



VALIDATION REPORT

GANGADHAR NARSINGDAS AGRAWAL

RENEWABLE WIND POWER GENERATION FOR
PROMOTING ENERGY SECURITY

Report No: 53210408 - 08/395

Date: 2012-03-05

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Project:	Title:	Initial PDD Version:	Final PDD Version	
	Renewable Wind Power generation for promoting energy security	2008-10-15	2012-02-07	
Client:	Gangadhar Narsingdas Agrawal	Client ref:	Mr. Anirudh Agrawal	
Project Participant(s):	Host Party:	Other involved parties:		
	India	NA		
Applied methodology/ies:	Title:	No.:	Scope / TA:	
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources	ACM0002 ver. 12.2.0	1 / 1.2	
Validation team / Technical Review and Final Approval	Validation Team:	Technical review:	Final approval:	
	Mr. Archak Pattanaik (TL/TE) Mr. Pankaj Mohan (TL) Mr. Abhishek Kumar Srivastava (TM/TE) Mr. Vishnu Patidar (TM) Ms. Kiran Nayak (T)	Klein Ingo Alexander Richter	Ingo Klein	
Expected Emission reductions: [t CO₂e]	Expected emission reductions over the first crediting period:	(Expected) project starting date:		
	484300 t CO ₂ e	2006-11-07		
Confidential content:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Summary of Validation Opinion:	<input checked="" type="checkbox"/> Positive validation opinion		<input type="checkbox"/> Negative validation opinion	
<p>Gangadhar Narsingdas Agrawal has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Renewable Wind Power generation for promoting energy security" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board</p> <p>In the course of the pre-validation 14 Corrective Action Requests (CARs) and 4 Clarification Requests (CLs) were raised and successfully closed.</p> <p>The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> - The project is in line with all relevant host country criteria (India) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of India vide the Letter of Approval (HCA) dated 2010-08-25. - The project additionality is sufficiently justified in the PDD. - The monitoring plan is transparent and adequate. - The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 484300 tCO₂e are most likely to be achieved within the (1st fixed) crediting period. <p>The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</p>				
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Abbreviations

BAU	Business as usual
BSE 500	Bombay Stock Exchange 500
CA	Corrective Action / Clarification Action
CAGR	Compound Annual Growth Rate
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CUF	Capacity Utilisation Factor / Plant Load Factor
CL	Clarification Request
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CUF	Capacity Utilization Factor
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GNA	Gangadhar Narsingdas Agrawal
HUF	Hindu Undivided Family
IPCC	Intergovernmental Panel on Climate Change
PDD	Project Design Document
PP	Project Participant
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation Team
VVM	Validation and Verification Manual
WACC	Weighted Average Cost of Capital
WTG	Wind Turbine Generator

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability 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 on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual^{VVM}, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

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

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data
Project title	Renewable Wind Power generation for promoting energy security
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/> 1 Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/> 2 Energy distribution
	<input type="checkbox"/> 3 Energy demand
	<input type="checkbox"/> 4 Manufacturing industries
	<input type="checkbox"/> 5 Chemical industry
	<input type="checkbox"/> 6 Construction
	<input type="checkbox"/> 7 Transport
	<input type="checkbox"/> 8 Mining/Mineral production
	<input type="checkbox"/> 9 Metal production
	<input type="checkbox"/> 10 Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/> 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/> 12 Solvents use
	<input type="checkbox"/> 13 Waste handling and disposal
	<input type="checkbox"/> 14 Afforestation and Reforestation
	<input type="checkbox"/> 15 Agriculture
Applied Methodology	ACM0002- "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", Version 12.2.0, EB 65
Technical Area(s)	1.2 Renewable Energies
Crediting period	<input type="checkbox"/> Renewable Crediting Period (7 y) <input checked="" type="checkbox"/> Fixed Crediting Period (10 y)
Start of crediting period	2012-04-01

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	India	Gangadhar Narsingdas Agrawal
Other involved party/ies	-	-

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	India
Region:	Maharashtra
Project location address:	Maharashtra, District – Sangli, Taluk – Kawathemahakal Village – Nagaj (Dhalgaon)
Latitude:	Between 17° 09' 29.4" N and 17° 12' 00.4" N
Longitude:	Between 74° 55' 10.6" E and 74° 57' 03.6" E
Region:	Karnataka
Project location address:	Karnataka, District – Bellary, Taluk – Huoovinahadagali Village – Thimmalapur & Naveli
Latitude:	Between 15° 01' 09.0" N and 15° 00' 33.0" N
Longitude:	Between 75° 51' 14.2" E and 75° 51' 53.2" E
Region:	Gujarat
Project location address:	Gujarat, District – Kutch, Taluk – Bhachhau Village - Kumbhariya
Latitude:	Between 23° 19' 32.9" N and 23° 20' 3.1" N
Longitude:	Between 70° 41' 51.4" E and 70° 42' 41.9" E

2.4 Technical Project Description

The technical key data are provided in table 2-4 below

Table 2-4: Technical data of the project activity

Parameter	Unit	Value	
Manufacture		Suzlon	Vestas RRB
Rated Capacity of individual Wind Energy Generator (WEG)	MW	1500kW	600kW
No. of WEGs	-	11	15
Rotor diameter	m	82	47
Cut-in wind speed	m/s	4	4
Rotational Speed	rpm	1511	1527
Cut-out wind speed	m/s	20	25
Output voltage	V	690 V	690 V

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2008-08-06
Submission of PDD for global stakeholder commenting process	2008-12-11 to 2009-01-09
On-site visit	2009-02-11 to 2009-02-15
Draft reporting finalised	2009-02-20
Final reporting finalised	2012-02-28
Technical review on final reporting finalised	2012-03-05

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,

- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

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

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 3 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Host country Competence	Team Leading Competence	On-site Visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Archak Pattanaik	TUV India Private Limited	TL*	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Pankaj Mohan	TUV India Private Limited	TL**	SA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Abhishek Kumar Srivastava	TUV India Private Limited	TM ^{A)}	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Vishnu Patidar	TUV India Private Limited	TM ^{A)**}	A	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Kiran Nayak	TUV India Private Limited	OT ^{B)}	T	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Klein Ingo	TUV Nord Cert GmbH	FA/T R ^{B)}	SA	<input checked="" type="checkbox"/>	1.2.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Alexander Richter	TUV Nord Cert GmbH	TR ^{B)}	LA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

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

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

³⁾ GHG auditor status (at least Assessor)

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

^{A)} Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member
* Till 07-10-2011
** From 08-10-2011
*** Till 09-09-2011

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

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

In order to qualify further personnel the project team was accompanied by observers and/or trainees as indicated in the table above. They are usually not considered as team members.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

Certificates of appointment for the above mentioned team members are enclosed in annex 6 of this report

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Validation Team Comment	Reference	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Follow-up Interviews

The validation team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
GNA ^{/IM01/} Project consultant ^{/IM02/} Emergent Ventures Pvt. Ltd.	<ul style="list-style-type: none"> - Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project

Interviewed Persons / Entities	Interview topics
	feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

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

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

3.11 Final approval

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

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	3	1	-
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	10	3	-
Duration of the Project / Crediting Period (C)	1	-	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	-	-
SUM	14	4	0

¹⁾ The letters in brackets refer to the validation protocol

Table 4-2: PDD versions used for assessments

Version Nr.	Assessment Round
PDD v. 1 (Published)	Description of Finding
PDD v. 1.1	DOE Assessment #1

Version Nr.	Assessment Round
PDD v. 1.2	DOE Assessment #2
PDD v. 2	Technical Review
PDD v. 3 (Final)	Technical Review

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	A1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	a) The unique identification (Latitude and Longitude) of each of 26 WTGs are to be included in section A.4.1.4 PDD. b) The project boundary delineation presented in section B.3 of PDD does not describe the energy flow clearly. Source of energy and form of energy need to be depicted in project boundary delineated in fig. 2 of section B.3 of PDD. (Cp CDM-PDD guidelines)		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	a) The same has been provided for Maharashtra and Karnataka ; For Gujarat site location co-ordinate have been provided. b) It has been described as required.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	a) Latitude and longitude for all the WTGs has been provided and same has been checked through web search and also during site visit by the validation team and found correct. b) The revised project boundary is now complete and in accordance to the applied methodology thus acceptable.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Finding	A2		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

Finding	A2
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>A consolidated CAR is raised for the following required revisions in the PDD.</p> <ol style="list-style-type: none"> 1. Include all the reference web links for the information provided in sections B.4, B.5 of PDD or submit the evidence to DOE. 2. Table 5 of section A.4.3 of the PDD must be completed and information provided in the table need to be substantiated. 3. Average lifetime of equipment, applicable load factors, and locations of monitoring equipment need to be described in the section A.4.3 of the PDD. (Cp CDM-PDD guidelines) 4. The date of completion of the application of baseline study and monitoring methodology in section B.8 of PDD.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. All the references web links / evidences have been provided. 2. Table 5 of section A.4.3 of the PDD has been completed and necessary supporting documents (weblink & purchase order) have been provided. 3. These have been described as required. 4. It has been provided.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. All the reference web-links are checked and found appropriate. 2. The table 5 is complete and all the information are correct as checked by the VT and supporting documents^{/PO/weblink/} are also provided by the PP which were also checked by VT and found satisfactory. This was also cross verified during the site visit interview^{/IM01/}. 3. The information is provided and complying to the CDM-PDD guidelines. 4. The same is provided in the section B.8 of the revised PDD^{/PDD2/}.
Conclusion <i>Tick the appropriate checkbox</i>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements </p>

Finding	A3
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Section A.4.3 of the PDD is not described as per the requirements of the CDM-PDD filling guidelines, EB41, Annex12.</p>

Finding	A3
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Section A.4.3. has been modified and follows the PDD guidelines
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section A.4.3 has been revised. VT has checked the section A.4.3 against the requirements of latest CDM-PDD guidelines and found appropriately filled.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	A4
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	There is no description on technology transfer to the Host Party in section A.4.3 of PDD. (Cp CDM-PDD guidelines).
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Description on technology transfer has been included.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section A.4.3 has been revised with the inclusion of technology transfer description. There is no technology transfer involved in the proposed project activity. Same has been assessed and found correct.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B1
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The latest version (Ver. 09) of the methodology is to be applied for the project activity. Hence relevant sections of the PDD ought to be revised. Cp EB 43 Annex 12 para 6. 2. Applicability section needs to be revised for point number 1.

Finding	B1
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. PDD has been revised according to the latest version 10 of the methodology. 2. Applicability section has been revised and is according to Version 10 of ACM0002 methodology.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. PP is further requested to revise the PDD in accordance with the latest version of applied methodology which is available now. 2. Pl. refer to above finding.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details</i>	<ol style="list-style-type: none"> 1. PDD has been revised according to the latest version 12.2.0 of the methodology. 2. Applicability section has been revised and is according to Version 12.2.0 of ACM0002 methodology.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The PDD description has been assessed against the requirements of applied methodology and found complying completely to the latest version of applied methodology i.e. version 12.2.0 of ACM0002.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding	B2
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Explanation and justification of key rationales and assumptions for determination of baseline scenario e.g. OM, BM and CM are to be mentioned in section B.4 of PDD. (Cp CDM-PDD guidelines).</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The project activity involves installation of new Wind Turbine Generators and not capacity addition to existing grid connected renewable power plant/unit. Hence, according to the methodology ACM0002, the baseline scenario for the project activity is the following:</p> <p>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, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system"</p> <p>This has been incorporated in the PDD.</p>

Finding	B2
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The applied values of OM, BM are taken from the CEA version 04, which is publically available document and published by Central Electricity Authority which is government authority and thus acceptable to the DOE. The same is mentioned in the final version of PDD.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<p> <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding	B3
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Following consolidated CAR is raised against additionality arguments:</p> <p><u>Investment Analysis:</u></p> <ol style="list-style-type: none"> 1. The suitability of benchmark taken as local lending rate in the proposed project activity must be described against the requirement of the § 6 at page 6 of additionality tool. Also benchmark needs to be clearly presented in the PDD. 2. The value of country risk premium provided is not consistent with the web link provided. Authentic evidence / back up calculation need to be provided for appropriate consideration of risk premium for the project. 3. The main objective of sensitivity analysis is to establish the robustness of the conclusion, i.e., the project activity is financially unattractive, with reasonable variations in the critical assumptions. Since it has already been established that even under the realistic assumptions, the project is unlikely to be attractive; very little purpose would be served by making pessimistic assumptions (e.g. -5%) as the conclusions can not be better. Therefore, the sensitivity analysis may be restricted to optimistic assumptions only to establish the robustness of the conclusion. Cp § 16 Annex 45 EB 41. The description of investment analysis is focusing on low tariff rate, which has clear direct impact on financial returns of the project activity. Therefore low tariff rates cannot be considered as barrier because it has already been accounted in investment analysis. (Cp Para 114 VVM Ver.01.) 4. Moreover demonstrate that 5% variation in CUF is reasonable in this project context. Cp § 17, annex 45 EB 41. 5. Table 12, section B.5 of PDD must be corrected and incorporate the available data up to the date when CDM was considered i.e. 28 October 2006. 6. All the assumptions including tax rates (Income tax and service tax) and exchange rate should correspond to the period during

Finding	B3																																																								
	<p>which investment decision was taken.</p> <p>7. As per the submitted term loan sanction letter the local lending rate by Axis bank for 5 WTGs dated 2nd September 2008 is 13%, whereas overall lending rate is assumed to be 12% in investment analysis. PDD needs to be revised accordingly.</p> <p>8. Power evacuation charges in the case of Maharashtra are repayable in 5 equal instalments from the second year onwards as per MERC Order. Hence, inclusion of power evacuation charges in depreciable assets is incorrect.</p> <p>9. Projections given in the worksheet are not consistent with the information given in section B.5 of PDD. As per PDD, the commissioning dates of WEGs are as follows;</p> <table><tr><th>Date</th><th>Mah.</th><th>Guj.</th><th>Kar.</th></tr><tr><td>17.09.2007</td><td>4.5</td><td>-</td><td>-</td></tr><tr><td>02.10.2007</td><td>-</td><td>0.6</td><td>-</td></tr><tr><td>03.10.2007</td><td>-</td><td>0.6</td><td>-</td></tr><tr><td>05.01.2008</td><td>-</td><td>0.6</td><td>-</td></tr><tr><td>20.01.2008</td><td>1.5</td><td>-</td><td>-</td></tr><tr><td>07.02.2008</td><td>-</td><td>0.6</td><td>-</td></tr><tr><td>19.02.2008</td><td>-</td><td>0.6</td><td>-</td></tr><tr><td>20.03.2008</td><td>-</td><td>-</td><td>6.0</td></tr><tr><td>30.03.2008</td><td>-</td><td>1.2</td><td>-</td></tr><tr><td>31.03.2008</td><td>-</td><td>1.8</td><td>-</td></tr><tr><td>07.05.2008</td><td>-</td><td>-</td><td>4.5</td></tr><tr><td>31.05.2008</td><td>-</td><td>3.0</td><td>-</td></tr><tr><td>Total</td><td>6.0</td><td>9.0</td><td>10.5</td></tr></table> <p>Whereas projections have been made as if all the WEGs were commissioned on the same date, which is not acceptable.</p> <p>10. IT depreciation is not consistent with IT Act read together with the commencement date of WTGs.</p> <p>11. The cash inflow for IRR should include repayment of power evacuation charges in the case of Maharashtra projects as per MERC Order.</p> <p>12. The basis for reducing the tariff from Rs.5.30/ kWh to Rs.3.50/kWh from 14th year onwards in calculation of sales realization from power generation in the case of Maharashtra may be furnished.</p>	Date	Mah.	Guj.	Kar.	17.09.2007	4.5	-	-	02.10.2007	-	0.6	-	03.10.2007	-	0.6	-	05.01.2008	-	0.6	-	20.01.2008	1.5	-	-	07.02.2008	-	0.6	-	19.02.2008	-	0.6	-	20.03.2008	-	-	6.0	30.03.2008	-	1.2	-	31.03.2008	-	1.8	-	07.05.2008	-	-	4.5	31.05.2008	-	3.0	-	Total	6.0	9.0	10.5
Date	Mah.	Guj.	Kar.																																																						
17.09.2007	4.5	-	-																																																						
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Total	6.0	9.0	10.5																																																						

