	Reference:	Section A.1, A.3, B.2
<b>Lead Assessor Comment:</b>					
<ol style="list-style-type: none"> <li>1. Project implementation status and type of metering involved in the project is not clear in section A.1 of the PDD. Also section A.1 of the PDD version 01 includes three sustainable indicators however it include a sentence <i>"The project proponent believes that the project activity has contributed to sustainable development in terms of the <u>four indicators</u> as follows:"</i> Please clarify.</li> <li>2. PP is requested to provide documentary evidence for lifetime of project activity 20 years mentioned in sections A.3 and C.1.2 of the PDD.</li> <li>3. PP is requested to clarify Section B.1 of the PDD doesn't refers to latest version of the "Tool to calculate the emission factor of an electricity system". Also please check steps followed to derive grid emission factor in line with the latest version of "Tool to calculate the emission factor of an electricity system" in section B.4 of the PDD.</li> <li>4. Section B.2 of the PDD version 01 doesn't include justification of the tool referred in section B.1 of the PDD. Please clarify.</li> </ol>					
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014	
<ol style="list-style-type: none"> <li>1. PP has explained implementation status and type of metering involved in section A.1 of the PDD. For metering types and implementation status PP has provided commissioning certificate as documentary evidence <b>"Document 2- commissioning certificates"</b>  PP has explained project activity contribution to sustainable in terms of four indicators such as social well being, economic well being, environmental well being and technological well being in revised pdd.</li> <li>2. Reference for project life time, proposal given by technology supplier. <b>Document 3 Proposal by technology supplier</b></li> <li>3. PP has made necessary changes with regard to version of the "Tool to calculate the emission factor of an electricity system". PP also checked steps followed to derive emission factor in line with the latest version of the above mentioned tool.</li> <li>4. PP has explained justification of the tool in section B.2. of the PDD.</li> </ol>					
<b>Documentation Provided by Project Participant:</b>					
Doc No 2 Commissioning certificates					
Doc no 3 Proposal submitted by technology supplier					
<b>Information Verified by Lead Assessor:</b>					
Offer letter provided by WTG supplier dated 14/12/2012					
Commissioning certificates dated 20/07/2013 and 25/03/2014					
Revised PDD version 1.1 dated 06/02/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014	

1. The PP has provided all four sustainable indicators in the revised PDD. Hence accepted. The PP has provided commissioning details of the project activity under section A.1 of the revised PDD. However, commissioning date for JTH-247, JTH-292 and JTH-293 is not consistent with the commissioning certificate. Further, commissioning dates are not provided for JTH-294 and JTH-300. Please clarify.
2. The proposal provided by WTG supplier has mentioned O & M till 20th year. Hence it is confirmed that the lifetime of the project activity is 20 years. Accepted.
3. The PP has referred latest version 4.0 of the "Tool to calculate the emission factor of an electricity system". Hence accepted. However, the PP is requested to provide separate excel sheet for emission reduction and emission factor calculations. Open.
4. In the revised PDD, the PP has included justification of the tool referred in section B.1 of the PDD. Hence accepted.

Thus CL #2 is open

<b>Project Participant Response:</b>	<b>Date:</b> 30/04/2014
<ol style="list-style-type: none"> <li>1. Commissioning dates presented in the revised PDD for JTH-247, JTH-292 and JTH-293 is consistent with the commissioning certificate. Further commissioning dates for JTH-294 and JTH-300 also presented in the revised pdd.</li> <li>3. Separate ER excel sheet is submitted</li> </ol>	
<b>Documentation Provided by Project Participant:</b>	
<ol style="list-style-type: none"> <li>1. Commissioning certificates of JTH-294 and 300 is submitted.</li> <li>2. Separate ER excel sheet</li> </ol>	
<b>Information Verified by Lead Assessor:</b>	
<ol style="list-style-type: none"> <li>1. Commissioning certificates of JTH-294 and 300 dated 25/03/2014</li> <li>2. Separate Emission Reduction calculation excel sheet submitted with PDD Version 1.2</li> <li>3. Revised PDD version 1.2 date 30/04/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)</li> </ol>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 31/05/2014
<ol style="list-style-type: none"> <li>1. Commissioning detail are provided under section A.1 of the revised PDD. These details are in line with commissioning certificates. Hence accepted.</li> <li>3. The PP has provided separate emission reduction calculation sheet. The calculations are in line with the applicable tool and hence accepted.</li> </ol>	
Thus CL #2 is closed.	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 31/05/2014



Date:	25/12/2013		Raised by:	Assessment Team		
Type:	CL	Number:	03	Reference:	Section A.2	
<b>Lead Assessor Comment:</b>						
<ol style="list-style-type: none"> <li>1. Section A.2.3 of the PDD version 01 include village name as Mendhegiri. However during site visit, it is observed that one WTG is being installed at village Muchandi. Please clarify it is not included in section A.2.3 of the PDD.</li> <li>2. PP is requested to clarify if geo-coordinates provided in section A.2.4 of the PDD are following appropriate format (Deg Min Sec). Please provide documentary evidences for geo-coordinates included on section A.2.4 of the PDD.</li> </ol>						
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014		
<ol style="list-style-type: none"> <li>1. PP has included village Muchandi in section A.2.3 of the revised PDD.</li> <li>2. Letter from Suzlon is provided for geo coordinates. Revised PDD, geo-coordinates are provided in Deg, Min, Sec format."Document no 4 suzlon letter for geocoordinates</li> </ol>						
<b>Documentation Provided by Project Participant:</b>						
Doc no 4 Letter from Suzlon for geocoordinates						
<b>Information Verified by Lead Assessor:</b>						
Revised PDD version 1.1 dated 06/02/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)						
Offer letter from Suzlon dated 14/12/2012						
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014		
<ol style="list-style-type: none"> <li>1. Name of village Muchandi is included under section A.2.3 of the revised PDD in line with the observation made during site visit. Hence accepted.</li> <li>2. The PP has provided geo-coordinates in Deg, Min, Sec format. This is in line with the letter provided by Suzlon. Hence accepted.</li> </ol> <p>Thus CL #3 is closed out</p>						
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 02/04/2014		