Finding	B3
	<p><u>Barrier Analysis:</u></p> <p>13. The barriers described under the heading low capacity utilization factor (CUF) and cost barrier has clear direct impact on financial returns of the project activity. Therefore low CUF and low tariff rate can not be considered as barriers as already been accounted in investment analysis. (Cp Para 114 of VVM Ver. 01).</p> <p>14. The barriers should be classified as per the sub-groups given in the additionality tool.</p> <p>15. In context of natural barrier PP needs to describe how these type of barriers are not threat for baseline scenario i.e. electricity from grid (fossil fuel fired power plants).</p>

Finding	B3																								
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>It has been modified accordingly as required.</p> <p>1./2. The investment analysis has been modified accordingly and suitability of benchmark is proved in the PDD itself. Further necessary excel sheets are also provided.</p> <p>3. Pessimistic assumption as referred are actually the realistic assumption and this only highlights the financial inviability and the risks associated.</p> <p>4. The PDD and spreadsheet has been revised and CUF has been varied by 10%. .</p> <p>5. Table 18 (changed from table 12) has been corrected to incorporate the data up to date of investment decision i.e. 28 October 2006. In the web hosted PDD, share of electricity was discussed and in the final PDD common practice analysis has been discussed.</p> <p>6.All assumptions including tax rates and exchange rated now correspond to the period during which investment decision was taken.</p> <p>7.PDD has been revised accordingly and both the lending rates are separately considered for two different loans.</p> <p>8. Power Evacuation charges have been excluded for estimation of depreciable assets.</p> <p>9. It has been modified as required and projections have been made based upon actual commissioning of WTGs</p> <p>10. It has been modified</p> <p>11. Repayment of Power evacuation charges has been incorporated</p> <p>12. Tariff rate for selling of power is determined by commissions using Cost Plus Approach. Using this approach the tariff rate is higher during the initial years when there are various debt related obligations. Subsequently as these are paid off, tariff rate decreases.</p> <p>Following is an excerpt from MERC Tariff Order 2003 :</p> <p>« The Commission notes that in Cost Plus Approach, which the Commission has adopted for tariff proposal, rate per unit charged by such projects during initial period of 10 years is bound to be higher as during this period the project has various debt related obligations. However, it is essential that the consumer is able to enjoy the benefit of cheaper power once all debt related obligations are paid off and project has virtually no variable costs.”</p> <p>Similarly in the case of Karnataka where tariff is fixed for ten years, commission has determined the following tariff using the Cost Plus approach:</p> <table border="1" data-bbox="523 1563 1385 1977"> <thead> <tr> <th>Year</th><th>Tariff (Rs./unit)</th></tr> </thead> <tbody> <tr><td>1st Year</td><td>3.95</td></tr> <tr><td>2nd Year</td><td>3.82</td></tr> <tr><td>3rd Year</td><td>3.69</td></tr> <tr><td>4th Year</td><td>3.56</td></tr> <tr><td>5th Year</td><td>3.43</td></tr> <tr><td>6th Year</td><td>3.30</td></tr> <tr><td>7th Year</td><td>3.18</td></tr> <tr><td>8th Year</td><td>3.05</td></tr> <tr><td>9th Year</td><td>2.93</td></tr> <tr><td>10th Year</td><td>2.80</td></tr> <tr> <td>Average Tariff for the above 10 years</td><td>3.37 rounded off to 3.40</td></tr> </tbody> </table> <p>This is again mainly on account of repayment of debts and there are no running costs other than O & M costs. Therefore the project proponent</p>	Year	Tariff (Rs./unit)	1 st Year	3.95	2 nd Year	3.82	3 rd Year	3.69	4 th Year	3.56	5 th Year	3.43	6 th Year	3.30	7 th Year	3.18	8 th Year	3.05	9 th Year	2.93	10 th Year	2.80	Average Tariff for the above 10 years	3.37 rounded off to 3.40
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Average Tariff for the above 10 years	3.37 rounded off to 3.40																								

Finding	B3
	<p>expects that there would be drastic reduction in tariff after the agreed period. Further, sensitivity analysis is carried out on this expected tariff.</p> <p>13. The same has been modified</p> <p>14. The same has been modified.</p> <p>15. The barrier is removed.</p>
<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. The suitability of benchmark has been described and justified in the final PDD. WACC has been used as benchmark for the investment analysis which is appropriate as per para 6 (c) sub step 2b of additionality tool. 2. The revised spread sheet, authentic evidences and web links are provided. DOE has checked the sheet and found correct and consistent. 3. The provided justification for providing pessimistic assumptions are additional to the requirements and thus accepted. Moreover all the barriers are removed from the PDD. 4. PP has revised the variation up to +10%, which is <u>appropriate and thus acceptable. Even increasing the CUF up to 10%, IRR comes below the benchmark established.</u> 5. The table is checked and found representing data available on the investment decision date thus acceptable. 6. All the data provided for investment analysis corresponds to the investment decision data and thus appropriate. 7. The investment analysis in the final PDD is in accordance to the accounting principles. 8. The exclusion of power evacuation charges are done which is as per the accounting principles and thus accepted. 9. The spread sheet has been checked and in final spread sheet projections corresponds to the actual commissioning dates of wind turbines. 10. Revised spread sheet is in accordance to the IT act applicable at the commencement dates of the turbines. 11. The inclusion of power evacuation charges are correct as per the accounting principles and thus acceptable. 12. The approach for Tariff rate is conservative and as per the SERC orders and according to the guidelines mentioned in EB51 Annex 58 thus acceptable to the validation team. 13. All the barriers are removed. 14. The barriers are removed. 15. The barrier is removed.
<p>Conclusion</p> <p><i>Tick the appropriate checkbox</i></p>	<div> <input type="checkbox"/> To be checked during the first periodic verification </div> <div> <input checked="" type="checkbox"/> Appropriate action was taken </div> <div> <input checked="" type="checkbox"/> Project documentation was corrected correspondingly </div> <div> <input type="checkbox"/> Additional action should be taken </div> <div> <input checked="" type="checkbox"/> The project complies with the requirements </div>

Finding	B4
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>A consolidated CL is raised related to other additionality arguments: <u>Investment analysis:</u></p> <ol style="list-style-type: none"> 1. Project proponent has illustrated share of total installed capacity in table 11 of section B.5 of PDD. However hydro energy is not considered as renewable energy, which needs clarification. Moreover in Karnataka minor contribution of renewable energy (more than 22%) is not clear. This needs justification. 2. Clarify the basis for taking SERC tariff order data as CUF for IRR calculations, whereas equipment suppliers have given guaranteed generation. 3. In the context of sensitivity analysis it may also be clarified whether this analysis is done at the time of taking investment decision or after. And at the time of making investment decision whether the project cost was also variable or fixed. 4. Clarify whether HUF is subject to MAT. If yes, relevant section may be furnished for reference. If not necessary changes may be incorporated in the worksheet. 5. It may be clarified as to whether non-limited companies consider book depreciation. 6. Pl. clarify that, in the interest calculation worksheet, the repayment of the loan is as per the loan sanction letter and the interest and repayment is accounted for in the appropriate financial year in the IRR worksheet.

Finding	B4
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. This has been modified. 2. Only values of CUFs are applied which were mentioned in the application for loan approval to respective banks. 3. Sensitivity analysis has been modified in the PDD as well as in the worksheet and now it conforms to Annex 05 of EB 62. 4. HUF is not subject to MAT and the same has been incorporated. 5. Book depreciation is not applicable and the same has been incorporated. 6. It has been adjusted accordingly and now interest and repayment correspond to appropriate financial year.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. PDD has been modified appropriately. 2. Bank loan application letter have been assessed and found authentic and also the CUF values are crosschecked and found mentioned correctly. Hence CUF values are in line with the EB 48, annex 11 and thus acceptable to the DOE. 3. Sensitivity analysis is now as per the requirements of EB62, annex 05 and thus accepted by the DOE. 4. Revision in spread sheet is as per the accounting principles and thus appropriate. 5. Revision is as per the accounting principles and thus appropriate. 6. Interest calculation and repayment are now in line with the accounting principles and EB 62 and annex 05 and thus accepted by the DOE.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B5
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The basis for concluding 13-22% penetration is minor in the context of Common practice analysis may be explained. 2. The discussion may be restricted to wind power projects only as other renewable power projects are of little relevance in this context.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. Common Practice analysis has been modified and has been carried out as per EB 41 and annex 45. 2. Common practice analysis has been accordingly modified and discussion has been restricted to wind power projects only.

Finding	B5
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The revised analysis is checked and found as per the EB 41 and annex 45, EB51 annex 58 and EB62 Annex 5 was also checked. Also proper description is provided in the final PDD. For the detailed assessment pl. refer to section 5.2.5. 2. The revision is carried out as per the request for clarification. Same is in conformity with the latest additionality tool and thus accepted by the VT. For the detailed assessment pl. refer to section 5.2.5.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B6
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>A consolidated CAR has been raised over serious consideration of CDM issue:</p> <p>a) Please justify the parallel efforts for getting CDM benefits from the start date of project activity i.e. 07-11-2006. Also justify the reasons for delay in preparation of PDD and providing the same to DOE for validation? Please provide the documentary evidences.</p> <p>b) The board resolution mentions various states, how the PP finalized the states as Maharashtra, Gujarat and Karnataka. Please provide the justification along with documentary evidences.</p> <p>c) the board resolution provided by the PP needs to be justified for the delay in appointment of consultant due to non availability of funds from Maharashtra sites.</p>

Corrective Action #1

This section shall be filled by the PP. It shall address the corrective action taken in details.

- a) The project activity involves installation of WTGs in three different states and has been carried out in a phased manner. Although the first purchase orders for WTGs in the state of Maharashtra were placed on 07-11-2006, purchase orders for WTGs in the state of Karnataka were placed as late as in Nov-2007 and for WTGs in Gujarat in July & Dec 2007. Commissioning of WTGs involved in the project activity was completed in the month of May 2008. PP has taken various steps to secure CDM status for the project in parallel with its implementation which includes, inter alia, engagement of CDM consultants (dated 17/07/2007), publishing Newspaper advertisement (23/07/2008 & 08/08/2008), Finalization of DOE (12/08/2008.) all within 2 years of start date or even the board decision to proceed with the project activity. It also conforms to the "Guidelines on the Demonstration and Assessment of prior consideration of the CDM", Version 03, Annex 22, EB 49 for projects with start date prior to 02-08-2008. Though PP has appointed CDM consultant July 2007, there is a considerable delay in submitting PDD to DNA and DOE, this is because PP waited to finalise purchase order of entire capacity and to obtain approvals from respective state authorities.
- b) The Project proponent had experience in wind energy sector prior to the project activity and was in constant touch with various technology suppliers through meetings and telephonic discussions during the conceptualization stage. PP in a meeting with CDM Consultants on 06/11/2006 had referred to the chosen states for the project activity and also stated that project will be carried out in a phased manner since it was a high investment project.
- c) As per the purchase orders, the windmills were scheduled to be commissioned by May 2007. PP in a meeting of board members on 20/03/2007 discussed that the project was behind schedule and there has been an unexpected delay on behalf of Suzlon. Further, suzlon hadn't yet clarified things and were not giving further concrete timelines. Possibility of changing site, in case required was also not ruled out but kept on hold for some time. PP decided in the meeting that since things were not clear, they should keep on hold appointment of CDM consultant for some time. This is justified considering there is delay in implementation of WTGs and associated uncertainties. Further, as discussed above the project activity conforms to the "Guidelines on the Demonstration and Assessment of prior consideration of the CDM", Version 04, Annex 13, EB 62 for projects with start date prior to 02-08-2008.

DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	All the three issues are related to the seriousness of CDM consideration. DOE has reviewed the parallel efforts for CDM with implementation of proposed project activity and PP has provided all the relevant documentary evidences. In light of the latest version of "Guidelines on the Demonstration and Assessment of prior consideration of the CDM", DOE concludes that project complies to the same and CDM was seriously considered for the proposed project activity prior to the start date.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B7		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The calculation of average operating margin is not as per the guidance in tool used. PP has taken simple average of three year data but according to tool to calculate emission factor for electricity system average operating margin is to be taken as three year generation weighted average. (Cp page 4 of tool to calculate emission factor for electricity system).		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Calculation of operating margin has been modified accordingly and has been calculated using three year generation weighted average.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The emission factor has been revised to take into account the generation weighted average of three years OM to calculate the EF. The same is in accordance to the tool to calculate emission factor for an electricity system.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Finding	B8		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B.6.3 of PDD the calculation of EG_{yg} for Karnataka needs to be rectified or described further as this is not consistent with other electricity generation calculation for Gujarat and Maharashtra.		

Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>For computation of tariff, KERC has considered a plant load factor of 26.5%. The auxiliary consumption has been considered separately to provide provision for transformation losses. Below is an excerpt from KERC tariff order¹ "The Commission notes that provision for auxiliary consumption has to be made on normative basis to provide for transformation losses". The commission has considered an auxiliary consumption of 0.5% for tariff computation. Below is an excerpt from the KERC tariff order². Considering the transformation loss and auxiliary requirement the Commission decides to consider 0.5% auxiliary consumption in the tariff computation".</p> <p>The exact reference for the same has been included in the PDD also.</p> <p>Although auxiliary losses will be there in other states as well, the tariff order of Gujarat and Maharashtra has not considered auxiliary losses separately and considered only Capacity Utilization Factor for estimating power exported to grid for tariff determination.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>DOE has checked the KERC tariff order and found the applied formula correct as per the tariff order and thus acceptable.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<div> <input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements </div>

Finding	B9		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	PP needs to justify the CUF as per EB 48, Annex 11 guidelines.		

¹ Page No. 16, KERC tariff order dated 18th Jan 2005

² Page No. 17, KERC tariff order dated 18th Jan 2005

Finding	B9
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>As per the EB 48, Annex 11 guidelines, CUF shall be defined ex-ante in the CDM-PDD according to one of the following three options:</p> <p>(a) The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval;</p> <p>(b) The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company);</p> <p>CUF used in the financial analysis is the CUF provided to the banks. Therefore it conforms to the option (a) of the above mentioned guideline.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>PP has provided the relevant bank letters^{/PLF/}. The same values of PLF as mentioned in the PDD for respective states are provided to banks for loan approval for the proposed project activity. Thus PLF values are conforming to the EB 48, annex 11 and thus acceptable to the DOE.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Finding	B10
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>A consolidated clarification request has been raised:</p> <p>a) QA / QC Procedures in section B.7.2 or Annex 4 of PDD does not mention about internal audit Procedures, fall back procedures for data adjustments in case of meter faulty. This also did not mention about the archiving procedure for the data.</p> <p>b) Calibration certificate copies for Maharashtra and Gujarat needs to be provided.</p> <p>c) Provide documents for Foot notes 26, 28, 29, 30, 31, 32.</p>

Finding	B10
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	a) These details have been included in Section B.7.2. of the PDD b) Calibration Certificate for Maharashtra and Gujarat have been provided c) All documents required in the revised PDD have been provided
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	a) All the required information as per CDM-PDD guidelines are provided and the same were assessed by the validation team and found appropriate and correct as per site visit information. b) The copies of calibration certificates are provided by the PP. c) All the documents are provided by the PP and found appropriate as assessed by the validation team.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B11
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	As per the monitoring plan of PDD EGy is measured using energy meter. However during the validation site visit it was observed that, though energy generated by individual WTGs is measured directly, the net power exported to grid is calculated using the measured data from common meters and data generated from individual energy meters in Gujarat.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The same has been modified and this is based on actual monitoring being done on the site.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The revised monitoring plan in PDD is as per the actual monitoring procedure at the site and also complying with the requirements of CDM-PDD guidelines and thus appropriate.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	B12		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	PP needs to provide a detailed description of monitoring plan describing operational and management structure to monitor emission reduction. It would be better to include the graph of operational and management structure, indicating responsibilities and institutional arrangements for data collection and archiving (compare with CDM-PDD guidelines).		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The same has been incorporated in the PDD.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Detailed description of monitoring plan is provided in final PDD, complying with the CDM-PDD guidelines requirements.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Finding	B13		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	PP needs to provide the information for each site on monitoring procedure in a clear and transparent manner for monitored data, including the source of data, measurement methods, and standards followed, measurement equipment, and measurement interval, accuracy of measurement method and accuracy class of energy meters any further comment or background information if relevant in section B.7.1. (compare with CDM-PDD guidelines)		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	As required detailed description of monitoring procedure, data and parameters for each site has been provided.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Detailed description of monitored data and parameters are provided in final PDD, complying with the CDM-PDD guidelines requirements.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Finding	C1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The chosen starting date of crediting period is not realistic w.r.t the validation-registration time cycle. (Refer to section A.4.4, B.6.4 and C.2.1.1 of the PDD).		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It has been changed to 1 September 2010.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The starting date has been revised to a reasonable date.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

India as a non Annex I party meets all relevant participation requirements. In the Host Country Approval^{/HCA1/} ref no. F. No. 4/28/2008-CCC dt. 2010-08-25, the Indian DNA, National CDM Authority under Ministry of Environment & Forests confirmed the voluntary participation of Gangadhar Narsingdas Agrawal as project participant in the CDM project activity.