Date:	25/12/2013		Raised by:	Assessment Team		
Type:	CAR	Number:	04	Reference:	Project IRR and Benchmark	
<b>Lead Assessor Comment:</b>						
<b>PDD:</b>						
<ol style="list-style-type: none"> <li>1. PP is requested to clarify why references/sources for all the input values used in project IRR calculations for the project activity are not provided in section B.5 of the PDD.</li> <li>2. PP is requested to justify the suitability of project IRR as financial indicator for the project activity in section B.5 of the PDD.</li> <li>3. Section B.5 of the PDD version 01 refers to Validation and Verification Manual, version 1.2; please clarify.</li> </ol>						
<b>IRR Calculation:</b>						
<ol style="list-style-type: none"> <li>1. PP is requested to provide documentary evidences to confirm the suitability of all input values in accordance with requirement set out in Para 6 of EB62 Annex 5. Also decision date of the project activity is not clear from PDD. References mentioned in the assumption spread sheet are not specific with dates and clear traceability.</li> <li>2. PP is requested to clarify the basis of electricity tariff considered for the project activity. Also the reason for reduction in tariff from 14th year.</li> <li>3. Escalation of 10% mentioned in Key Assumption tab is not clear. Please clarify.</li> <li>4. Please clarify the appropriateness of Service tax applicable on Civil and Infrastructure cost is added into Plant and Machinery cost.</li> <li>5. PP is requested to clarify how the income tax rate is in line with the link provided in assumption sheet.</li> <li>6. Project cost in tab "project cost and "interest paid" is not same. Please clarify.</li> <li>7. Please clarify why MAT is not applied on book profit.</li> <li>8. Please clarify the appropriateness of PLF used in line with requirement set out in EB48 Annex 11.</li> <li>9. Please clarify the basis for rate of interest considered for working capital in project IRR calculations for the project activity.</li> <li>10. Loan Interest rate and calculation: Please clarify the basis for interest rate considered for the project activity in project IRR calculations.</li> <li>11. Sensitivity analysis: PP has considered sensitivity in tariff only up to 13th year. Kindly justify the reason for same. Also the threshold limits are not specified for the variable parameters.</li> </ol>						
<b>Benchmark:</b>						
<ol style="list-style-type: none"> <li>1. PP is requested to provide the publically available reference for the benchmark.</li> <li>2. Please also confirm that whether benchmark is pretax of post tax.</li> </ol>						
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014		
<ol style="list-style-type: none"> <li>1. PP has provided input values for financial analysis in the revised PDD.</li> <li>2. PP has explained suitability of financial indicator chosen in section B.5. of the PDD.</li> <li>3. PP has referred "CDM Validation and Verification standard" while discussing baseline option selection.</li> </ol>						
<b>IRR calculation:</b>						
<ol style="list-style-type: none"> <li>1. All Input parameters to financial analysis based on Offer letter received from technology supplier (Reference document 3), MERC Tariff order 2012 (Ref in Document no 5), Income tax rate applicable during FY 2012-13, memorandum of board presentation (Ref no 6) during board meeting values available during decision making which is as per Para 6, EB 62,. The same information is traceable in excel sheet. Mahalaxmi commercial services private limited decided to implement the</li> </ol>						

project during the board meeting dated 26/12/2012.(Board note Ref no 6 a)

2. Tariff rate as per Tariff order for Maharashtra is applicable for first 13 years. From first year to 13 th year tariff has been considered as per MERC tariff order 2012, which is applicable during decision making period i.e. 26/12/2012. The same has been presented in board presentation. Based on group company third party sale for one of their wind power project, andcrsil report which states that "Merchant power prices are projected to decline from Rs. 5.9 per Kwh in FY 2010 to Rs. 3.5/Kwh to Rs.3.8 /Kwh in 2015. Hence in the light of the above based on PP's prior experience in their group company project, crisil findings (crisil report Ref no 7) and the information has been presented in board meeting for implementation of present project, PP has decided to consider tariff of Rs. 4.05/Kwh from 14<sup>th</sup> year to 20<sup>th</sup> year.
3. Escalation 10% is Administrative expenses which is sourced from memorandum of information presented to board (REF no 6).
4. As per offer letter service tax is included for developmental charges . Developmental charges include Civil work, Electrical work, Erection, Testing and Commissioning work which is given in offer letter
5. Applicable income tax rate during project decision making FY i.e. 2012-13 is 32.40% which is available during decision making time and the same has been presented to board (Ref no 6).
6. Project cost in project cost tab and interest paid tab is corrected.
7. Wind power project in Maharashtra, capacity 10.5 MW is implemented by Mahalaxmi commercial services private limited. Project promoter has existing business, hence the present project is not stand alone project and accounts will be merged with the existing business. Thus project participant would pay corporate tax for the company, hence MAT is not applicable and hence for the same reason tax shield is applicable.
8. PP has appointed third party consultants SR consultants, to carry out plant load factor assessment for the site. Same PLF has been considered in financial analysis and the same is available at the time of decision making which is in accordance with EB 48 annex 11 and EB 62, annex 5, Para 6.(PLF Assessment Report Ref no 8)
9. Working capital is considered for the project in accordance with MERC tariff order (REF doc no 5), technology supplier offer letter and Memorandum of information presented to Board (Ref doc no 6). As per MERC tariff order page no 40, working capital interest rate is considered as 13.43% and the same has been calculated by considering one month receivable, one month operation and maintenance charges and 15% of Maintenance spares (i.e. 15% of O&M).
10. Interest rate for the project is sourced from Memorandum of information presented to Board which is available on decision making date. It is stated that prevailing interest rate as on date is varying from 12.5%(<http://profit.ndtv.com/news/corporates/article-sbi-to-cut-lending-rates-on-sme-loans-by-up-to-2-soon-302702>) to 14.50% (SBI). Hence PP has considered 12.5% interest rate for long term loan and the same rate as benchmark.
11. PP in the version 1.1 of PDD submission has corrected sensitivity analysis calculation. As per PPA with MSEDCL , tariff is fixed for 13 years, however PP, has carried out sensitivity analysis for tariff for 20 years project operational life time.