An Annex-I party will be identified by the project participants in due time, as per the post registration involvement by Annex I party provisions (no. 57) made in 18th EB meeting.

This type of project activity is in line with sustainable development policies^{/HCA1/} of the country and national regulation and policy on Environmental Protection. A scanned copy of the original HCA was submitted by the project participant to the DOE during the validation and the same was verified stating precisely same project title as in the final PDD^{/PDD2/} which is submitted for request for registration. Nevertheless in the Host Country Approval, it is stated that the project participant (PP) has to comply with the following conditions:

- GNA shall not sell the CERs to any agency/ company/ organization which purchases the CERs using ODA Funds.
- GNA shall inform the national CDM Authority regarding all transaction details of CERs including the name and address of the party to which CERs were sold within 30 days of transfer of the CERs
- GNA shall furnish expeditiously any information, during the lifetime of the project as requested by the National CDM Authority.
- GNA shall obtain all statutory clearances and other approvals as required from the competent authorities for setting up of the project
- All transaction shall be subject to supervision of the Executive Board of the CDM, under the authority and guidance of the COP/MOP
- This approval is not transferable. The authority reserves the right to revoke this Host Country Approval if the conditions stipulated in this approval are not complied with to the satisfaction of the National CDM Authority.

Project Participants

An Annex-I party will be identified by the project participants in due time, as per the post registration involvement by Annex I party provisions (no. 57) made in 18th EB meeting.

5.1.2 Contribution to Sustainable Development

The issued host country approval^{/HCA1/} confirms the contribution to sustainable development of India from the proposed project activity.

5.1.3 PDD editorial Aspects

The proposed project activity has been described in latest PDD template (CDM PDD ver. 03) according to the latest PDD guidelines (Annex 12, EB 41).

5.1.4 Technology to be employed

The project is a Greenfield project activity. In the PDD section A.2 and A.4.3, technical aspects of the proposed project activity are described. The description is found to be in accordance with the latest PDD guidelines and found to be complete and accurate. It is confirmed during the site visit that the description provided is correct and is in line with the actual conditions on the project site. There is no technology transfer involved in the proposed project activity. Moreover as the wind turbines harness renewable sources of energy viz. wind power for electricity generation, the technology employed is environmentally safe and sound.

5.1.5 Small Scale Projects

The proposed project activity is large scale project activity.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The selected baseline methodology is the approved baseline methodology "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002 Ver.12.2.0), available on UNFCCC web site. The applied methodology is valid from 17th September 2010 onwards. All the applicability criterion are met by the proposed project activity as described in section B.2 of the PDD^{/PDD2/}. For emission factor calculation latest version of "tool to calculate emission factor for an electricity system" has been correctly applied as referred in ACM0002 version 12.2.0. Whole the project description has been assessed against the methodological requirements and found complying completely. All the GHG emission

sources and sinks are assessed by the VT and thus found that project activity implementation is not resulting to any other GHG emissions which is not covered by either the applied methodology^{/ACM0002/} or project design document^{/PDD2/}. However CAR B1 was requested and successfully closed.

5.2.2 Project Boundary

As required by the applied methodology and latest PDD guidelines project boundaries are described and depicted correctly in the PDD. The same was observed during site visit by the validation team. Carbon dioxide is the only gas taken into account for the baseline emission which complies with the applied methodology and also it is conservative. There are no other sources affected by the project. Project boundary description complies with the requirements.

5.2.3 Baseline Identification

The selected baseline methodology is the approved baseline methodology “consolidated baseline methodology for grid-connected electricity generation from renewable sources” (ACM0002 Ver.12.2.0).

The selected baseline methodology, i.e., ACM0002 is correctly applied to this type of wind project. The baseline scenario under the adopted methodology ACM0002 is *“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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.*

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions are calculated by multiplying the electricity baseline emission factor which is grid emission factor (EF_y) in this case, and the electricity exported to the respective grid (EG_y) minus the baseline electricity supplied to the grid (EG_{baseline}). As it is new power plant the baseline electricity supplied to the grid (EG_{baseline}) is zero. The grid emission factor (EF_y) is estimated as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) factors. In this case the Combined Margin (weighted average of Simple Operating Margin and Build Margin) is estimated based on three years generation weighted average (05-06, 06-07, 07-08) of Simple Operating Margin and Build Margin of year (07-08) in line with steps of tool to calculate the emission factor for an electricity system (ver. 02.2.1). Both the value of Simple Operating Margin and Build Margin are selected under ex-ante approach. The grid boundary w.r.t the connected state grid is NEWNE and southern Regional Grid of India.

In accordance with the tool to calculate the emission factor for an electricity system (ver 02.2.1), ‘Dispatch Data Analysis’ is the first methodological choice out of four options of calculating OM emission factor. Nevertheless the “Dispatch data analysis operating margin” is ruled out in India due to lack of necessary dispatch data of the grids and simple OM is applied to calculate the OM emission factor. The same fact is

also considered by the Central Electricity Authority^{/cea/} {Ref the user guide for CO₂ Baseline Database for the Indian Power Sector (version 04, December 2007)}.

Out of other 3 options of calculating OM, GNA has rightly selected simple OM emission factor calculation as the share of low cost / must run resources of the selected grid over the three most recent years (2005-06, 2006-07, 2007-2008) is < 50% of the gross grid generation^{/CEA/}.

In accordance with tool to calculate emission factor for an electricity system, version 02.2.1 weight factors of $w_{OM} = 0.75$ and $w_{BM} = 0.25$ has been used and the resultant grid emission factor (EF_y) works out as 0.91 tCO₂/MWh and 0.93 tCO₂/MWh for NEWNE and southern regional grid respectively. The calculation of EF_y is publicly available and published by the Central Electricity Authority on its web-site^{/CEA/}. The validation team is convinced of the result of the emission coefficient calculation^{/XLS2/}. It is deemed to be adequate and transparent.

The annual net exportable power generation is estimated to 52,898 MWh.

Altogether the project activity reduces emissions of 484300 tCO_{2e} over the ten year fixed crediting period.

Relevant national & sectoral policies have been considered such as decisions of the Gujarat Electricity Regulatory Commission and the energy policy of the Government of India. The project is also in line with New Renewable Energy Policies. Nevertheless, CAR B2 had to be raised and was successfully closed (ref. section 4: Validation Findings). In addition to ACM0002 for baseline emission and steps of Additionality Tool (Ver. 06.0) which is valid, is applied. Lastly it can be concluded that the chosen baseline scenario is plausible, conservative and in accordance with the applied methodology.

5.2.4 Calculation of GHG Emission Reductions

Methodologies for calculating emission reductions are documented. The project intends to reduce carbon dioxide (CO₂) emissions by generating electricity from a renewable energy wind project, which would be exported to the NEWNE and southern regional grid.

There are no GHG emissions arising from the project being a wind project. Hence the project emissions are zero. As per the methodology ACM0002 version 12.2.0, there are no emissions related to leakage in this project.

The calculation approach and calculation of the baseline emission and emission reduction are documented in section B.6.3 of PDD. For assessment please refer to section 6.2.3 of this report.

Acc. to the final PDD the project is expected to reduce emissions of 484300 tCO_{2e} over a 10 year fixed crediting period. The DOE has assessed the emission reduction calculation sheet^{/XLS2/} and parameters used therein, and found that estimated emission reductions are according to the applied methodology and tool and thus concluded them plausible and conservative for the proposed project activity.

5.2.5 Additionality Determination

Consideration of CDM in decision making (if project start before validation)

As per the project design document the start date of the project activity is stated as 07th November 2006^{/SD/} and has submitted a copy of the purchase order between the WEG supplier M/s Suzlon (India) Limited and M/s GNA. The project developer has not undertaken any construction or any real action on the implementation of the project activity prior to this date. Since the PP had committed financial expenditure towards proposed project activity on 07th November 2006^{/SD/}, as per Glossary of CDM terms (Version 05, EB47), this date has been treated as the start date of the project activity. The PDD was web-hosted for public comments on 11th December, 2008 till 09-01-2009, i.e., after the start date of the project activity.

Since the start date of the project activity was prior to the date of the publication of PDD for global stakeholders' consultation, the project developer was asked to demonstrate the serious consideration of CDM while taking the decision to implement the project activity as required by Guidelines on the demonstration and assessment of prior consideration of the CDM version 03 as contained in Annex 22 of EB 49.

Project participant submitted evidence of GNA management decision in form of board resolution^{/MD/} opposing the wind project without CDM dated 28th October 2006, wherein the top management of the participant, which are the competent and authorized personnel to take a decision on setting up of this project activity, had taken into account the CDM benefits while approving the project, indicating that the project is not financially attractive without CDM benefits. The project developer also informed the Validation Team during the personal interview that the financial unattractiveness of the project was the basis on which the board of directors decided to seek CDM benefits in order to go ahead with the project.

As regards demonstration of continuing and real action were taken to secure CDM status for the project in parallel with its implementation, the project developer submitted documentary evidences relating to the discussion with the WEG supplier on 02nd -03rd November 2006^{/CD/}. The start date of project activity was 7th November 2006. A letter dated 11th June 2007 has been submitted by the PP which indicates the delay in project execution because of some technical problem. The PP also submitted the consultant appointment letter dated 17th July 2007. The PP also submitted the documentary evidence^{/CD/} of the discussions with the project consultant held on 26th July 2007. These were validated by the validation team by interviewing the Project proponent^{/IM01/} and Consultant^{/IM02/} during the site visit. The Stakeholders' comments for the project were invited through the publication of advertisement in the newspaper on 23rd July 2008^{/LSC/} for Karnataka & Maharashtra. The copies of the same were obtained and the stakeholders were consulted during the site visit by the validation team. The Gujarat Stakeholder comments were invited by publishing an article in the newspaper dated 8th August 2008. These were also validated by getting the newspaper copy. The DOE proposals were received by the project proponent on 28th July 2008. TÜV NORD was engaged on 12th August 2008. The project was completely commissioned by 31st May 2008^{/CC/}. Thus it is quite evident that continuous and real actions were taken to secure the CDM status. There is less than

two years gap in appointing the consultant and DOE from the start date of the project activity. This is in line with the UNFCCC guidelines of EB49 Annex 22 and EB62 annex 13 as well.

Since the fulfillment of both the conditions stipulated vide Annex 22 of EB 49 and Annex 13 EB62 have been demonstrated with documentary evidences, the Validation Team concludes that *there was a prior consideration of CDM and the CDM benefits were considered necessary in the decision to go ahead with the proposed project and simultaneously applying for CDM registration for the same project*

Application of methodology / methodological tools

The project is a large scale project. Hence, the Additionality Tool (Ver. 06.0) applies to the project activity. Therefore, in accordance with ACM0002, the additionality was demonstrated based on the valid version of the "Tool for demonstration and assessment of additionality (Ver. 06.0)". For the above reasons, this approach has been assessed to be appropriate for the assessment of additionality for this project activity.

Alternatives

The project developer has considered two alternatives for the project activity, viz

- i) the proposed project activity not undertaken as a CDM project activity;
- ii) no project activity, in which case equivalent amount of energy would be produced by the project grid electricity system (regional grid) through its currently running power plants and by new capacity addition to the grid (which are mostly thermal), i.e., continuation of current situation.

Having regard to the fact that the project activity under consideration is a wind power project, TÜV NORD is convinced that there are no other realistic and credible alternatives. Both alternatives are in compliance with all applicable legal and regulatory requirements as;

- the implementation of the project activity is a voluntary initiative and is not mandatory or a legal requirement;
- the Electricity Act 2003 does not restrict or empower any authority to restrict the fuel choice for power generation;
- the applicable environmental regulations do not restrict the use of wind energy; and
- there is no legal requirement on the choice of a particular technology.

However, of the two alternatives identified, alternative (i) cannot be considered realistic as a further analysis in the following paragraph reveals that it is not an economically feasible option. Hence, alternative (ii) alone could be justified as realistic, credible and plausible alternative to the PP. However, this alternative would result in higher GHG emissions.

Investment analysis

Project proponent has demonstrated through the investment analysis that the financial returns of the project activity are insufficient to justify the required investment. TÜV has adopted a six-pronged strategy to ascertain the veracity of the conclusion drawn by the project proponent, viz.

- a) determining the suitability of the benchmark applied for the type of financial indicator presented;
- b) conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy and suitability of parameters;
- c) cross-checking the parameters against third-party or publicly available sources;
- d) reviewing annual financial reports related to the project participant;
- e) assessing the correctness of computations carried out and documented; and
- f) subjecting the critical assumptions of the project activity to reasonable variations to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

Suitability of financial indicator and benchmark: The project proponent has chosen project IRR to demonstrate the additionality of the project. Additionality Tool (Ver. 06.0) permits the use of financial indicator, viz. IRR, for demonstrating the additionality using benchmark analysis. The tool permits the use of either project IRR or equity IRR³. The project developer has chosen to demonstrate the financial unattractiveness of the project through project IRR. Since the project proponent is demonstrating the financial unattractiveness of the project, project IRR is appropriate, as it is often used by the project developers to make a decision on investing in the project. As such, selection of project IRR as financial indicator to demonstrate the additionality of the project is appropriate and conforms to the Additionality Tool.

Additionality tool (ver.06.0) states that the discount rates and benchmarks shall be derived from "Government/official approved benchmark, where such benchmarks are used for investment decisions"⁴, among others. However, it is imperative that the benchmark selected should be suitable for the type of financial indicator presented. The proponent has chosen the benchmark in accordance with para 6(c) sub step 2b of the Additionality tool i.e. Weighted Average Cost of Capital (WACC) to reflect private investment and / or project type. The input parameters selected for the WACC calculations were also checked and found to be OK. WACC has been calculated using the risk free rate plus a risk premium. The risk premium, being a calculated value in the benchmark calculation is assessed to be correct and in line with relevant guidance, e.g. EB 62, Annex 5, para. 13. The risk premium calculated from the compound annual growth rate based on values from BSE 500 and the risk free rate

³ Tool for the demonstration and assessment of additionality (Version 06.0) p.6

⁴ Tool for the demonstration and assessment of additionality (Version 06.0) p.7

have been further assessed against the requirements of EB 62, Annex 5, para. 6. During assessments of the validity of the calculation the sources from which the Prime Lending Rate (PLR) as well as the Compound Annual Growth Rate (CAGR) are derived are analysed and verified^{/PLR/, /BSE/}. Both, the validity of input parameters as well as the arithmetical validity of the computation is confirmed by the validation team. In order to comply with the requirements of EB 62, Annex 5, para. 13 the PP correctly adjusted the risk free rate and the risk premium using a beta value. The factor has been calculated from seven power generation companies in India listed in the BSE 500^{/BFUL/CESC/GIPCL/NLC/NTPC/RI/TATA/}. The average beta value of the seven companies has been computed conservatively using the companies' debt / equity ratio and their tax rates. The beta value has been checked, too and assessed against the correct data transfer from the sources used as well as the required arithmetical correctness. The availability and validity of the information used in the beta calculation has been assessed against EB 62, Annex 5, para. 6. By this means the validation team concludes that the benchmark calculation is correct with regards to the formulae used and its input parameters. Further details are mentioned in Annex 3 i.e. financial analysis.

Finally, the benchmark chosen is suitable for the type of financial indicator selected, what is sought to be compared is the expected return on investment (project IRR) with minimum return on equity and debt required to make the project viable taking market risks into account. Therefore, the benchmark selected by the project developer is appropriate and conforms to the Additionality Tool.

The project proponent has also demonstrated that the expected return from the project activity i.e. project IRR is lower than determined benchmark (13.88%).