#### Benchmark

1. PP has taken lending rate as benchmark available during decision making time. Lending rate in FY 2012 varies from 12.5% to 14.5% (<http://profit.ndtv.com/news/corporates/article-sbi-to-cut-lending-rates-on-sme-loans-by-up-to-2-soon-302702>) hence PP has considered conservatively 12.5% as benchmark.
2. Lending rate is pre tax benchmark. The local commercial lending rate must be considered as a tax-pre benchmark and a tax-pre project IRR must be used for comparison. Actually this opinion has been

shown in the formulas for estimate of WACC.

$$r = wdKd(1-T) + weKe$$

Where:

$r$  = WACC

$w_d$  = Percentage of debt financing

$w_e$  = Percentage of equity financing

$k_d$  = Average cost of debt financing

$k_e$  = Average cost of equity financing

$T$  = Applicable corporate tax rate

If  $w_d=100\%$ , it means  $w_e=0\%$  and if  $T=0\%$  (exclusive of corporate tax rate) then

$r=k_d$  (lending rate). It is very clear that lending rate is before tax.

**Documentation Provided by Project Participant:**

Doc no 5 MERC Tariff order

Doc no 6 Memorandum of board presentation

Doc no 6 a Board meeting minutes

Doc no 7 Crisil report

Doc no 8 PLF report

**Information Verified by Lead Assessor:**

Revised PDD version 1.1 dated 06/02/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)

Revised IRR sheet submitted with revised PDD version 1.1 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)

Third party PLF report prepared by SR Energy Consultant dated 12/12/2012

MERC tariff order dated 30/03/2012

Memorandum of information presented to board meeting dated 26/12/2012 for current project activity

A Board meeting minutes dated 26/12/2012

Crisil Report: India – Power sector: Emerging Developments & Critical issues

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 02/04/2014

**PDD:**

1. The PP has provided references/sources for all the input values used in section B.5 of the PDD. However, complete reference including date is not provided. Please clarify.
2. The PP has provided justification on the suitability of project IRR as financial indicator in section B.5 of the revised PDD. Hence accepted.
3. Under Section B.5 of the revised PDD the PP has revised reference to Validation and Verification Standard, version 5.0. However, VVS is guidance for DOE. The PP is requested to clarify why Project Standard is not used while completing PDD.

**IRR Calculation:**

1. PP has provided documentary evidences to confirm the suitability of all input values in accordance with requirement set out in Paragraph 6 of EB62 Annex 5. The Board decision date of the project activity is clearly mentioned in the revised PDD. However, references mentioned in the assumption spread sheet are not specific with dates and clear traceability. Please clarify.
2. The PP has provided justification for the basis of electricity tariff consideration. This is evident from the Crisil report that the electricity tariff may reduce in the future. Hence the tariff considered by the

PP after 13<sup>th</sup> year is conservative. Hence accepted.

3. The PP has considered Admin Cost of INR 3 Million with an escalation of 10%. The PP is requested to clarify appropriateness of the same.
4. The Service tax applicable on Civil and Infrastructure cost is added into Plant and Machinery cost in line with the offer letter provided by the WTG supplier. Hence accepted.
5. The response is not appropriate. The PP is requested to clarify how the income tax rate is in line with the link provided in assumption sheet.
6. Project cost in tab "project cost and "interest paid" is corrected. Hence accepted.
7. The justification provided by the PP is in line with the existing taxation practice in the host country. This is confirmed from the financial expert. Hence accepted.
8. The PLF considered for the project activity is taken from third party report prepared by SR Energy Consultant dated 12/12/2012. This report was available with the PP during decision making. Hence, this is in line with requirement set out in EB48 Annex 11 (b) and paragraph 6 of EB 62 Annex 5.
9. The justification provided by the PP is in line with the MERC tariff order dated 30/03/2012. This is confirmed from the financial expert. Hence accepted. However, the PP is requested to clarify that whether working capital facility has been really availed for project or not. If yes, please provide the sanction letter for the same
10. Loan Interest rate for SBI is shown as 12.5% to 17% in the web link. This is not consistent with the information provided by the PP. Please clarify.
11. Sensitivity analysis: The PP has revised sensitivity analysis appropriately. Further, threshold limits for all the parameters are provided in the revised PDD. However, values in sensitivity table of the revised PDD are not consistent with the revised IRR sheet. Please clarify.

**Benchmark:**

1. The PP has provided publically available reference for the benchmark. Loan Interest rate for SBI is shown as 12.5% to 17% in the web link. This is not consistent with the information provided by the PP. Please clarify.
2. The PP has confirmed that the lending rate is pretax benchmark. This is confirmed from the financial expert. Hence accepted.

Thus CAR #4 is open

**Project Participant Response:**

**Date:** 30/04/2014

1. PP has provided all references including date in the revised pdd.
2. Closed.
3. PP has referred project standard in the revised PDD.

**IRR Calculation**

1. PP has mentioned all references with dates and traceability in the PDD and financial excel sheet.
2. Closed.
3. PP has considered administrative expenses from Memorandum of information presented to Board dated 26/12/2012. Details of administration expenses and escalation given in Memorandum of Information.
4. Closed.
5. Income tax rate applicable for FY 2012-13 is presented in Memorandum of Information. Kindly refer tax rate for companies in the Link provided in revised PDD and excel sheet.
6. Closed
7. Closed

8. Closed
9. PP has considered Working capital loan during conceptualisation , hence the same has been presented in memorandum of board presentation and also project viability financials. Since PP has not availed working capital loan, the same has not been considered in the revised financials.
10. Weblink is the public information source which says that prevailing interest rate was in the range of 12.5% to 17% during conceptualisation. PP has several discussions with bankers in person and understand that interest rate available was 12.5%, hence the same has been considered in memorandum of board presentation and also project viability financials. Hence 12.5% is considered as debt rate for the project and benchmark.
11. Sensitivity analysis and % sensitivity at which IRR breaches benchmark has been revised in the PDD.

#### **Benchmark**

1. PP has provided weblink to show the publicly available information that interest rate was in the range of 12.5% to 17% during conceptualisation time of the project. PP held discussions with banker and realised that 12.5% interest rate is prevailing rate, and hence the same has been considered for debt rate of project and benchmark.

#### **Documentation Provided by Project Participant:**

Revised PDD and Excel sheet Submitted.

#### **Information Verified by Lead Assessor:**

Revised PDD version 1.2 dated 30/04/2014

Revised IRR sheet version 1.2 dated 30/04/2014 provided with the PDD version 1.2

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 31/05/2014
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#### **PDD:**

1. The PP has provided complete reference including date in the revised PDD. Hence accepted.
2. Closed.
3. The PP has changed the reference to Project Standard. This is in line with the PDD completion guideline. Hence accepted.

#### **IRR Calculation:**

1. References with specific dates and clear traceability are provided in the revised IRR sheet. Hence accepted.
2. Closed
3. The PP has used the source of the data available at the time of decision making and hence accepted.
4. Closed
5. The link is appropriate. Hence accepted and closed.
6. Closed
7. Closed.
8. Closed
9. This is accepted. However, kindly remove the working capital calculations and it's all links from the excel sheet and PDD. Open
10. This is the interest available at the time of decision making available with the PP. Hence accepted.
11. PP has modified the sensitivity analysis for tariff. The PP has now considered sensitivity from 14<sup>th</sup> year, whereas the PP has considered sensitivity for all 20 years in his earlier submission. Hence, the PP is requested to carry out sensitivity on tariff for all 20 years. Accordingly modify the Excel Sheet and PDD. Hence, Open.

<b>Benchmark:</b>	
1. This is the interest available at the time of decision making available with the PP. Hence accepted.	
2. Closed.	
Thus CAR #4 is open	
<b>Acceptance and Close out by Lead Assessor: Open</b>	<b>Date:</b> 31/05/2014
<b>Project Participant Response:</b>	<b>Date:</b> 12/06/2014
9. Working capital calculations and links are removed from pdd and excel sheet.	
11. PP has carried out sensitivity in tariff for 20 years.	
<b>Documentation Provided by Project Participant:</b>	
Revised PDD and financial excel sheet	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD version 1.3 dated 12/06/2014 and financial excel sheet provided with the PDD version 1.3	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 12/06/2014
9. The PP has removed working capital calculations and links from PDD and excel sheet. Hence accepted.	
11. The PP has carried out sensitivity analysis in tariff for 20 years. Hence accepted.	
Thus CAR #4 is closed.	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 12/06/2014



Date:	25/12/2013	Raised by:	Assessment Team		
Type:	CAR	Number:	05	Reference:	Section B.5: Prior CDM Consideration
<b>Lead Assessor Comment:</b>					
PP is requested to clarify how requirement of paragraph 107 of VVS version 5.0 is met specifically in the context of prior consideration notification to host country DNA along with documentary evidences.					
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014	
PP has provided email notification sent to MoEF with regard to prior CDM consideration which is in line with paragraph 107 of VVS version 5.0					
<b>Documentation Provided by Project Participant:</b>					
Revised PDD version 1.1 dated 06/02/2014					
<b>Information Verified by Lead Assessor:</b>					
Revised PDD version 1.1 dated 06/02/2014					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014	
The PP has confirmed that the prior CDM consideration email was sent to MoEF in line with paragraph 107 of VVS version 5.0. However, the PP is requested to provide email sent to MoEF. Further, the PP has referred EB 62 Annex 14; this is not the latest guideline for prior CDM consideration. Please clarify.					
Thus CAR #5 is open					
<b>Project Participant Response:</b>				<b>Date:</b> 30/04/2014	
1.Mail sent to MoeF for prior consideration CDM has provided for reference.					
<b>Documentation Provided by Project Participant:</b>					
Prior CDM Intimation letter submitted to the Indian DNA dated 19/06/2013					
<b>Information Verified by Lead Assessor:</b>					
Prior CDM Intimation letter submitted to the Indian DNA dated 19/06/2013					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 31/05/2014	
PP has provided email notification sent to MoEF with regard to prior CDM consideration which is in line with paragraph 107 of VVS version 6.0.					
Further, the PP has referred EB 62 Annex 14; this is not the latest guideline for prior CDM consideration. Please clarify.					
Thus CAR #5 is open					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 31/05/2014	
<b>Project Participant Response:</b>				<b>Date:</b> 12/06/2014	
In the revised PDD, PP has referred project standard version , Para 6.3, Sub Para 27 for Demonstration of prior consideration of CDM.					
<b>Documentation Provided by Project Participant:</b>					
Revised PDD version 1.3 dated 12/06/2014					
<b>Information Verified by Lead Assessor:</b>					
Revised PDD version 1.3 dated 12/06/2014					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 12/06/2014	
The PP has used latest project standard version 7 in the revised PDD for prior CDM consideration and hence accepted.					
Thus CAR #5 is closed.					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 12/06/2014	

Date:	25/12/2013	Raised by:	Assessment Team		
Type:	CL	Number:	06	Reference:	Section B.6 and B.7
<b>Lead Assessor Comment:</b>					
<ol style="list-style-type: none"> <li>1. Section B.6.2 of the PDD version 01 mentions BM value is calculated as 3-year generation-weighted average of latest three years, 2009-2010, 2010-2011 and 2011-12. Please clarify the appropriateness of the same.</li> <li>2. Detailed monitoring procedure is included in section B.7.2 (Sampling Plan) of the PDD. Please clarify the appropriateness of same in line with PDD completion guidelines.</li> <li>3. Also section B.7.2 of the PDD includes apportioning procedure to calculate net electricity supplied to grid by the project activity. However during site visit, it is observed that dedicated metering is involved for the project activity. Please clarify.</li> </ol>					
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014	
<ol style="list-style-type: none"> <li>1. PP has made necessary correction in the revised PDD with regard to section B.6.2 BM presentation.</li> <li>2. PP has checked the PDD writing guidelines and incorporated in Section B.7.2 that "The main and check meters are installed at feeder to record net electricity data for 5 WTGs of Mahalaxmi commercial services private limited. Hence there is no sampling approach required for monitoring net electricity generation supplied to grid.</li> <li>3. PP's 5 WTGs are connected to dedicated metering at Pachappur feeder substation. Same details has been provided in revised PDD, Hence PP has deleted apportioning procedure.</li> </ol>					
<b>Documentation Provided by Project Participant:</b>					
Revised PDD version 1.1 dated 06/02/2014					
<b>Information Verified by Lead Assessor:</b>					
Revised PDD version 1.1 dated 06/02/2014					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014	
<ol style="list-style-type: none"> <li>1. Under Section B.6.2 of the revised PDD, the PP has corrected choice of data appropriately. Hence accepted.</li> <li>2. The response is not in line with the PDD completion guideline. Open.</li> <li>3. The PP has removed apportioning calculation from section B.7.2 of the revised PDD. However, title "Apportioning Procedure" is provided in the revised PDD. Please clarify.</li> <li>4. Under section B.6.4: the format of the PDD template has been changed; the PP is requested to clarify the same in line with paragraph 15 of GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT FORM.</li> <li>5. Under section B.6.2 and B.7.1, purpose of the data is not provided in line with the PDD completion guidelines, Please clarify.</li> </ol> <p>Thus CL #6 is open.</p>					
<b>Project Participant Response:</b>				<b>Date:</b> 30/04/2014	
<ol style="list-style-type: none"> <li>2. PP has done appropriate changes in line with PDD writing guidelines in section B.7.2.</li> <li>3. "Apportioning Procedure" has been removed in the revised PDD.</li> <li>4. Section B.6.4 is revised in line with the PDD template. Further as per paragraph 15 for completing the project design document for small scale CDM project activities, according to PP, there is no confidential information presented in PDD.</li> <li>5. PP has revised Section B.6.2 and B.7.1 of the PDD in line with the pdd completion guidelines</li> </ol>					
<b>Documentation Provided by Project Participant:</b>					