Parameters and assumptions used: The three important parameters, which determine the IRR of the project, are project cost, financing pattern, and profitability estimates. The project cost includes, WEG cost, financing cost and other costs. The financing cost consists of upfront and syndication fees payable to the bank as a percentage of debt for project along with interest during construction and the other cost corresponds to costs of legal due diligence, technical due diligence and other costs associated with implementation of the project.

All the constituents of the project cost are based on the quotations and detailed estimation, whereas the financing cost is calculated based on the bank term loan sheet and other costs are audited and certified by a third party. Tax rate is as per the service tax rate applicable at that time and mentioned in the PO. The financing pattern yields a gearing of debt and equity ratio of 63 : 37, 65: 35, 47: 53 for Maharashtra, Karnataka and Gujarat respectively^{/ADD-2,3,4,5/}, which is accepted financing pattern for wind power projects. The profitability estimates of the project, which forms the basis for IRR calculation is based on installed capacity, plant load factor/Capacity Utilization Factor (CUF), power tariff, O&M cost, insurance cost, interest, depreciation, taxation. The installed capacity is a computed figures based on the number of WEGs installed and the capacity thereof.

For Maharashtra the CUF works out to be 20% as recommended by MERC in its order and was cross verified from the Bank loan application letter, hence it is accepted^{/MERC/}. The same CUF has been used while applying for the loan from Saraswat bank as evident by the letter from Saraswat bank dated 11 September 2009^{/CUF-1//ADD-12/}. This complies with the requirements of the Guidelines for the reporting and validation of plant load factors (EB48, Annex 11). Power tariff i.e. Rs.3.50/kWh with the escalation 0.15 Rs/year up to 13 years is based on PPA, which is in line with the tariff recommended by MERC for wind power projects. O&M cost and insurance cost are based on O&M contract^{/O&M/} and quotation for insurance premium and insurance policy received by the project proponent.

For Gujarat state, the CUF works out to 23% as recommended by GERC in its order and hence it is appropriate^{/GERC/}. This is also affirmed that the same CUF has been used while applying for the loan from financial institutions as evident by the letter from Axis Bank dated 11 September 2009^{/CUF-2//ADD-13/}. This complies with the requirements of the Guidelines for the reporting and validation of plant load factors (EB48, Annex 11). Power tariff i.e. Rs.3.37/kWh is based on PPA, which is in line with the tariff recommended by GERC for wind power projects. O&M cost and insurance cost are based on O&M contract^{/O&M/} and quotation for insurance premium and insurance policy received by the project proponent.

For Karnataka, the CUF works out to 26.5% as 26.5% recommended by KERC in its order and hence it is acceptable^{/KERC/}. This is also affirmed that the same CUF has been used while applying for the loan from financial institutions as evident by the letter from Saraswat Bank dated 11 September 2009^{/CUF-3//ADD-12/}. This complies with the requirements of the Guidelines for the reporting and validation of plant load factors (EB44, Annex 11). Power tariff i.e. Rs.3.40/kWh is based on PPA, which is in line with the tariff recommended by KERC for wind power projects. O&M cost and insurance cost are based on O&M contract^{/O&M/} and quotation for insurance premium and insurance policy received by the project proponent.

Interest is based on detailed computation forming part of the worksheet. The project proponent has adopted Income Tax Act stipulated WDV (written down value) depreciation for income tax calculation, which are accepted accounting methods. The block of assets has been computed for depreciation purpose as per the accepted accounting principles. Tax liability has been calculated as per the income tax rules. In computing the income tax liability, the project developer has taken into account the accelerated depreciation (80%), which the wind turbines are eligible and the Tax holiday (u/s 80IA of the Income Tax Act, 1961), which the infrastructure projects (under which the project activity falls) are entitled for the 10 consecutive years out of the first 15 years. The tax rate assumed corresponds to the tax rate prevailing at the time of taking decision.

Cross checking parameters: The cost of WEGs, power evacuation costs, O&M cost, insurance costs, interest costs, depreciation and tax rate have been cross checked with quotations, purchase orders, loan sanction letters, Companies Act, Income Tax Act, PPA entered into by the project proponent with the Utility and the GERC order. The input costs considered appear to be in order.

Financial reports of project participant: TUV NORD requisitioned the statement of accounts^{/ADD-6/} of the project participant for the financials years 2005-06, 2006-07 and 2007-08. None of the input values taken in the computation can be based on the annual statement of accounts, as the PP is engaged in an activity, which is different from the present activity of the firm.

Assessment of correctness of computation: The assessment involves checking the data input taken from quotation/documents, adoption of correct accounting principle and arithmetical accuracy. TUV checked the quotation/ documents and ensured that right input has been taken in the project cost and projections. The accounting principles adopted with respect to the computation of interest during construction, block of assets, prorata expenses and tax computation are found to be in order. The arithmetical accuracy is also found to be correct.

The principle adopted by the project proponent for computing IRR is in conformity with the "Guidance on the Assessment of Investment Analysis" version 5 as contained in annex 5 to EB 62 report. IRR has been computed for 20 years. In computing the IRR, the project proponent has taken into account profit after tax and depreciation. From the total, the repayment of term loan has been deducted, which is the accepted accounting principle, in as much as the repayment of term loan is made out of cash flow, i.e., profit after tax and depreciation. In the calculation of the total investment costs, have been considered as the net cash outflow, which is as per annex 5 to EB 62. Based on the above, the project IRR for GNA amounts to 9.64% in contrast to the benchmark of 13.88%. In the above background, TUV NORD is convinced that the project is additional and not a business-as-usual scenario. However, this conclusion was checked by subjecting the critical assumptions to reasonable variations.

<u>Sensitivity analysis:</u> The Guidance on assessment of investment analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation ($\pm 10\%$). The project proponent has identified CUF, capital cost, O&M costs as well as the electricity tariff in Maharashtra & Karnataka as the most critical assumptions. Since the electricity tariff paid for electricity from WTGs at the Gujarat site is fixed as per the PPA the validation team verified that it is not appropriate to incorporate this tariff in the sensitivity analysis. Accordingly, the sensitivity analysis has been conducted to analyze the impact of	IRR	Benchmark
	GNA 9.64% 11.54% 11.42%	

a change in (a) capital cost by 10%, (b) net generation by 10%, (c) operation & maintenance (O&M) cost by 10% and d) the tariff paid at the Maharashtra & Karnataka sites by 10%. The profitability of meeting or crossing the required benchmark has been further analysed as follows: The sensitivity analysis reveals that even under more favorable conditions, the IRR would not cross the benchmark value of 13.88% as given in the following table: Parameters		
Base Case		5.2.6
Increase in net generation by 10%		5.2.7
Reduction in capital cost by 10%		13.88%
Reduction in O&M cost by 10%	10.34%	
Increase in tariff rate of Maharashtra by 10%	9.71%	
Increase in tariff rate of Karnataka by 10%	9.88%	

*Tariff for Maharashtra fixed for 13 years as per PPA, therefore sensitivity carried out from 14th year

**Tariff for Karnataka is fixed for 10 years, therefore sensitivity carried out from 11th year

TUV carried out its own independent assessment, which reveals that the project would become *non additional* only if

- Net Generation goes up by 23.4%
- Capital cost goes down by 21.6%
- O&M cost goes down by 200%
- Tariff of Maharashtra and Karnataka goes up by 195%

TUV considers that such a reduction in capital cost or hike in net generation is highly unrealistic and unlikely to happen for the following reasons:

Net generation: As stated above the CUF values are based on as mentioned in the loan application letter. The same are also consistent with that published by respective state electricity authority which are government organization and based on historical trends and wind potential in the respective region. The variation with those

values, that too by as much as 23.4% is highly unrealistic. TUV NORD is convinced that achievement of such a high CUF is not possible.

Capital cost: As stated above, the cost taken into computation is based on quotations. Orders have already been placed and wind mills are commissioned. The cost, therefore, represents firm cost and as such the question of any reduction in the cost, that too by as much as 21.6% is highly unrealistic. TUV agrees with the argument put forth by the project Proponent.

O & M cost: - As stated above, the cost taken into computation is based on quotations and the PO placed for the project. The project does not cross the benchmark even if the O&M cost goes down by 200% and hence the argument is found to be satisfactory and hence accepted by validation team.

Tariff rate: The project crosses the benchmark if the tariff rate goes up by 195% in both Maharashtra & Karnataka Simultaneously, which is highly unrealistic.

The individual arguments presented in the PDD to justify the additionality are as well as the assessment of the validation team is summarized in table 5-1.

Nevertheless, Finding B3–B7 were raised and successfully closed (ref. section 4: Validation Findings).

Barrier analysis

Barrier analysis has not been chosen to demonstrate additionality of the proposed CDM project activity in the PDD.

Common practice analysis

The project proponent has chosen India as the geographical region for common practice analysis. As per the guidelines of EB65 annex 21 India is an appropriate geographical region. Thus the validation team has been convinced that the chosen geographical region for the common practice analysis is appropriate in the context of the proposed project activity. The PP correctly excluded the projects after taking $\pm 50\%$ of the project capacity (i.e. from 12.75 MW to 38.25 MW) as well as projects registered. Excluding projects due to non-comparable installed capacity is deemed appropriate considering lower transaction costs and economies of scale for projects of larger scale.

As per para 47 of the guideline, step 2 of the guideline, N_{all} is arrived by taking output range of 12.75 MW to 38.25 MW, based on which, thermal, hydro, biomass & wind projects and others have been considered. N_{all} comes out to be 402. This was checked from the websites of central electricity authority, ministry of new and renewable energy and EAI publication.

As per para 47 of the guideline, step 3 of the guideline N_{diff} is arrived and found to be 394. Now the factor F is calculated which comes out to be 0.02 which is less than 0.2 and hence the project activity is not a common practice in the region. The

spreadsheet is also submitted by project proponent and was checked by the validation team and found to be satisfactory, hence accepted by the validation team.

Also, it is in line with the guidelines provided in VVM paragraph 118 and 119 of version 1.2.

Summary

Based on the above description of assessment of investment analysis and common practice analysis and the arguments put forth by PP as explained in the PDD^{/PDD2/}, DOE is of the opinion that the proposed project activity qualifies the all the steps of tool for the demonstration and assessment of additionality and thus not a business as usual. Hence emission reductions created the proposed project activity are additional to what would have been generated in the absence of proposed project activity.

5.2.8 Monitoring Methodology

The project complies with the monitoring methodology ACM0002 Version 12.2.0, for grid-connected electricity generation from renewable sources.

5.2.9 Monitoring Plan

This methodology stipulates that monitoring shall consist of metering the electricity supplied by the project activity to the grid (ex-post) by the renewable technology. In this case the net electricity generated by GNA WEGs will be monitored and reported by respective state electricity authority in its share certificate or joint monitoring report on the basis of the metering done at the main meter. Main meter is installed at uploading station in Maharashtra and in transformer yard in Karnataka and Gujarat. In case of Gujarat the electricity metered at the GETCO meter is proportionally divided among the customers connected to the meter on the basis of the pro-rata readings taken at the VCB end. The procedure to monitor the electricity export and import is explained in section B.7 of the PDD and was assessed to be appropriate.

Calibration, periodical testing and maintenance procedures of monitoring equipment are clearly mentioned in the section B.7.2 as per QA/QC procedure of PDD.

The OM and BM are calculated as fixed for renewable crediting period by choosing data vintage^{/cea/} based on ex-ante monitoring published by CEA. Hence data needed to recalculate OM and BM does not apply. According to the monitoring plan of the PDD this requirement is fulfilled.

All the monitored data will be archived electronically for a period of 2 years after the crediting period. However findings B11-13 had to be raised and were successfully closed.

5.2.10 Project Management Planning

GNA have formed a structured project management team to ensure proper operation and continuous monitoring of proposed project activity. GNA has also entered into a comprehensive Operation and Maintenance agreement with the respective service providers^{/O&M/}, which are also the manufacturers of WEGs. All the personnel are qualified and trained for the type of work. From whole the assessment during site visit and desk review by the DOE, the project management planning is found to be adequate and appropriate for type of project monitoring.

5.2.11 Crediting Period

The intended crediting period of the project is 1st April 2012 to 31st March 2022 (fixed).

The starting date of the crediting period is 01/04/2012 or the date of request for registration of the project with UNFCCC.

In the context of starting date of the crediting period finding C1 was raised and successfully closed (ref Annex-A1: Validation Protocol).

5.2.12 Environmental Impacts

Social & environmental impacts of the project have been sufficiently addressed. No adverse environmental impacts as well as trans-boundary impacts have been envisaged from this project activity. Environmental Impact Assessment (EIA) is not required for this type of project activity as per the rules and regulations of host country (India).

5.2.13 Comments by Local Stakeholders

Stakeholders have been directly asked to comment on the project through an open meeting among local stakeholders, project participant (GNA); local authorities on 24th August 2007^{/LSC/}.

No adverse comments were received and this is addressed in the PDD.

A summary of the comments received and a note (through meeting) on how due account was taken of the concerns raised in the above public consultation are included in PDD. All comments are positive in nature.

6 VALIDATION OPINION

Gangadhar Narsingdas Agrawal has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Renewable Wind Power Generation for Energy promoting energy security" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 14 Corrective Action Requests (CARs) and 4 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (India) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of India vide the Letter of Approval (HCA) dated 2010-08-25.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 484300 tCO₂e are most likely to be achieved within the (fixed) crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

New Delhi, 2012-03-05



Pankaj Mohan
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2012-03-05



Ingo Klein
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/ADD/	<ol style="list-style-type: none"> 1. Deed for the lease of land (Doc. NO.-1649/0970) dated 25 May 2009 between Karnataka renewable energy development ltd. and GNA. 2. Letter of term loan issued from the AXIS Bank for the loan sanctioned to GNA vide sanction letter ref. no: WZ/RN/14003/2007-08 dated 29/09/2007. 3. Letter of term loan issued from the AXIS Bank for the loan sanctioned to GNA vide sanction letter ref. no: AXIX/WZ/ADV/HS/1076/2008-09 dated 2/09/2008. 4. Letter of term loan issued from the Saraswat Bank for the loan sanctioned to GNA vide sanction letter ref. no: SCB/ZV/13/2241 dated 11/03/2008. 5. Letter of term loan issued from the Saraswat Bank for the loan sanctioned to GNA vide sanction letter ref. no: SCB/ZV/13/1142 dated 22/09/2007. 6. Balance sheet of GNA for the years 2005-06, 2006-07 and 2007-08. 7. Letter regarding local lending rate from Saraswat co-operative bank Ltd. for 7 WTGs located in Karnataka at the rate of 12%, dated 11 March 2008. 8. Letter regarding local lending rate from Saraswat co-operative bank Ltd. for 4 WTGs located in Maharashtra at the rate of 12%, dated 11 March 2008. 9. Letter regarding local lending rate from Axis Bank Ltd. for 5 WTGs located in Gujarat at the rate of 12%, dated 29 September 2007. 10. Letter regarding local lending rate from Axis Bank Ltd. for 5 WTGs located in Gujarat at the rate of 13%, dated 2 September 2008. 11. Geo Hazards International report for history of earthquakes in Gujarat dated 03-02-2005 12. letter from Saraswat bank dated 11 September 2009 13. letter from Axis Bank dated 11 September 2009
/CC/	<p>Commissioning Certificates of all 26 WTGs in chronological order. Commissioning Certificate of Karnataka Wind Turbines dated 06-03-2008 and 07-05-2008. Inspection certificates of Maharashtra dated 04-09-2007 Inspection Reports of Gujarat dated 29-09-2007, 23-11-2007, 02-02-2008, 15-03-2008, 31-03-2008, and 15-05-2008.</p>
/CD/	<p>Proof of all the events described in chronology given in PDD except listed in this table.</p>

Reference	Document
	<ol style="list-style-type: none"> 1. Board Resolution on project activity dated 28/10/2006 2. First Purchase order (Placed for 4 Nos. of WTG's in the state of Maharashtra) dated 07/11/2006. 3. Letter from technology supplier regarding delay in project execution dated 11/06/2007. 4. Purchase order for WTG's in Gujarat dated 05/07/2007. 5. Engagement of CDM Consultant dated 17/07/2007. 6. Minutes of meeting with CDM Consultant dated 26/07/2007. 7. Purchase order for WTG's in Karnataka dated 30/11/2007. 8. Purchase order for WTG's in Gujarat dated 05/12/2007. 9. Newspaper publication for stakeholder consultation in Karnataka, & Maharashtra dated 23/07/2008. 10. Receiving of DOE Proposals dated 28/07/2008. 11. Newspaper publication for stakeholder consultation in Gujarat dated 08/08/2008. 12. DOE engagement for project activity validation dated 12/08/2008.
/CON/	Contract between PP and DOE dated 12-08-2008.
/CP/	<p>List of private wind farm owners in India i.e. Directory Indian Wind Power 2007.</p> <p>Power Scenario at a glance of Central Electricity Authority of September 2008.</p>
/CUF/	<ol style="list-style-type: none"> 1. MERC orders which depicts CUF's (20%) MERC orders for tariff determination for Maharashtra dated 24-11-2003. 2. GERC orders which depicts CUF's (23%) GERC orders for tariff determination for Gujarat dated 11-08-2006. 3. KERC orders which depicts CUF's (26.5%) KERC orders for tariff determination for Karnataka dated 18-01-2005
/Drawing/	Micrositing drawing for 1.5 MW and 1.8 MW Wnd farm for GNA
/GERC/	Gujarat Electricity Regulatory Commission
/GRD/	<p>Proof of grid connection:</p> <ul style="list-style-type: none"> • Certificate (Ref. No.: GEDA/TUNA/PVT-WF/08-09) for the share of electricity generation by wind farm at Chandrodi for the month of December 2008. • Invoice raised by GNA to the Gujarat Urja Vikas Nigam Ltd. (Invoice NO. GNA/I/15) date 02/02/2009 for the month of December 2008. • Joint meter report for the month of December 2008 issued by Maharashtra state electricity Dist. Co. Ltd. dated 9 Jan 2009.