Revised PDD is submitted.	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD version 1.2 dated 30/04/2014	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 31/05/2014
<p>2. Detailed monitoring procedure is included in section B.7.2 (Sampling Plan) of the PDD. Please clarify the appropriateness of same in line with PDD completion guidelines. Open</p> <p>3. The text Apportioning Procedure is removed. Hence accepted.</p> <p>4. The PDD template is retained in line with the PDD completion guideline. Hence accepted.</p> <p>5. Under section B.6.2 and B.7.1 is corrected in line with the PDD completion guideline. Hence accepted.</p> <p>Thus CL #6 is open.</p>	
<b>Acceptance and Close out by Lead Assessor: Open</b>	<b>Date:</b> 31/05/2014
<b>Project Participant Response:</b>	<b>Date:</b> 12/06/2014
2) Detailed monitoring plan is presented in section B.7.3 of PDD and the same has been referred in Annex 1.	
<b>Documentation Provided by Project Participant:</b>	
Revised PDD version 1.3 dated 12/06/2014	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD version 1.3 dated 12/06/2014	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 12/06/2014
<p>The PP has shifted all the information from section B.7.2 to B.7.3. This is in line with the PDD completion guideline and hence accepted.</p> <p>Thus CL #6 is closed.</p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 12/06/2014

Date:	25/12/2013		Raised by:	Assessment Team	
Type:	CL	Number:	07	Reference:	Section C.1.1
<b>Lead Assessor Comment:</b>					
PP is requested to provide documentary evidence against start date of the project activity mentioned in section C.1.1 of the PDD version 01.					
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014	
Purchase order of WTGs is provided as documentary evidence for start date of the project activity.(Ref doc no 9 Start date PO)					
<b>Documentation Provided by Project Participant:</b>					
Doc no 9 PO					
<b>Information Verified by Lead Assessor:</b>					
Revised PDD version 1.1 dated 06/02/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014	
The PP has included purchase order as an evidence to start date under section C.1.1 of the revised PDD. However, reference document number 09 is not provided. Please clarify.  Thus CL #7 is open.					
<b>Project Participant Response:</b>				<b>Date:</b> 30/04/2014	
Purchase order is submitted along with the submission.					
<b>Documentation Provided by Project Participant:</b>					
PO copies submitted					
<b>Information Verified by Lead Assessor:</b>					
Purchase order copies for Blades, Civil work, Electrical works, Erection and Commissioning, O & M, Power Evacuation, Transformer, Land and Tubular Tower dated 28/12/2012					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 31/05/2014	
The PP has provided purchase order, this is in line with the start date of the project activity and hence accepted.  Thus CL #7 is closed out.					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 31/05/2014	

Date:	25/12/2013		Raised by:	Assessment Team	
Type:	CL	Number:	08	Reference:	Section D.1
<b>Lead Assessor Comment:</b>					
<ol style="list-style-type: none"> <li>1. PP is requested to clarify if Schedule 1 of notification issued by Ministry of Environment and Forests (MoEF), Government of India on September 14, 2006 (included in section D.1 of the PDD) is latest available reference for no EIA requirement for the project activity.</li> <li>2. Also PP is requested to provide NOC or clearances obtained for the project activity for further validation purpose.</li> </ol>					
<b>Project Participant Response:</b>				<b>Date:</b> 05/02/2014	
<ol style="list-style-type: none"> <li>1. PP has revised necessary changes incorporating recent amendment issued by Ministry of Environment and Forests (MoEF), Government of India with regard to EIA notification.</li> <li>2. PP has submitted herewith <b>MEDA Clearance.(Ref doc no 10)</b></li> </ol>					
<b>Documentation Provided by Project Participant:</b>					
Doc 10 MEDA Clearance					
<b>Information Verified by Lead Assessor:</b>					
Doc 10 MEDA Clearance					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 02/04/2014	
<ol style="list-style-type: none"> <li>1. The PP has revised information in the PDD in line with latest available guideline. However, direct reference to the document is not provided in the revised PDD. Please clarify.</li> <li>2. The PP has provided MEDA clearance for Gut No. 59 and 109. However, remaining clearance for Gut No. 128/1 &amp; 128/2, 32 and 91 is not provided. Please clarify.</li> </ol>					
<b>Project Participant Response:</b>				<b>Date:</b> 30/04/2014	
<ol style="list-style-type: none"> <li>1. Direct References for EIA notification is given in revised PDD.</li> <li>2. PP is submitting clearance for Gut No. 128/1 &amp; 128/2 i.e. for loc no JTH-293, 32 for JTH-300 and gut no 91 location JTH-294.</li> </ol>					
<b>Documentation Provided by Project Participant:</b>					
Clearances for Gut No. 128/1 & 128/2 i.e. for loc no JTH-293, 32 for JTH-300 and gut no 91 location JTH-294					
<b>Information Verified by Lead Assessor:</b>					
Revised PDD version 1.2 date 30/04/2014 (Document provided by the PP as part of their response but was not mentioned by the PP in the section above)					
Clearance for Gut No. 128/1 & 128/2 i.e. for loc no JTH-293, 32 for JTH-300 and gut no 91 location JTH-294.					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 31/05/2014	
<ol style="list-style-type: none"> <li>1. The direct reference of the EIA notifications is provided in the revised PDD. Hence accepted.</li> <li>2. The clearance certificates from MEDA are provided by the PP. Hence accepted.</li> </ol> <p>Thus CL #8 is closed out.</p>					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 31/05/2014	

Date:	16/09/2014	Raised by:	Assessment Team		
Type:	CAR	Number:	09	Reference:	TR comments
<b>Lead Assessor Comment:</b>					
PDD version 1.3 dated 12/06/2014 and IRR sheet submitted with the PDD version 1.3.					
<div>1. As per the latest EB guidelines (<a href="https://cdm.unfccc.int/Reference/Guidclarif/old_pdd/index.html">https://cdm.unfccc.int/Reference/Guidclarif/old_pdd/index.html</a>), latest PDD template version 5.0 is not used by the PP. Further, the PP is requested to follow the PDD completion guideline while completing the PDD template.</div> <div>2. Under section B.4, the PP is requested check and correct equation numbers appropriately.</div> <div>3. It is not clear from PDD information that, if the common metering is applicable for project activity currently or there is any possibility of common metering in future. The PP is requested to elaborate the same under section B.7.1 and B.7.3 of the PDD. Further, the PP is requested to correct the project boundary diagram accordingly.</div> <div>4. In PDD and IRR excel sheet sources for input parameters are not appropriately mentioned. The PP is requested to provide source of the input parameters appropriately.</div> <div>5. The sensitivity analysis is not transparently followed. The PP is requested to provide actual IRR and threshold values for the sensitivity analysis transparently.</div> <div>6. Weblink for footnote 3 and 13 are not working. The PP is requested to correct the weblink appropriately.</div> <div>7. Paragraph numbers of reference documents used in the PDD are not correct. The PP is requested to correct the paragraphs in line with the reference documents.</div> <div>8. Under section B.5, Prior CDM consideration: the PP has mentioned that, online application has been made to the NCDMA. The PP is requested to provide the screenshot for the same.</div> <div>9. The PP has considered lower tariff after 13<sup>th</sup> year. Please clarify.</div> <div>10. The PP is requested to check and confirm the accuracy class of the meters in line with the actual scenario.</div> <div>11. The PP is requested to provide Operational and Organisation Structure of Monitoring system in line with the actual scenario.</div> <div>12. Under section F, approval and authorization details are not provided. Please clarify.</div>					
<b>Project Participant Response:</b>				<b>Date:</b> 28/09/2014	
<div>1. Revised PDD has been submitted in PDD template version 05.</div> <div>2. In Section B.4 of the revised PDD, PP has corrected Equation numbers.</div> <div>3. It is explained in Section B.7.1 and B.7.3 that meter at Pacchapur feeder will measure only PP's 5 WTG readings. This is dedicated meter.</div> <div>4. In PDD and IRR excel sheets sources for input parameters have been mentioned appropriately.</div> <div>5. PP has provided in the excel sheet and PDD transparently with regard to threshold values at which IRR touching benchmark..</div> <div>6. Weblink for footnote 3 and 13 are revised and presented in revised pdd.</div> <div>7. Correct paragraph numbers have been mentioned in revised PDD.</div> <div>8. Since NCDMA link is not working; PP has removed the sentence in prior CDM consideration Section.</div> <div>9. It is explained in the PDD that as referred from crisil report<sup>2</sup>, merchant power tariff would decline in future. Considering Project Participant prior experience in their group company wind power project and execution of PPA with third party in the State of Maharashtra, tariff of Rs. 4.05/Kwh is considered</div>					

<sup>2</sup> [Report](#) submitted to the DOE

after 13<sup>th</sup> year and the same has been presented in Memorandum of Information presented to board. It should be noted that even with 10% increase in tariff from base value INR 5.67/KWh from first year to 13<sup>th</sup> year and INR 4.05 Rs/KWh from 14<sup>th</sup> year to 20<sup>th</sup> year, tariff works out to be INR 6.24/kWh and INR 4.46/kWh respectively, which is higher than the tariff, PP had executed with MSEDCL.) IRR of the project works out to be 10.58% which is less than benchmark of 12.50%. Further PP worked out tariff of Rs. 5.67 for 20 years and IRR is found to be 9.67%

10. Accuracy class of the meters is 0.2<sub>s</sub> and the same has been maintained consistent in PDD.
11. PP has provided Operational and Organisation Structure of Monitoring system in line with the actual scenario.
12. Section F has been completed in revised PDD.

**Documentation Provided by Project Participant:**

Revised PDD Version 1.4 dated 28/09/2014

Excel Sheet

Metering diagram

**Information Verified by Lead Assessor:**

Revised PDD Version 1.4 dated 28/09/2014

Revised IRR sheet submitted with PDD Version 1.4

Metering diagram

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 08/10/2014

PDD version 1.4 dated 28/09/2014 and IRR sheet submitted with the PDD version 1.4.

1. Latest PDD template version 5.0 is used by the PP in revised PDD Version 1.4. However, the PP is requested to follow the PDD completion guideline while completing the PDD template (e.g. Appendix 1).
2. Under section B.4, the PP has corrected equation number appropriately. Hence accepted.
3. The PP has confirmed that the dedicated metering is involved. However, apportioning is mentioned under Section B.7.1 of the revised PDD Version 1.4. Please clarify
4. In PDD and IRR excel sheet sources for input parameters are appropriately mentioned. Hence accepted.
5. The sensitivity analysis is transparently mentioned in the revised PDD Version 1.4 and IRR sheet. Hence accepted.
6. Weblink for footnote 3 and 13 are now working. However, footnote 14 is not working. The PP is requested to correct the weblink appropriately.
7. Paragraph numbers are corrected in the revised PDD Version 1.4 appropriately in line with the respective guideline. Hence accepted.
8. The PP has removed the sentence. However, the prior CDM consideration is checked through the letter. Hence accepted.
9. The PP has provided justification as per the Crisil report for lower tariff after 13<sup>th</sup> year. The IRR was checked with 5.67 INR/kwh for 20 years. With this tariff the IRR is well below the benchmark. Hence accepted.
10. The PP has corrected the accuracy class of the meters in line with the actual scenario. Hence accepted.
11. The PP has corrected the Operational and Organisation Structure of Monitoring system in line with the actual scenario. Hence accepted.
12. Under section F, of the revised PDD Version 1.4 approval and authorization details are provided. Hence accepted.