Reference	Document
/HCA/	Host Country Approval vide letter no. F. No. 4/28/2008-CCC, dated 30-04-2009
/HCA1/	Revised Host Country Approval vide letter no. F.No.4/28/2008-CCC, dated 25-08-2010.
/IRR1/	Internal rate of return calculation spread sheet version 01.
/IRR2/	Final version of rate of return calculation spread sheet version 02 dated 2011-10-14.
/IT act/	Income Tax Act, 1961, Tax deduction mentioned under section 80IA of the act.
/KERC/	Karnataka Electricity Regulatory Commission
/LSC/	<p>Proof of local stakeholder consultation</p> <ol style="list-style-type: none"> 1. letters for inviting the stakeholders dated 07-11-2008 for Karnataka, 12-11-2008 for Maharashtra and 04-09-2008 for Gujarat . 2. News paper advertisement for stakeholder meeting for Maharashtra, and Karnataka sites dated 23-07-2008 3. News paper advertisement for stakeholder meeting for Gujarat sites dated 08-08-2008 4. Minutes of meeting held with local communities in different locations: <ul style="list-style-type: none"> • Villages of Sangli district of Maharashtra dated 12/11/2008. • Villages of Kutch district of Gujarat dated 10/09/2008 • Villages of Bellari District in Karnataka dated 07/11/2008.
/MD/	<ol style="list-style-type: none"> 1. The resolution with serious CDM consideration passed by the Board of Directors of the Company at its meeting dated 28th October, 2006. 2. Minutes of meeting of board of directors dated 28th October, 2006.
/MERC/	Maharashtra Electricity Regulatory Commission
/MS/	Micrositing for all the WTGs involved in project activity at each site.
/O& M/	<ol style="list-style-type: none"> 1. Agreements for Maintenance, Service and Availability between GNA and respective service provider agencies based on purchase orders dated 07-11-2006, 30-11-2007, 05-07-2007, 05-12-2007." 2. Operation & maintenance manual, check sheets & records. 3. Training procedures and training records.
/OL/	Offer letter from suzlon for 1.5MW Wind turbines from Suzlon Energy dated

Reference	Document
	15-09-2006. Offer letter from Vestas RRB for 0.6MW wind turbine dated 20-10-2006.
/PDD1/	Project design document version 01 dated 2008-10-15.
/PDD2/	Project design document version 03 dated 2012-02-07.
/PO/	<ol style="list-style-type: none"> 1. Purchase order for 4 no.s 1500 KW WTG for Maharashtra site dated 07/11/06. 2. Purchase order (Reff. No. 675) for 7 no.s 1500 KW WTG for Karnataka site dated 30/11/07. 3. Purchase order (PO: Vestas RRB-GNA/Maintenance -01) for 5 no.s 600 KW WTG for Gujarat site dated 05/07/07. 4. Purchase order (PO: Vestas RRB-GNA/Maintenance -02) for 5 no.s 600 KW WTG for Gujarat site dated 05/07/07. 5. Purchase order (PO: Vestas RRB-GNA/Maintenance -03) for 5 no.s 600 KW WTG for Gujarat site dated 05/12/07.
/PPA/	<ol style="list-style-type: none"> 1. Power Purchase Agreement (Ref. No. BA 965782) between GNA and MSEDCL dated 13/05/2008 for 1.5 MW 2. Power Purchase Agreement (Ref. No. AU 720123) between GNA and MSEDCL dated 21/04/2008 for 4.5 MW 3. Power Purchase Agreement (Ref. No. GUVNL/COM/WF/208/1596) between GNA and GUVNL dated 20/12/2007 for 3 MW 4. Power Purchase Agreement (Reff. No. GUVNL/COM/WF/261/1264) between GNA and GUVNL dated 18/09/2008 for 6 MW 5. Power Purchase Agreement (Reff. No. MPL/D100 07-08, No.: 258521) between GNA and BESCO dated 15/05/2008 for 10.5 MW.
/SC/	<ul style="list-style-type: none"> • No Objection Letter from Grampanchayats of respective villages for GNA Wind Power Project dated 06 April 2005. • Letter of approval (Reff. No. CEE (P&C)/SEE(PSS)/AEE-9/F-253/CYS-6), dated 06 April 2005 for the evacuation of 21 MW of power from proposed wind power project at Iyyanahall Village in Bellary District made in favour of M/s. Sarjan Realities Ltd. • Letter of approval (Reff.: KRED/08/GNA-SRL/2008/2842) from KRDL for the transfer of 10.5 MW wind power project in favour of GNA from out of 21 MW allotment made in favour of M/s. Sarjan Realities Ltd. • Letter of approval (Reff. No. WEP/GN Agrawal/600 KW/07-08/6415) for the Infrastructure clearance for setting up of 6 MW (4x1500 KW) Wind power project at Nagaj (Dhalgaon) Tal, Sangli dated 11/09/2007. • Letter for the permission ((Reff. No.: GEDA/PWF/VRRB/2007-08/2908)

Reference	Document
	for setting up of 3 MW Windfarm at Village Kumbhariya, Dist. Kutch, Gujrat, dated 29/09/2007.
/SD/	Work order (Reff. No. 1461) for erection, installation and commissioning of 4 No.s of 1500 KW WTGs at Dhalgaon (Maharashtra) Site, dated 07/11/2006
/TD/	Technical Specifications of 1.5 MW and 0.6 MW Wind Electric Generator used in proposed project activity.
/Test/	<ul style="list-style-type: none"> • Meter test certificate for the following energy meters of Vestas RRB: Seal Nos.: 0926663, 64,65 dated 07 April 2007 Seal Nos.: 0926660, 61, 63 dated 07 April 2007 Seal Nos.: 0325989, 90, 91 dated 26 Nov. 2008
/WPD/	Wind Power directory

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	Consolidated methodology for grid connected electricity generation from renewable sources (Version 12.2.0)
/AT/	Tool for the demonstration and assessment of additionality (ver 06.0, EB 65)
/CPM/	TÜV Nord JI / CDM CP Manual (incl. CP procedures and forms)
/CEA/	CO ₂ Baseline Database for Indian Power Sector –User Guide, Ver. 4 dated November 2008 published by CEA. The same was assessed by TUV NORD in accordance with ACM0002.
/EFT/	Tool to calculate the emission factor for an electricity system, (Version 2.2.1, EB 63)
/FACT/	under Sec.68(2) of Finance Act,1994 the value mentioned as 12.24%
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM (Ver 07)
/KP/	Kyoto Protocol (1997)
/MA/	Decision 17/CP.7 (Marrakesh – Accords)
/VVM/	Clean Development Mechanism Validation and Verification manual (V 1.2) Annex 1, EB 55

Table 7-3: Websites used

Reference	Link	Organisation
/BFUL/	http://www.moneycontrol.com/financials/bfutilities/balance-sheet/BFU	BF Utilities (used for review of beta calculation)
/BSE/	http://www.bseindia.com/stockinfo/stockprc.aspx http://www.bseindia.com/stockinfo/indices.aspx	Bombay Stock Exchange (BSE) Index for Beta calculation and Market Premium.
/cea/	www.cea.nic.in	Central Electricity Authority
/cea-T/	http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm	Central Electricity Authority for Thermal plants.
/cea-H/	http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm	Central Electricity Authority for Hydro plants.
/cea-N/	http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm	Central Electricity Authority for Nuclear plants
/CESC/	http://www.cescltd.com/cesc/webhigh/investor/helpdesk/document/CESC%20Annual%20Report%202005-06.pdf	CESC Limited (used for review of beta calculation)
/cwet/	www.cwet.tn.nic.in	Centre for Wind Energy Technology
/GEDA/	http://www.geda.org.in/wind/wind_power.htm	Gujarat Electricity Development Agency
/GERC/	http://www.geda.org.in/pdf/wind_final_order.pdf	Gujarat Electricity Regulatory Commission
/GIPCL/	http://www.gipcl.com/downloads.php?id=3585CC1582FD102B9403F555CAF46729	Gujarat Industries Power Company Ltd. (used for review of beta calculation)

Reference	Link	Organisation
/IT/	http://www.incometaxindia.gov.in/	Income Tax Act
/IWEA/	http://www.inwea.org/regulatorydev.htm	Indian Wind energy Association
/IWEA-MAP/	http://www.inwea.org/imgs/wp_d.jpg	Indian Wind energy Association- Wind Power density Map.
/KERC/	www.kerc.org/	Karnataka Electricity Regulatory Commission
/MAT/	http://exim.indiamart.com/budget-2006-07/	India Import export portal for checking the MAT as per IT act.
/MERC/	http://www.mercindia.org.in/pdf/Detail_Wind_Energy_Order.pdf	Maharashtra Electricity Regulatory Commission
/MNRE-B/	http://www.mnre.gov.in/annualreport/2006_2007_English/H_TML/ch3_pg5.htm	Ministry of new and renewable energy for Biomass plants
/MNRE-S/	http://www.mnre.gov.in/annualreport/2006_2007_English/H_TML/ch5_pg1.htm	Ministry of new and renewable energy for Solar plants
/moef/	www.moef.nic.in	Ministry of Environment and Forest
/NLC/	http://www.nlcindia.co.in/investor/balance.pdf	Neyveli Lignite Corporation Limited (used for review of beta calculation)
/NTPC/	https://www.ntpc.co.in/annualreports/2005-06/BalanceSheet06.pdf	NTPC limited (used for review of beta calculation)
/PLR/	<ol style="list-style-type: none"> http://www.thehindubusinessline.com/2006/08/25/stories/2006082503210600.htm http://www.thehindubusinessline.com/2006/08/13/stories/2006081303080100.htm http://www.hindu.com/2006/05/04/stories/20060504 	Prime Lending Rate of various banks at the time of investment decision.

Reference	Link	Organisation
	03561801.htm 4. http://www.blonnet.com/2006/03/15/stories/2006031504570100.htm 5. http://www.blonnet.com/2006/03/17/stories/2006031703790600.htm	
/RBI/	http://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/72295.pdf	Reserve Bank of India
/RI/	http://www.rinfra.com/pdf/annual report 120506.pdf	Reliance Infra (used for review of beta calculation)
/suzlon/	http://www.suzlon.com/pdf/S82%20product%20brochure.pdf , http://www.rrbenergy.com/PS Specification.asp	Suzlon website
/TATA/	http://www.tatapower.com/investor-relations/pdf/AnnualReport2005-06.pdf	TATA Power (used for review of beta calculation)
/unfccc/	http://cdm.unfccc.int	UNFCCC website
/wpi/	www.windpowerindia.com	Wind Power India

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Mr. Hegde	GNA
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Malhar Desai	RRB (Gujarat Site)
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Bipin Modi	RRB (Gujarat Site)

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Paresh Sahastrabudhe	Suzlon (Sangli Site)
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Murali Krishna	Suzlon (Ayyanhalli)
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Vikas Dhavan	Consultant (EVI)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Munabhai Ahir	Villager of Chandrodi village (Gujarat Site)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Valabhai Ahir	Villager of Chandrodi village (Gujarat Site)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rajesh Chauhan	Sarpanch – Chandrodi Village (Gujarat Site)
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rajabhai Barot	Villager of Chandrodi village (Gujarat Site)

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A. General Description of Project Activity				
A.1. Approval <i>The written approval of the parties involved is a mandatory requirement</i>				
A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i>	<p><i>Description:</i> Yes, the project has provided the written approval from the host party i.e. India. India is the only party involved in the proposed project activity.</p> <p>Letter of approval vide ref. no. 4/28/2008-CCC dated 30 April 2009 has been received by the project participant from Indian DNA and the copy of the letter is provided to the DOE by the project participant.</p> <p><i>Justification of evidences:</i> The submitted copy of the HCA has been thoroughly assessed by the validation team and found to be authentic.</p> <p><i>Conclusion:</i> The approval from host party India has been obtained.</p>	/HCA/	OK	OK
A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM	<p><i>Description:</i> . Yes, the host country approval is issued from Ministry of Environment and Forest, India which is among the listed</p>	/HCA/ /unfccc/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
website? (EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) <i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i>	organisations as DNAs on the UNFCCC CDM website. DOE has done the web search to assess the authenticity of DNA <i>Justification of evidences:</i> Same has been cross checked with the MOEF and UNFCCC website. <i>Conclusion:</i> The letter of approval obtained from the Indian DNA which satisfies the requirement of the VVM. ¹¹	/moef/ /VVM/		
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 55 Annex 1, § 45(a))	<i>Description:</i> The HCA states that Government of India has ratified the Kyoto protocol. The same has been corroborated from UNFCCC website. <i>Justification of evidences:</i> Copy of the HCA has been checked by the validation team. <i>Conclusion:</i> The written approval confirms that the corresponding party i.e. India is a party to the Kyoto Protocol.	/HCA/ /unfccc/	OK	OK
A.1.4. Do the written approvals confirm that the participation is voluntary? (EB 55 Annex 1, § 45(b))	<i>Description:</i> Yes the written approval confirms that the participation is voluntary in the proposed project activity. <i>Justification of evidences:</i> Copy of the HCA has been checked by the validation team. <i>Conclusion:</i> Project activity satisfy the requirement. of the VVM.	/HCA/	OK	OK
A.1.5. Does the written approval from the host country confirm ⁷ that the project contributes to the sustainable development in the country? (EB 55 Annex 1, § 45(c))	<i>Description:</i> Yes the host country approval confirms that the project contributes to the sustainable development in the country. <i>Justification of evidences:</i> Same has been checked with the copy of HCA. <i>Conclusion:</i> Project activity satisfy the requirement. of the VVM.	/HCA/	OK	OK
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for	<i>Description:</i> Yes the HCA refers the precise project title of the PDD.	/HCA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)	<i>Justification of evidences:</i> Same has been cross checked with the copy oh HCA. <i>Conclusion:</i> Project activity satisfy the requirement. of the VVM.			
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	<i>Description:</i> Yes the HCA is unconditional. <i>Justification of evidences:</i> Same has been cross checked with the copy of HCA. <i>Conclusion:</i> Project activity satisfies the requirement of the para 46 of VVM.	/HCA/	OK	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 55 Annex 1, § 51)	<i>Description:</i> Yes the information written in the PDD is consistent in section A3 and in Annex 1. <i>Justification of evidences:</i> Same has been cross checked with the PDD. <i>Conclusion:</i> Project activity satisfies the requiremen of the VVM.	/PDD1/ /HCA/	OK	OK
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i>	<i>Description:</i> Yes, project participant Gangadhar Narsingdas Agrawal (GNA) has been approved by host party India. India is a party to the Kyoto Protocol as confirmed by host country approval. Moreover only one PP is involved in the proposed project activity. DOE has done the web search to assess the authenticity of DNA. Moreover the copy of the letter is provided to the DOE by the project participant <i>Justification of evidences:</i> This has been evidenced from the HCA dated 30 April 2009. <i>Conclusion:</i> The project participant listed in the PDD has been found to be approved by the one of the parties to the Kyoto protocol.	/PDD1/ /HCA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	<p><i>Description:</i> There is only one project participant involved and approved by the host country.</p> <p><i>Justification of evidences:</i> The host country approval lists the name(s) of all the project participant(s) involved in a CDM project.</p> <p><i>Conclusion:</i> There is only one PP involved in the proposed project activity and same is approved by the DNA and listed in the PDD.</p>	/PDD1/ /HCA/	OK	OK
A.1.11. Does the DoE have a direct contractual relationship with the PP? (EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) <i>Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.</i>	<p><i>Description:</i> Yes the DOE has the direct contractual relation with the PP.</p> <p><i>Justification of evidences:</i> PP signed the contract with DOE.</p> <p><i>Conclusion:</i> Project activity complies the requirement. of the VVM. and EB 50 annex 48.</p>	/PDD1/ /CON/	OK	OK
A.2. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? (EB 55 Annex 1, §§ 125–127) <i>Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i>	<p><i>Description:</i> The host country approval confirms that proposed project activity contributes to the sustainable development of India.</p> <p><i>Justification of evidences:</i> The original letter of HCA has been verified by the DOE.</p> <p><i>Conclusion:</i> The proposed project activity contributes to the sustainable development of the host country. Project activity complies the requirement. of the VVM.</p>	/HCA/ /VVM/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 55 Annex 1, §§ 125–127) <i>Describe the other positive aspects not related to GHG emission reduction on the environment.</i></p>	<p>Description: Yes, the project creates other environmental or social benefits than GHG emission reductions as described below:</p> <ul style="list-style-type: none"> • The project will create the employment opportunity in the region. • The project will improve the availability of electricity in the local region. <p>Project will also encourage the gearless synchronous generator based WEGs for power generation which is comparable with best practices in the renewable wind based energy sector.</p> <p><i>Justification of evidences:</i> The other benefits were observed and verified during site visit.</p> <p><i>Conclusion:</i> The project activity contributes to the environmental or social benefits. Proposed Project activity complies the requirement. of the VVM para 123-125.</p>	/pDD1/ /VVM/	OK	OK
<p>A.3. PDD editorial aspects <i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i></p>				
<p>A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)</p>	<p><i>Description:</i> Yes the PDD has been filled in the latest PDD form. Same has been cross checked with UNFCCC⁵.</p> <p><i>Justification of evidences:</i> The PDD form has been cross checked with UNFCCC website.</p>	/pDD1/ /unfccc/ /VVM/	OK	OK

⁵ http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/index.html

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> Project activity complies the requirement. of the VVM para 55			
A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)	<p><i>Description:</i> Yes, the PDD has been filled in accordance with the latest PDD guidelines.</p> <p><i>Justification of Evidences;</i> The final PDD is cross checked with the PDD filling guideline and all the sections were found to be consistent with the guidelines.</p> <p><i>Conclusion:</i> PDD is found to be filled in accordance with the latest PDD guideline.</p> <p>However A1, A2 and A3 had to be raised and closed during the course of validation.</p>	/PDD1/ /HCA/	CAR A1 CAR A2 CL A3	OK
A.4. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 55 Annex 1, §§ 58–59, 64) <i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical</i>	<p><i>Description :</i>Yes, the PDD contain a clear, accurate and complete project description. The submitted PDD is assessed against the CDM PDD Form ver.03, CDM PDD guidelines ver.07 and found to be accurate and complete.</p> <p>As per PDD, the WEGs are manufactured locally in India. The WEG technology is sourced from Vestas RRB The evidence/reference weblink etc has been provided to DOE to support the statement.</p>	/PDD1/	CAR A4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>aspects of its implementation.</i></p> <p><i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i></p> <p><i>§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.</i></p> <p><i>§64 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>	<p><i>Justification of Evidences;</i> The project description provided in sections A.2, A.4.2 and A.4.3 were verified by the validation team during the site visit. Further independent web research was carried out in order to confirm technical details of the WEGs.⁶</p> <p><i>Conclusion:</i> Based on the on-site assessment and verification of documents and interviews the validation team confirms that the project description is clear , transparent , accurate and complete.</p> <p>However finding A4 had to be raised and closed in the course of validation.</p>			
<p>A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?</p>	<p><i>Description:</i> Yes the description cited in the PDD is in accordance with the real situation, same has been confirmed during the site visit and interviewing with personnel.</p> <p><i>Justification of evidences:</i> During the site visit it was found that the project description is in line as stated in PDD</p> <p><i>Conclusion:</i> As project was already implemented at the time of site visit, the project description in the PDD is confirmed as per the actual situation.</p>	/PDD1/	OK	OK
<p>A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p>(EB 55 Annex 1, §§ 63–64)</p>	<p><i>Description:</i> There is no alteration of the existing installation as found during site visit as the project is a new project.</p> <p><i>Justification of evidences:</i> Project activity is a new activity and involves no alteration, same has been confirmed during the site visit.</p> <p><i>Conclusion:</i> Project activity complies with the requirement.</p>	/PDD1/	OK	OK

⁶ <http://www.suzlon.com/pdf/S82%20product%20brochure.pdf>, <http://www.rrbenergy.com/PSSpecification.asp>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>Describe the steps taken to validate this issue.</i>				
<p>A.4.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p><i>Description:</i> The project activity entails the installation of 0.60 MW & 1.5MW WEGs of reputed manufacturers Vestas RRB (India) Limited and Suzlon Energy Ltd</p> <p>Equipment specifications were verified and the project design engineering found to be the good practices of the wind sector.</p> <p><i>Justification of evidences:</i> The details provided in the PDD have been cross checked with Purchase order ^{/PO/} and DOE has also applied his professional experience.</p> <p><i>Conclusion:</i> The project activity complies with requirement as project design engineering reflect current good practices.</p>	/PDD1/ /PO/	OK	OK
<p>A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?</p> <p><i>Describe the process undertaken to assess the state of the art technology.</i></p>	<p><i>Description:</i> The WEGs manufactured by Vestas RRB are gearless turbines^{/PO/} which are better than the commonly used technology used in the host country.</p> <p>Moreover all the WEGs are one of the most advanced technologies from the reputed manufacturer Vestas RRB (India) Limited and Suzlon Energy Ltd (India) Limited⁷.</p> <p>The DOE has undertaken web search as well as applied professional experience for the above assessment.</p> <p><i>Justification of evidences:</i> Technological details have been verified with the Purchase Orders and websites of the technology providers.</p> <p><i>Conclusion:</i> The project activity technology would result into better performances than any commonly used technologies in the host country?</p>	/PDD1/ /PO/ /TD/	OK	OK

⁷ <http://www.suzlon.com/pdf/S82%20product%20brochure.pdf>, <http://www.rrbenergy.com/PSSpecification.asp>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>A.4.6. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance and training needs.</i></p>	<p><i>Description:</i> O&M details have been included in the Purchase Order^{/PO/} with Vestas RRB (India) Limited and Suzlon Energy Ltd (India) Limited.</p> <p>The O&M clause regarding meeting training and maintenance needs were verified and found to be adequately addressed.</p> <p><i>Justification of evidences:</i> PDD and the purchase order have been verified and found to be adequately addressing maintenance and training needs.</p> <p><i>Conclusion:</i> Project activity adequately addressing the training and maintenance needs.</p>	/PDD1/ /PO/	OK	OK
<p>A.5. Small scale project activity</p> <p><i>It is assessed whether the project qualifies as small-scale CDM project activity</i></p>				
<p>A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?</p> <p>(EB 55 Annex 1, §§ 135–136 (a))</p>	<p><i>Description:</i> The project is large scale project activity.</p>	/PDD1/	N A	NA
<p>A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein?</p> <p>(EB 55 Annex 1, § 136 (b))</p> <p><i>Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general</i></p>	<p><i>Description:</i> Pl. refer to A.2.1</p>	/PDD1/	N A	NA

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>guidance to the methodologies⁸, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i>				
A.5.3. Is the small scale project activity not a debundled component of a larger project activity? (EB 55 Annex 1, § 136 (c)) <i>Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB 36, Annex 27 54, Annex 13).</i>	<i>Description:</i> Pl. refer to A.2.1 <i>Justification of evidences:</i> <i>Conclusion:</i>	/PDD1/	N A	NA
A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party? (EB 55 Annex 1, § 136 (d))	<i>Description:</i> Pl. refer to A.2.1 <i>Justification of evidences:</i> <i>Conclusion:</i>	/PDD1/	N A	NA
B. Project Baseline, Additionality and Monitoring Plan				
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid	<i>Description:</i> The webhosted PDD had applied ACM0002 version 8 however during validation this point was noticed. The latest version	/PDD1/ /unfccc/	CAR B1	OK