CAR #9 is open

**Acceptance and Close out by Lead Assessor: Open**

**Date:** 08/10/2014



<b>Project Participant Response:</b>	<b>Date:</b> 11/10/2014
<p>1. PP has revised PDD according to PDD writing guidelines</p> <p>For query 3) Apportioning is removed in the revised pdd.</p> <p>For query 6) Footnote no 14 is corrected in revised pdd version 1.5</p>	
<b>Documentation Provided by Project Participant:</b>	
Revised PDD version 1.5 dated 11/10/2014	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD version 1.5 dated 11/10/2014	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 15/10/2014 <b>Reopen:</b> 01/11/2014
<p>1. The PP has completed PDD Version 1.5 in line with the PDD completion guideline. Hence accepted.</p> <p>3. The word apportioning is removed from Section B.7.1 of the revised PDD Version 1.5. Hence accepted.</p> <p>6. Footnote 14 is now working. Hence accepted.</p> <p>13. The instructions for PDD completion have not followed completely. Section B.7.4 and history of PDD Version 1.5 are not completed as per PDD template completion requirement. Please clarify.</p> <p>14. The PP is requested to confirm how source of offer letter for debt equity ratio, financing terms, tax rate, etc are appropriate. Further, the PP is requested to clarify why deration factor is not considered for estimation of ER consistent with IRR calculations</p> <p>Thus CAR #9 is Open</p>	
<b>Project Participant Response:</b>	<b>Date:</b> 03/11/2014
<p>13. PP has made necessary changes in PDD w.r.to section B.7.4 and history of PDD section.</p> <p>14. PP has referred document Memorandum of information presented to board during board meeting on 26/12/2012 for debt equity ratio, financing terms, tax rate. PP made necessary changes in ER sheet by considering deration factor from 11<sup>th</sup> year of operation. Project start date of crediting period is approximately one year of project commercial operation hence from 10<sup>th</sup> year of crediting period deration considered.</p>	
<b>Documentation Provided by Project Participant:</b>	
<p>Snapshots for ref foot note no 3 and ref foot no 14</p> <p>Revised PDD Version 1.6 dated 03/11/2014</p> <p>Revised ER excel sheet submitted with PDD Version 1.6</p> <p>Revised IRR sheet submitted with PDD Version 1.6</p>	
<b>Information Verified by Lead Assessor:</b>	
<p>Revised PDD Version 1.6 dated 03/11/2014</p> <p>Revised ER excel sheet submitted with PDD Version 1.6</p> <p>Revised IRR sheet submitted with PDD Version 1.6</p> <p>Snapshots for foot note number no 3 and foot note number 14</p>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 05/11/2014 <b>Reopen:</b> 25/11/2014
<p>13. The instructions for PDD completion have been followed completely in the revised PDD Version 1.6. However, under B.7.4, error is shown. The PP is requested to clarify the same.</p> <p>14. The PP has referred Memorandum of information presented to board during board meeting on 26/12/2012 for debt equity ratio, financing terms, tax rate. This document was available at the time of decision making. Further, the PP has considered deration factor from 11<sup>th</sup> year from commissioning for estimation of ER. This is consistent with IRR calculations and ER calculations and hence accepted.</p> <p>15. Under section B.5 of the PDD Version 1.6, pre tax IRR is mentioned. The PP is requested clarify how financial indicator is appropriate with benchmark.</p> <p>Thus CAR #9 is Open</p>	

<b>Project Participant Response:</b>	<b>Date:</b> 29/11/2014
13. Necessary correction has been made in the section B.7.4 of the revised pdd.	
15. PP has made necessary correction under section B.5 of the PDD version 1.7	
<b>Documentation Provided by Project Participant:</b>	
1. Version 1.7 PDD dated 29/11/2014	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD Version 1.7 dated 29/11/2014	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 01/12/2014
13. Under section B.7.4 of the revised PDD version 1.7, error is removed. Hence accepted.	
15. Under section B.5 of the PDD Version 1.7, word “pre tax” is removed. The IRR is project IRR considering taxes, hence this is accepted.	
Thus CAR #9 is closed out.	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 01/12/2014

Date:	21/02/2015	Raised by:	Assessment Team		
Type:	CAR	Number:	10	Reference:	UKCC comments
<b>Lead Assessor Comment:</b>					
<b>PDD Version 1.7 dated 29/11/2014</b>					
<ol style="list-style-type: none"> <li>On page 3 of PDD Version 1.7, the PP has mentioned annual estimated CERs as 16,305. However, this is not consistent with the title page of the PDD. Please clarify.</li> <li>On page 8 of PDD Version 1.7, the PP has provided justification for meth applicability condition 2. However, which point is applicable for AMS. I.D. is not transparently mentioned. Please clarify.</li> <li>On page 14 of PDD Version 1.7, the PP has mentioned "CEA used option A." to calculate OM. The PP is requested to clarify, who has calculated Operating Margin, Build Margin and Combined Margin.</li> <li>On page 19 of PDD Version 1.7, the PP has provided reference of "Project Standard (PS) Version 7.0 paragraph 44". However, the text is not consistent with the paragraph number in PS. Please clarify.</li> <li>On page 21 of PDD Version 1.7, the two footnotes (19 and 20) are given next to the same text "IT Act 2012-2013". The Reference is same however, web links are different. Please clarify.</li> <li>In the PDD Version 1.7 following footnotes are not working, please clarify <ol style="list-style-type: none"> <li>On page 22 footnote 21</li> <li>On page 25 footnote 23</li> </ol> </li> <li>On page 27 of PDD Version 1.7 under parameter EGexport, y, the PP is requested to explain reference of "b8;7y" in sentence "Main meter reading will be taken....."</li> <li>On page 28 of PDD Version 1.7, the PP has mentioned "the Power Purchase Agreement <u>to be</u> signed by the Project Participant with the state electricity utility, MSEDCL.". The PP is requested to provide appropriate information as per the current scenario.</li> </ol>					
<b>ER Calculation_Mahalaxmi</b>					
<ol style="list-style-type: none"> <li>Under Tab "EF - NEWNE Grid" of the ER calculation sheet, the PP has provided text in cell E46. still valid. The PP is requested to provide appropriate information as per the current scenario.</li> </ol>					
Thus CAR #10 is open					
<b>Project Participant Response:</b>				<b>Date: 24/02/2015</b>	
<ol style="list-style-type: none"> <li>PP has incorporated average annual CER as 16,223 throughout the PDD.</li> <li>PP has incorporated necessary correction on page 8, meth applicability condition 2.</li> <li>PP has made necessary revision with respect to OM, BM and CM calculation.</li> <li>PP has corrected project standard version 7, and also appropriately referred relevant paragraph for baseline scenario selection.</li> <li>Page no 21, foot note no 19 is for Income tax and foot note no 20 is for service tax reference.</li> <li>Foot note no 21 is revised and foot note no 23 is revised .</li> <li>Under parameter EG export,y it was typo error, and the same has been corrected.</li> <li>PP has executed PPA with MSEDCL, the same has been indicated in PDD.</li> <li>Text in E 46 in ER sheet is revised to .Project is currently under operation and state date of crediting period will be the date of project registration.</li> </ol>					
<b>Documentation Provided by Project Participant:</b>					
PDD Version 1.8 dated 24/02/2015.					
Ref foot note 21 snapshot					
ER sheet					
<b>Information Verified by Lead Assessor:</b>					