⁸ <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>version thereof?</p> <p>(EB 55 Annex 1, § 65)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p>(Ver. 11) of the ACM0002 is applied for the project activity, which is valid version.</p> <p><i>Justification of evidences:</i> The PDD is evaluated against the approved and the latest version of the methodology i.e, ACM 0002 ver.10. For the applicability of approved version, crosscheck has been done from UNFCCC web site.</p> <p><i>Conclusion:</i> Based on the requirements of the methodology and evaluation of justifications under section B.2 of the PDD the validation team hereby confirms that the proposed project activity complies to all the applicability conditions of the applied methodology. Moreover the applied methodology is approved and latest version of the same has been used for the proposed project activity.</p> <p>However in the course of validation finding B1 was raised and successfully closed thereafter.</p>	/ACM000 2/		
<p>B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website?</p> <p>(EB 55 Annex 1, §§ 65, 70)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> Yes the applied CDM methodology i.e. ACM0002 ver 11 is identical as available on the UNFCCC website.</p> <p><i>Justification of evidences:</i> Same has been cross checked with UNFCCC website.</p> <p><i>Conclusion:</i> Validation team confirms that the methodology used in the proposed project activity is exactly same as the methodology available on the UNFCCC website.</p>	/PDD1/ /unfccc/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?</p> <p>(EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76)</p> <p><i>Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.</i></p>	<p><i>Description:</i> Yes the project activity meets all the applicability criteria of the Methodology ACM0002 version 11. Project activity has also applied the following methodological tools as prescribed in the methodology ACM0002 version 11.</p> <ol style="list-style-type: none"> 1. Tool for the demonstration and assessment of additionality (version 05.2) EB 39 2. Tool to calculate the emission factor for an electricity system (version 02), EB 50 <p><i>Justification of evidences:</i> Same has been cross checked with UNFCCC website.</p> <p><i>Conclusion:</i> Project activity complies all the requirements of the applied methodology and tools referred therein.</p>	<p>/PDD1/ /unfccc/ /ACM000 2/</p>	<p>OK</p>	<p>OK</p>
<p>B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines?</p> <p>(EB 55 Annex 1, §§ 72–75)</p>	<p>All the applicability criterion are met. Moreover Pl. refer to B.1.3.</p>	<p>/PDD1/ /ACM000 2/</p>	<p>OK</p>	<p>OK</p>
<p>B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances</p>	<p><i>Description:</i> Yes, the project is in accordance to every other stipulation or requirement mentioned in all sections of the methodology.</p>	<p>PDD1 /ACM000 2/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>for approved methodologies provided by the CDM EB?</p> <p>(EB 55 Annex 1, § 69, 71)</p> <p><i>Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and /or limitations mentioned in all sections of the approved methodology selected.</i></p>	<p><i>Justification of evidences:</i> Whole the project description has been assessed against applied methodology ACM0002 version 11.</p> <p><i>Conclusion:</i> Project activity complies with the all the requirements of applied methodology.</p>			
<p>B.2. Project Boundaries</p> <p><i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i></p>				
<p>B.2.1. Are the project's spatial boundaries (geographical) clearly defined?</p> <p>(EB 55 Annex 1, §§ 67(a), 78–80)</p> <p><i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>Description:</i> Yes, the project's spatial boundaries (geographical) are clearly defined. The project boundary includes WEGs connected to the substation of the regional grid. The project boundary also includes all power plants connected physically to the project activity. Latitude and longitude of all the WEGs are clearly mentioned in the PDD^{/PDD2/}.</p> <p><i>Justification of evidences:</i> PDD^{/PDD2/} has been corrected with clear demarcation of the longitude and latitude along with the map , along with clearly depicting the project boundary . Same has been cross checked with the commission certificate and assessed during site visit.</p> <p><i>Conclusion:</i> By the thorough assessment during site visit and desk review, DOE became able to conclude that project spacial boundaries are clearly defined.</p> <p>However Pl. refer to finding A1.</p>	<p>/PDD1/ /CC/ /IM01/</p>	<p>CAR A1</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?</p> <p>(EB 55 Annex 1, §§ 67(a), 78–80)</p> <p><i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>Description:</i> Yes all the sources of the GHGs included in the project boundary in accordance to the applied methodology. The only GHG considered in the project activity is CO₂.</p> <p><i>Justification of evidences:</i> Same has been cross checked with the applied methodology and found meeting the requirements.</p> <p><i>Conclusion:</i> All the sources and GHGs are included in the project boundary as required by the applied methodology.</p>	/PDD1/ /ACM000 2/	OK	OK
<p>B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?</p> <p>(EB 55 Annex 1, §§ 67(a), 78–80)</p> <p><i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i></p>	<p><i>Description:</i> Yes, section B.3 of PDD adequately explains and justifies the exclusion or inclusion of source or gas from/in the project boundary. The only GHG considered in the absence of the project activity is CO₂.</p> <p><i>Justification of evidence:</i> Same has been cross checked with the applied methodology.</p> <p><i>Conclusion:</i> Project activity complies the requirement of the applied methodology and VVM thereby.</p>	/PDD 1/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.3. Baseline Identification <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) <i>Fill in all alternatives in table A-2.</i>	<i>Description:</i> The proposed project activity is the installation of a new grid connected renewable power plant i.e. wind electric generators. As per the methodology for this type of project activity the baseline scenario would be “electricity delivered to the grid by the project activity would otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources”. PP has chosen the baseline scenario in accordance to the methodology and thus has not considered the possible baseline scenarios. <i>Justification of evidences:</i> Baseline scenario is chosen as per the prescription of the applied methodology. <i>Conclusion:</i> Baseline identified is appropriate and in accordance to the methodology.	/PDD1/ /ACM000 2/	OK	OK
B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83) <i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i>	<input checked="" type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. <input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been	/PDD1/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	issued			
<p>B.3.3. What has been identified as the baseline scenario?</p> <p>(EB 55 Annex 1, §§ 81–82, 86)</p> <p><i>Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.</i></p>	<p><i>Description:</i> The baseline scenario for the project activity is “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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</p> <p><i>Justification of evidences:</i> This is in accordance to the applied methodology.</p> <p><i>Conclusion:</i> The chosen baseline scenario is appropriate for the type of proposed project activity.</p>	/PDD1/ /ACM000 2/	OK	OK
<p>B.3.4. Has the baseline scenario been determined according to the methodology?</p> <p>(EB 55 Annex 1, §§ 82, 87(e))</p> <p><i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology.</p> <p><input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:</p>	/PDD1/ /ACM000 2/	OK	OK
<p>B.3.5. Has any plausible alternative scenario been excluded?</p> <p>(EB 55 Annex 1, § 83)</p> <p><i>Describe how it is validated that no plausible alternative</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> No plausible baseline scenario has been excluded.</p> <p><input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been</p>	/PDD1/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>scenario has been excluded.</i>	provided for elimination. The following CARs / CLs have been issued:			
<p>B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources?</p> <p>(EB 55 Annex 1, §§ 84–86(a)–(c))</p> <p><i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>	<p><input checked="" type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.</p> <p><input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p>	/PDD1/ /ACM000 2/	OK	OK
<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?</p> <p>(EB 55 Annex 1, §§ 85, 87(d))</p> <p><i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p><i>Description:</i> The VT has assessed all the relevant national and/or sectoral policies, macro-economic trends and political aspirations as prescribed by the annex 3 of EB 22 and thus concludes that the chosen baseline scenario is in accordance with all the relevant national and/or sectoral policies, macro-economic trends and political aspirations which are applicable as per the EB 22 annex 3. Moreover the chosen baseline scenario is in line with the prescription of applied methodology.</p> <p><i>Justification of evidences:</i> VT has done the background reasearch to take into account the relevant national and/or sectoral policies, macro-economic trends and political aspirations.</p> <p><i>Conclusion:</i> The baseline scenario sufficiently takes into account relevant national and/or sectoral policies, macro-economic trends</p>	/PDD1/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	and political aspirations and thus project complies with the requirements.			
<p>B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?</p> <p>(EB 55 Annex 1, § 87(a)–(c))</p> <p><i>Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.</i></p>	<p><i>Description:</i> The baseline scenario determination is assessed against the methodological requirements and with the available data and other literature available and found in line with applied methodology, appropriate for the project type and compatible with the available data. Moreover the used literature and sources e.g. CEA (central electricity authority) user guide and database are clearly referenced and correctly interpreted. The baseline emission is based on the data from latest CEA data base and user guide available at the time of web hosting. VT has also checked the baseline estimation and scenario determination against the same and found appropriate.</p> <p><i>Justification of evidences:</i> The CEA database and user guide are publically available documents and issued by government of India and thus considered authentic by the VT. Moreover VT has done the thorough desk review to check whether any reference or data used for baseline determination is not indicated.</p> <p><i>Conclusion:</i> The baseline scenario determination is fulfilling the</p>	/PDD1/ /CEA/ /ACM000 2/	CAR B2	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	requirements of para. 86 (a) - (c). However finding B2 had to be raised and successfully closed.			
B.3.9. Does the PDD contain a <i>verifiable</i> description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity. (EB 55 Annex 1, § 86)	<p><i>Description:</i> Prior to the project activity the electricity was imported by the regional grids i.e. western regional grid and southern regional grid. Thus it is clear that in the absence of proposed project activity electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources and since same scenario is taken as baseline for the proposed project activity, it is verified and appropriate for the type of project activity. A clear description of baseline scenario has been described in final PDD section B.4. Moreover Pl. refer to B.2.1</p> <p><i>Justification of evidences:</i> The CEA data base and user guide are publicly available documents and issued by government of India and thus considered authentic by the VT.</p> <p><i>Conclusion:</i> PDD contains a verifiable description of the baseline scenario. PDD also refers to CEA data which clearly indicates that baseline chosen is appropriate.</p>	/PDD1/ /CEA/ /ACM000 2/	OK	OK
B.4. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>				
B.4.1. Methodology				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>(EB 55 Annex 1, §§ 67(d), 94–95)</p> <p><i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	<p><i>Description:</i> PDD describes in section B.5 that proposed project would have not been implemented in the absence of CDM benefit. The description follows the guidance provided in the tool for the demonstration and assessment of additionality referred by the applied methodology.</p> <p><i>Justification of evidences:</i> PDD has been assessed against the requirements of methodology and tools referred therein.</p> <p><i>Conclusion:</i> PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>However consolidated findings B3, B4, B5 and B6 were raised and successfully closed during the course of validation.</p>	/PDD1/ /ACM000 2/ /AT/	CAR B3, CL B4, CL B5 and CAR B6	OK
B.4.2. Consideration of CDM before project start				
<p>B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?</p> <p>(EB 55 Annex 1, § 104(a))</p> <p><i>Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will</i></p>	<p><i>Description:</i> The starting date of project is 2006-11-07, which is the date of first purchase order^{/SD/} placed for 4 Nos. of WTG's in the state of Maharashtra. The DOE has assessed the chronology of the proposed project as mentioned in the section B.5 of final PDD through the desk review and document check and found that the mentioned start date i.e. 2006-11-07 is the date on which PP has first committed expenditures towards proposed project and thus it is starting date for this project as per definition of starting date provided in CDM glossary of terms and VVM para 103.</p>	/PDD1/ /SD/ /PO/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>begin.</i></p> <p><i>Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity.</i></p>	<p><i>Justification of evidences:</i> The copy of purchase order^{/PO/} has been crosschecked by the original purchase order.</p> <p><i>Conclusion:</i> The project starting date reported in the PDD section C.1.1 is in accordance with the CDM glossary of terms.</p>			
<p>B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status?</p> <p>(EB 55 Annex 1, §§ 99–101)</p> <p><i>Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the CDM was not seriously considered.</i></p>	<p><i>Description:</i> The project start date is prior to 2nd August 2008. Pl. refer to B.3.2.1.</p>	/SD/	OK	OK
<p>B.4.2.3. In case the project start date is before commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD?</p> <p>(EB 55 Annex 1, §§ 100, 102)</p> <p><i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p><i>Description:</i> DOE has carried out the document review. The CDM incentive for the proposed project is considered on 2006-10-28 in a board meeting held among the board of directors. The board resolution has been provided to the validation team by the PP and same reflects that the PP has considered seriously CDM benefits for the project prior to the project starting date. The group GNA was also aware about the CDM revenue as they were one of the PP in the registered CDM project (ref no- 0986). The project (ref no 0986) was under the validation process at the time of CDM consideration for the current proposed project activity. PDD has also been checked and found having description of CDM consideration prior to starting date sufficiently in section B.5.</p>	/PDD1/ /MD/ /SD/ /PO/ /unfccc/ /VVM /	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>As per para. 99 of the VVM, the proposed project is existing project activity and thus in light of para 101 of the VVM, the PP has described that how CDM was seriously considered for the proposed project and provided the chronology which clearly reflects that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, which further indicate that how critical is CDM benefit for the feasibility of proposed project.</p> <p><i>Justification of evidences:</i> The original board resolution extract is checked. All other dates including start date mentioned in the chronology are crosschecked with the supportive documents and authenticity of the same were verified by checking the original docs in GNA corporate office.</p> <p><i>Conclusion:</i> The CDM benefits have been seriously considered prior to start date of project and same is adequately described in the final PDD.</p>			
<p>B.4.2.4. How and when was the decision to proceed with the project taken? <i>Describe the steps taken to validate the starting date.</i></p>	<p><i>Description:</i> The decision to proceed with the project was taken on 2006-10-28 in a board meeting. Please also refer to B.3.2.1 and B.3.2.1.</p> <p><i>Justification of evidences:</i> Original extract of board resolution and first purchase order^(SD) has been checked and verified by the VT.</p> <p><i>Conclusion:</i> The prior consideration of CDM and starting date of project activity is complying to the requirements.</p>	/MD/ /SD/	OK	OK
<p>B.4.2.5. Is the project start date consistent with the</p>	<p><i>Description:</i> Pl. also refer to B.3.2.1 and B.3.2.1.</p>	/PDD2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>available evidences? (EB 55 Annex 1, § 102)</p> <p><i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p><i>Justification of evidences:</i> The original board resolution extract is checked. All other dates including start date mentioned in the chronology are crosschecked with the supportive documents and authenticity of the same were verified by checking the original docs in GNA corporate office.</p> <p><i>Conclusion:</i> The project start date is consistent with the available evidences.</p>	<p>/MD/ /SD/ /PO/</p>		
<p>B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so? (EB 55 Annex 1, § 102(a))</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> The decision to proceed with the project was taken by the board of directors of GNA (HUF). The board of directors have the full authority to take such kind of decision, which has also been verified by the annual reports of GNA group.</p> <p><i>Justification of evidences:</i> Annual reports are publically available documents.</p> <p><i>Conclusion:</i> The decision has been taken by the authorised person as per EB 55 Annex 1, §100(a)</p>	/CD/	OK	OK
<p>B.4.2.7. How was the CDM involved in the decision making process? (EB 55 Annex 1, § 102)</p> <p><i>Describe why CDM was a decisive factor in the decision making process.</i></p>	<p><i>Description:</i> CDM was a decisive factor in the decision making process as reflected by the board resolution. Moreover Pl. refer to B.3.2.3.</p> <p><i>Justification of evidences:</i> The original board resolution extract is checked.</p> <p><i>Conclusion:</i> CDM benefit was decisive factor for decision to go ahead with the project implementation.</p>	/MD/	OK	OK
<p>B.4.2.8. Do the evidences provided doubtlessly</p>	<p><i>Description:</i> DOE has assessed the chronology of proposed project and found that there is less than 2 years of gap between</p>	/SD/	CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>prove that continuous and real actions were taken in order to secure the CDM status?</p> <p>(EB 55 Annex 1, § 102; EB 49 Annex 22 § 7)</p>	<p>documented evidences provided to show that continuing real actions were taken to secure the CDM in parallel to implementation of proposed project. Moreover Pl. refer to B.3.2.3.</p> <p><i>Justification of evidences:</i> All other dates including start date mentioned in the chronology are crosschecked with the supportive documents and authenticity of the same were verified by checking the original docs in GNA corporate office.</p> <p><i>Conclusion:</i> The evidences provided prove that continuous and real actions were taken in order to secure the CDM status.</p> <p>However Please refer to finding B6.</p>	<p>/PO/ /MD/ /CD/</p>	B6	
<p>B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete?</p> <p>(EB 49 Annex 22 § 8)</p>	<p><i>Description:</i> The gap of documented evidences to secure the CDM status is less than 2 years. Please refer to B.3.2.8</p>	/CD/	OK	OK
<p>B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM?</p> <p>(EB 62 Annex 5, § 7)</p> <p><i>Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.</i></p>	<p>Implementation of the project did not cease after its commencement.</p>	<p>/CD/ /PDD1/</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.2.11. Can the CDM involvement in the decision assessed as serious?</p> <p>(EB 55 Annex 1, § 104(b)–(c))</p> <p><i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i></p>	<p><i>Description:</i> Please refer to B.3.2.3 and B.3.2.7.</p> <p><i>Justification of evidences:</i> Please refer to B.3.2.3 and B.3.2.7.</p> <p><i>Conclusion:</i> The proposed project activity complies to the requirements of EB 49 annex 22.</p>	<p>/CD/ /MD/ /SD/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2 if appropriate)</p>				
<p>B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?</p> <p>(EB 55 Annex 1, §§ 105–107)</p> <p><i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i></p>	<p><i>Description:</i> Yes, as described in the PDD section B.5, the status-quo situation i.e. project not undertaken as a CDM project is taken in list of alternatives.</p> <p>The alternatives stated in the PDD section B.5 are</p> <ol style="list-style-type: none"> 1. The proposed project activity not undertaken as a CDM project activity 2. Continuation of the current situation. <p>In the context of proposed project activity the list of alternatives are complete.</p> <p><i>Justification of evidences:</i> Section B.5 of the PDD has been assessed.</p> <p><i>Conclusion:</i> The list of alternatives is complete.</p>	<p>/PDD1/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.3.2. Have all realistic alternatives been identified to the project?</p>	<p><i>Description:</i> All the alternatives considered are realistic in the context of the proposed project. Moreover Pl. refer B.3.3.1.</p>	<p>/PDD1/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 105–107) <i>Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.</i>	<i>Justification of evidences:</i> Section B.5 of the PDD has been assessed. <i>Conclusion:</i> The list of alternatives is complete and realistic.			
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) <i>Describe the steps taken to validate this issue. Refer to the legislations.</i>	<i>Description:</i> the validation team has thoroughly assessed the enforced legislations and found that both alternatives comply with the legislations. <i>Justification of evidences:</i> Section B.5 of the PDD has been assessed. <i>Conclusion:</i> Both alternatives comply the enforced legislations.	/PDD1/	OK	OK
B.4.4. Investment analysis Step 2 <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additional details of the calculation parameters..</i>				
B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs? (EB 55 Annex 1, § 108)	<i>Description:</i> The revised PDD demonstrate and substantiate that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs. The PP has carried out benchmark analysis to demonstrate the additionality. Moreover a detailed spreadsheet ^{✓IRR2/} has been provided to facilitate the calculation of benchmark and IRR. <i>Justification of evidence:</i> section B.5 of PDD is checked. <i>Conclusion:</i> PDD provide evidence that the project would not be the	/PDD1/ /IRR1/	CAR B3, CL B4, CL B5	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs.</p> <p>However Please refer to finding B3, B4 and B5.</p>			
<p>B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?</p> <p>(EB 55 Annex 1, § 108; EB 39 Annex 10)</p> <p><i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i></p>	<p>Description: The PP has carried out benchmark analysis to demonstrate the additionality. As per 16 of annex 58, EB 51, The benchmark approach is suited to circumstances where the baseline does not require investment or is outside the direct control of the project developer, i.e. cases where the choice of the developer is to invest or not to invest and same is case with proposed project activity and thus the benchmark analysis is appropriate for the proposed project.</p> <p>Justification of evidence: PDD has been assessed and PP was interviewed.</p> <p>Conclusion: Benchmark analysis is appropriate for the proposed project.</p>	<p>/PDD1/ /IRR1/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation?</p> <p>(EB 55 Annex 1, § 110; EB 51, Annex 58, §8)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p>Description: PP has provided the clear, viewable and unprotected spreadsheet^{/IRR2/} for investment analysis.</p> <p>Justification of evidences: Final IRR sheet has been assessed and found OK.</p>	<p>/IRR1/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> Final IRR sheet has no ambiguous and incorrect data or calculation.			
<p>B.4.4.4. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) <i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	<p><i>Description:</i> The chosen period for the investment analysis is equal to the technical life time (20 years) of the project activity i.e WTGs. However in accordance to the para. 4 of annex 58, EB 51 fair value of the land (as salvage value) has been taken as cash inflow at the end of the investment analysis period because the land was taken on lease.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 4 of annex 58, EB 51.</p>	/IRR1/ /TD/	OK	OK
<p>B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the <i>Tool to determine the remaining lifetime of equipment?</i></p> <p>(EB 50 Annex 15)</p>	<p><i>Description:</i> The technical life time of WTG has been substantiated by manufacturer's certificate. DOE has also applied the professional experience to assess the life time of WTGs and found appropriate.</p> <p><i>Justification of evidences:</i> The manufacturer's certificate is assessed and also the personnel from operation and maintenance department of manufacturer's company were interviewed.</p>	/TD/ /IM01/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> The technical life time of the WTG is appropriate.			
<p>B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)</p> <p><i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i></p>	<p><i>Description:</i> Since the period chosen for the investment analysis is equal to the technical life time of WTGs, no fair value has been accounted at the end of investment analysis period. Only land cost has been accounted as salvage value because land was taken on lease.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR2/} is in accordance to the para 4 of annex 58, EB 51.</p>	<p>/TD/ /IM01/ /IRR1/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)</p>	<p><i>Description:</i> Pl. refer to the B.3.4.6</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR2/} is in accordance to the para 4 of annex 58, EB 51.</p>	<p>/IRR1/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)</p>	<p><i>Description:</i> The WDV depreciation has been used for the income tax calculations. In net cash flows the depreciation has not been considered, this in turn is equivalent to add back depreciation to net profits.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 5</p>	<p>/IRR1/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	of annex 58, EB 51.			
<p>B.4.4.9. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)</p>	<p><i>Description:</i> The benchmark chosen is intended for post tax comparisons.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 5 of annex 58, EB 51.</p>	/IRR1/ /IT act/	OK	OK
<p>B.4.4.10. Were the input values used in the investment analysis valid and applicable at the time of the investment decision?</p> <p>(EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6)</p> <p><i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.</i></p>	<p><i>Description:</i> All the input values used in the investment analysis is valid and applicable at the time of the investment decision.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 6 of annex 58, EB 51.</p>	/IRR1/ /PDD1/ /annex3/	OK	OK
<p>B.4.4.11. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER?</p>	<p><i>Description:</i> PP had applied loan applications for proposed project activity mentioning the CUF for different states in respective loan application. Same CUF values have been considered for demonstration of additionality and ER calculation. Axis Bank and Saraswat bank have certified through the letter^{/CUF/} that in the application for loan GNA had mentioned the CUF equal to 23%, 20% and 26.5% for state of Gujarat, Maharashtra and Karnataka</p>	/PDD1/ /IRR1/ /CUF/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 48, Annex 11)	<p>respectively. The validation team has also applied professional experience to assess the CUF and found them conservative.</p> <p><i>Justification of evidences:</i> All the letters^{/CUF/} provided by the Banks are assessed and found genuine.</p> <p><i>Conclusion:</i> CUF values have been chosen conservative and are complying to the EB 48, Annex 11.</p>			
<p>B.4.4.12. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)</p>	<p><i>Description:</i> The cost of financing expenditure which are interest and loan repayments are only used for income tax calculations. These parameters are added back to the net profits. In other words these are not included in calculation of project IRR.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 9 of annex 58, EB 51.</p>	/IRR1/	OK	OK
<p>B.4.4.13. In cases where a post-tax benchmark is applied please ensure that actual interest payable is taken into account in the calculation of income tax.</p> <p>(EB 62 Annex 5, § 11)</p> <p><i>As per the guidance it is recommended to select a pre tax benchmark in order to Describe the steps taken in assessing this requirement.</i></p>	<p><i>Description:</i> The post tax benchmark has been applied and therefore actual interest has been taken into account in the calculation of income tax.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 11 of annex 58, EB 51.</p>	/IRR1/	OK	OK
<p>B.4.4.14. In case of equity IRR: Is the part of the investment costs, which is financed by</p>	<p><i>Description:</i> The project IRR has been chosen as financial indicator.</p>	/IRR1/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 10)				
<p>B.1.1.1. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?</p> <p>B.4.4.15.</p> (EB 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 15) <i>In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.</i>	<p><i>Description:</i> The benchmark chosen is WACC, which is appropriate when the project IRR is the financial indicator for the project and same is the case with the proposed project activity. The input values used for calculation of WACC were also checked and found appropriate. Thus the chosen benchmark is in accordance to the para 12 to 15 of annex 58, EB 51 and also in line with Annex 5 EB62.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 12 to 15 of annex 58, EB 51 and also in line with annex 5 EB62.</p>	/IRR1/	OK	OK
<p>B.4.4.16. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?</p> (EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 15) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i>	<p><i>Description:</i> The DOE has thoroughly assessed the provided benchmark spread sheet and thus DOE is of the opinion that no investment would be made at a rate of a lower return than the benchmark.</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 13</p>	/IRR1/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	to 15 of annex 58, EB 51 and EB 39, annex 10.			
<p>B.4.4.17. Is it ensured that the project cannot be developed by other developers than the PP?</p> <p>(EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14)</p> <p><i>Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.</i></p>	<p><i>Description:</i> The project can be developed by other developers apart from PP. And the benchmark, therefore, is based on publicly available data sources and does not include the subjective profitability expectations or risk profile of the project developer. This is in accordance to the para 13 of annex 58, EB 51</p> <p><i>Justification of evidences:</i> The provided IRR sheet has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 13 to 15 of annex 58, EB 51 and EB 39, annex 10.</p>	/IRR1/	OK	OK
<p>B.4.4.18. Was the benchmark consistently used in the past for similar projects with similar risks?</p> <p>(EB 55 Annex 1, § 112(c))</p>	<p><i>Description:</i> The PP has used WACC as a benchmark and not the company internal benchmark hence not applicable for this case..</p> <p><i>Justification of evidences:</i> TÜV NORD has applied professional experience to address this issue and found that the chosen benchmark is in regular practice for financial evaluation of wind turbine projects but this is not the internal benchmark of the company .</p> <p><i>Conclusion:</i> The benchmark chosen is appropriate for the type of proposed project.</p>	/IRR1/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.4.19. Does the PDD and related spreadsheets contain a sensitivity analysis and does the same contain variation of parameters which may vary throughout the project lifetime,</p> <p>(EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 17–18)</p> <p><i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i></p>	<p><i>Description:</i> Final PDD section B.5 and spread sheets contain a sensitivity analysis. Through the desk review and document check, it is found that sensitivity analysis is carried out from the variation in tariff rate, CUF, O&M cost and project cost. Out of them CUF and O&M cost may vary throughout the project life time.</p> <p><i>Justification of evidences:</i> The provided IRR sheet and sensitivity analysis has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 17 of annex 58, EB 51.</p>	<p>/IRR1/ /PDD1/</p>	<p>CAR B3, CL B4, CL B5 CAR B6</p>	<p>OK</p>
<p>B.4.4.20. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 17)</p>	<p><i>Description:</i> The variables CUF, project cost, tariff rate and O&M cost have been chosen for the sensitivity analysis. All the parameters constitute more than 20% of either total project revenue and total project cost. The calculations are assessed and found correct and appropriate.</p> <p><i>Justification of evidences:</i> The provided IRR sheet and sensitivity analysis has been assessed thoroughly and found complying to the accounting principles.</p> <p><i>Conclusion:</i> The provided sheet^{/IRR1/} is in accordance to the para 17 of annex 58, EB 51.</p>	<p>/IRR1/ /PDD1/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.21. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p>	<p><i>Description:</i> Pl. refer to B.3.4.20.</p> <p><i>Justification of evidences:</i> The provided IRR sheet and sensitivity analysis has been assessed thoroughly and found complying to the</p>	<p>/IRR1/ /PDD1/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 109; EB 62 Annex 5, § 17) <i>Describe whether those parameters are considered in the sensitivity analysis?</i>	accounting principles. <i>Conclusion:</i> The provided sheet ^{/IRR1/} is in accordance to the para 17 of annex 58, EB 51.			
B.4.4.22. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 18) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i>	<i>Description:</i> The range of variation is 10% for all the parameters and that is reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector. The DOE has assessed the range of variation for each parameter and found appropriate. <i>Justification of evidences:</i> The provided IRR sheet and sensitivity analysis has been assessed thoroughly and found complying to the accounting principles. <i>Conclusion:</i> The provided sheet ^{/IRR2/} is in accordance to the para 18 of annex 58, EB 51.	/IRR1/ /PDD1/	CAR B3	OK
B.4.5. Barrier analysis Step 3 or SSC additionality assessment				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (EB 55 Annex 1, §§ 115, 134, 137) <i>In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to</i>	There are no barrier described in revised PDD. The additionality is demonstrated via investment analysis.	-	-	-