PDD Version 1.8 dated 24/02/2015.	
Ref foot note 21 snapshot	
ER sheet submitted with PDD Version 1.8	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date: 28/02/2015</b>
<b>PDD Version 1.8 dated 24/02/2015</b> <ol style="list-style-type: none"> <li>On page 3 of PDD Version 1.8, the PP has mentioned annual estimated CERs as 16,223. This is consistent with other part of the PDD and ER sheet. Hence accepted.</li> <li>On page 8 of PDD Version 1.8, the PP has transparently mentioned which point is applicable for AMS. I.D. Hence accepted.</li> <li>On page 14 of PDD Version 1.8, the PP has corrected the sentence. Hence accepted.</li> <li>On page 19 of PDD Version 1.8, the PP has corrected PS paragraph number appropriately.</li> <li>On page 21 of PDD Version 1.8, the two footnotes (19 and 20) are given next to the same text "IT Act 2012-2013". The References are corrected appropriately in line with the web links. Hence accepted.</li> <li>In the PDD Version 1.8 footnotes 21 and 23 are corrected and are working. Hence accepted.</li> <li>On page 27 of PDD Version 1.8 under parameter EGexport, y, the PP has corrected the typo error. Hence accepted.</li> <li>On page 28 of PDD Version 1.8, the PP has mentioned "the Power Purchase Agreement <u>has been</u> signed by the Project Participant with the state electricity utility, MSEDCL.". The PP has provided signed PPA. Hence accepted.</li> </ol>	
<b>ER Calculation Mahalaxmi</b> <ol style="list-style-type: none"> <li>Under Tab "EF - NEWNE Grid" of the ER calculation sheet, the PP has updated text in cell E46. The start date of crediting period is mentioned as date of registration and hence accepted.</li> </ol>	
<b>PDD Version 1.8 dated 24/02/2015</b> <ol style="list-style-type: none"> <li>Under section B.6.4, table last two lines seems to be altered from the PDD template. The PP is requested to adhere PDD completion instructions.</li> <li>On page 13, 14 and 15 of PDD Version 1.8, the text represent that, the OM, BM and CM are calculated by CEA. The PP is requested to clarify, who has calculated Operating Margin, Build Margin and Combined Margin for current project activity.</li> <li>The consultant submitted the MoC (on behalf of the PP) to the DoE, along with response to the findings during validation. However, the PP is requested to submit MoC from the email ID mentioned in the MoC.</li> </ol>	
Thus CAR #10 is Open	
<b>Project Participant Response:</b>	<b>Date: 25/04/2015</b>
<ol style="list-style-type: none"> <li>PP has incorporated necessary changes under section b.6.4 of the pdd.</li> <li>Data required for OM, BM and CM calculation is sourced from CEA and OM, BM and CM is calculated by PP for the current project activity. The same is corrected in the revised PDD</li> <li>PP will submit MoC from the email id mentioned in the MoC.</li> </ol>	
<b>Documentation Provided by Project Participant:</b>	
Revised PDD version 1.9 dated 25/04/2015.	
MOC from PP email id, same id presented in MOC.	
<b>Information Verified by Lead Assessor:</b>	
Revised PDD version 1.9 dated 25/04/2015.	
MOC from PP email id <a href="mailto:pranavketan@hotmail.com">pranavketan@hotmail.com</a> dated 26/04/2015. The same email id presented in MOC dated 30/04/2014.	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date: 05/05/2015</b>
<b>PDD Version 1.9 dated 25/04/2015</b> <ol style="list-style-type: none"> <li>Under section B.6.4, table is retained as per the PDD template. This has been checked with the PDD template and found consistent. Hence accepted.</li> <li>On page 14, 15 and 16 of PDD Version 1.9, the text is corrected to represent that, the OM, BM and</li> </ol>	

CM are calculated by the PP. This is consistent with the calculation approach followed in the PDD.  
Hence accepted.

12. The PP has submitted MoC through email ID [pranavketan@hotmail.com](mailto:pranavketan@hotmail.com) on 26/04/2015. This email id is presented in MOC dated 30/04/2014 as focal point. This is in line with the requirement of paragraph 56 of VVS version 7.0. Hence accepted.

Thus CAR #10 is closed out.

**Acceptance and Close out by Lead Assessor:**

**Date:** 05/05/2015

## A.4 Annex 4: Team Members Statements of Competency

### Statement of Competence

Name: Vijaybhai Shankarbhai Patel

#### Status

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

#### Scopes of Expertise

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

Approved Member of Staff by:  
Continued Compliance  
confirmation

Siddharth Yadav  
Lisa Brough

Date: 23/01/2014  
13/01/2015

## Statement of Competence

Name: Ravi Kant Soni

### Status

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

### Scopes of Expertise

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

Approved Member of Staff by:  
Continued Compliance  
confirmation

Siddharth Yadav  
Lisa Brough

Date: 12/10/2012  
16/01/2015



## Statement of Competence

Name: Chandra Prakash Singh

### Status

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

### Scopes of Expertise

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

Approved Member of Staff by: Siddharth Yadav Date: 29/10/2013

## Statement of Competence

Name: Ramkrishna Patil

### Status

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

### Scopes of Expertise

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

Approved Member of Staff by:  
Continued Compliance  
confirmation

Siddharth Yadav  
Lisa Brough

Date: 02/07/2012  
14/01/2015