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>EB 62 Annex 5.</i>				
<p>B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)?</p> <p>(EB 55 Annex 1, §§ 116, 134, 137)</p> <p><i>Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?</i></p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.4.5.3. Has the unavailability of means of finance for the project been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM?</p> <p>(EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)</p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real?</p> <p>(EB 55 Annex 1, § 116(a))</p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.4.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives?</p> <p>(EB 55 Annex 1, § 116(b))</p>	Pl. refer to B.3.5.1.	-	-	-

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real?</p> <p>(EB 50 Annex 13, § 4)</p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers?</p> <p>(EB 50 Annex 13, § 5)</p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated?</p> <p>(EB 50 Annex 13, § 7)</p> <p><i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate. .</i></p>	Pl. refer to B.3.5.1.	-	-	-
<p>B.1.1. Common practice analysis Step 4 (in case of SSC projects skip this step)</p>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.5.9. Is the defined region for the common practice analysis appropriate for the technology/industry type?</p> <p>(EB 55 Annex 1, § 120(a))</p> <p><i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.</i></p>	<p><i>Description:</i> The regions selected for the common practice analysis are Maharashtra, Gujarat, and Karnataka. The regions selected are appropriate for the technology i.e. wind power generation.</p> <p><i>Justification of evidences:</i> The PDD and Directory of Wind power - 2007 were checked and found to be satisfactory.</p> <p><i>Conclusion:</i> Region is correctly selected for the common practice analysis.</p>	<p>/PDD1/ /CP/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.5.10. To what extent similar projects have been undertaken in the relevant region?</p> <p>(EB 55 Annex 1, § 120(b))</p>	<p><i>Description:</i> Similar projects were taken in the relevant regions were seeking CDM benefits.</p> <p><i>Justification of evidences:</i> Directory Indian Wind power – 2007 and Power scenario at a glance of central electricity authority of September 2008 along with unfccc website were checked and found that the similar projects in all the three states are taken with CDM benefits only.</p> <p><i>Conclusion:</i> It is as per VVM version 1.2.</p>	<p>/PDD1/ /CP/ /unfccc/ /VVM/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.5.11. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?</p> <p>(EB 55 Annex 1, § 120(c))</p>	<p><i>Description:</i> Similar projects were taken in the relevant regions were seeking CDM benefits only and there are no key differences between the proposed project activity and ongoing projects.</p> <p><i>Justification of evidences:</i> Directory Indian Wind power – 2007 and Power scenario at a glance of central electricity authority of September 2008 along with unfccc website were checked and found that the similar projects in all the three states are taken with</p>	<p>/PDD1/ /CP/ /unfccc/ /VVM/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	CDM benefits only. <i>Conclusion:</i> It is as per VVM version 1.2.			
B.5. Ex-Ante Calculation of GHG Emission Reductions <i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i>				
<p>B.5.1. Are the equations applied correctly according to the applied approved methodology? (EB 55 Annex 1, §§ 67(c), 89–90, 92)</p> <p><i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</i></p>	<p><input checked="" type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology. <input type="checkbox"/> The following mistakes have been identified in this context:</p> <p><i>Justification of evidences:</i> The section B.6.1 has been assessed against the requirements of applied methodology and found correct.</p> <p><i>Conclusion:</i> The equations applied are correct and appropriate.</p> <p>However findings B7 and B8 were raised and successfully closed during the course of validation.</p>	/PDD1/ /EFT/	CAR B7, CAR B8	OK
<p>B.5.2. In case the methodology allows for different methodological choices, are the equations</p>	<p><i>Description:</i> All the equations used are as per the methodological choices and appropriate for the type of project activity (i.e. Wind power installation) and baseline chosen.</p>	/PDD1/ /ACM000	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<p><i>Justification of evidences:</i> The section B.6.1 has been assessed against the requirements of applied methodology and found correct.</p> <p><i>Conclusion:</i> The equations applied are correct and appropriate</p>	2/		
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	<p><i>Description:</i> Yes, all the parameters, equations particularly ex-ante fixed parameter i.e. emission factor of the connected grid are thoroughly checked and found derived based on conservative assumptions. There are no project emissions i.e. PE = 0</p> <p><i>Justification of evidences:</i> The section B.6 and B.7 of the PDD has been assessed against the applied methodology and tools referred therein.</p> <p><i>Conclusion:</i> All the assumptions used are conservative in nature.</p> <p>Pl. refer to the finding B7.</p>	/PDD1/ /ACM000 2/ /EFT/	CAR B7	OK
<p>B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology?</p>	<p><i>Description:</i> No. The DOE has assessed all the aspect of project implementation during site visit and desk review and thus found that the proposed project activity implementation does not lead to GHG emission within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology.</p>	/PDD1/ /ACM000 2/ /EFT/ /IM01/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 77)	<p><i>Justification of evidences:</i> The site visit observation has been assessed against the methodological requirements and tools referred therein.</p> <p><i>Conclusion:</i> All the possible sources of GHG emissions are assessed and accounted in the project description.</p>			
<p>B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions?</p> <p>(EB 48 Annex 11, §§ 1, 3–4)</p> <p><i>Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.</i></p>	<p><i>Description:</i> The plant load factor is different for different sites. All the CUF/PLF values are assessed and found complying to the EB48, annex 11. PP has applied for loan to the banks mentioning the CUF/PLF in application letter. Bank has provided the letter^{/CUF/} confirming the same CUF/PLF values had been provided with application of loan by the GNA. DOE has crosscheck the values and found consistent with what mentioned in the PDD^{/PDD2/} and accounted in ER and IRR^{/IRR2/} sheet. Pl. also refer to B.3.4.11.</p> <p><i>Justification:</i> The original letter from banks^{/CUF/} is verified by the validation team.</p> <p><i>Conclusion:</i> CUF value applied are complying to EB 48 Annex 11.</p> <p>However finding B9 was raised and sucessfully closed in the course of validation.</p>	<p>/CUF/ /PDD1/ /IRR1/</p>	<p>CAR B9</p>	<p>OK</p>
<p>B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?</p>	<p><i>Description:</i> All the parameters, equations particularly ex-ante fixed parameter i.e. emission factor of the connected grid are thoroughly checked and found derived based on conservetive assumptions. The emission factor is calculated based on the data from CEA version 04.</p> <p><i>Justification of evidences:</i> The section B.6 and B.7 of the PDD has</p>	<p>/PDD1/ /IRR1/ /CEA/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i>	been assessed against the applied methodology and tools referred therein. CEA data base is publically available data which is issued by government and thus considered authentic. <i>Conclusion:</i> All the assumptions used are correct and conservative in nature.			
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i>	<input checked="" type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. <input type="checkbox"/> The following mistakes have been identified in this context:	/PDD1/	OK	OK
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i> The DOE has covered all the aspect of project, assessed each source and sink relevant to the project activity. DOE has also carried out the site visit. Based on above assessment and site visit observations VT was of the opinion that emission reductions resulting from proposed project activity would be real, measurable and give long-term benefits related to the mitigation of climate change <i>Justification of evidences:</i> Whole the project description and ER calculations are assessed against the VVM, applied methodology and tools requirements. <i>Conclusion:</i> Emission reductions from proposed project will be real,	/PDD1/ /IRR1/ /VVM/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	measurable and give long-term benefits related to the mitigation of climate change.			
B.6. Monitoring of Emission Reductions <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? (EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i> <i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i> <i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i>	<i>Description:</i> By the desk review and site visit observations it is found that net export to the connected grid is being monitored in each state. The same is mentioned in the revised PDD in section B.7.1, which is in accordance to the applied methodology. <i>Justification of evidence:</i> The PDD section B.7 and monitoring plan is checked against the methodological requirements. <i>Conclusion:</i> All monitoring parameters are covered as per the applied methodology.	/PDD1/ /IM01/ /ACM000 2/	OK	OK
B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology? (EB 55 Annex 1, § 123(a)–(b), 124)	<i>Description:</i> The means of monitoring of the parameters are clearly and transparently described. The parameter EG_y , i.e. the net electricity exported to GETCO, MSEDCL and BESCO will be determined by using electricity exported and imported to/from the grid. TÜV NORD has assessed all the parameters and found them	/PDD1/ /ACM000 2/	CL B10, CAR B11, CAR B12	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>Assess whether the provided information for all parameters w.r.t.</i></p> <ul style="list-style-type: none"> a) <i>Label (name of the data / parameter)</i> b) <i>data unit</i> c) <i>description</i> d) <i>source of data</i> e) <i>measurement equipment / method / procedure</i> f) <i>monitoring frequency</i> g) <i>QA/QC procedures</i> <p><i>are appropriately described and in compliance with the requirements of the methodology..</i></p>	<p>described adequately in the PDD as per the requirement of methodology and PDD guidelines.</p> <p><i>Justification of evidences:</i> The monitoring plan is in line with Power purchase agreements^{/PPA/} between GNA and State Governments.</p> <p><i>Conclusion:</i> All the information for each monitoring parameter has been provided as required by the methodology and CDM-PDD guidelines.</p> <p>However finding B10, B11, B12 and B13 were raised and successfully closed thereafter during the course of validation.</p>		and CAR B13	
<p>B.6.3. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?</p> <p>(EB 55 Annex 1, §§ 123(b), 124)</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	<p><i>Description:</i> The equations described in section B.6.1 for ex-post emission reductions are complete and in line with the methodological requirements. Moreover equations are framed in accordance with the monitoring plan implemented at the site locations.</p> <p><i>Justification of evidences:</i> The DOE has verified the monitoring plan during site visit and also assessed the suitability of equations against the monitoring plan and methodological requirements.</p> <p><i>Conclusion:</i> The equation used are appropriate and in line with implemented monitoring plan and methodology used.</p>	/PDD1/ /IM01/ /ACM000 2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.6.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity?</p> <p>(EB 55 Annex 1, § 124(c))</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p><i>Description:</i> Commissioning of all the WEGs have been completed by 31 May 2008 and DOE has visited the site from 11 February 2009 to 15 February 2009. All the WEGs were working at the time of site visit. Thus DOE has verified the implemented monitoring plan and found same as described in the PDD^{/PDD2/}.</p> <p><i>Justification of evidences:</i> The implemented monitoring plan was physically verified by the DOE.</p> <p><i>Conclusion:</i> Monitoring plan arrangements are same as described in the PDD^{/PDD2/}.</p>	/PDD1/	OK	OK
<p>B.6.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?</p> <p>(EB 55 Annex 1, § 124(b))</p> <p><i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p><i>Description:</i> The QA/QC procedures are identified at the site visit by the DOE and same is described in the final PDD in section B.7.1 and B.7.2. The QA/QC procedures described are in accordance to common industry practice and the power purchase agreements between GNA and power purchase agreements of respective state authority. Moreover annual calibration of all the meters would be carried out. O&M of Wind turbines will be taken care by Suzlon and RRB Vestas respectively. The meters located at the transformer yard, being of accuracy class 0.2, are going to be calibrated on an annual basis. This has been verified against the recommendations for determining the project boundary, leakage, baseline and monitoring.</p> <p><i>Justification of evidence:</i> The QA/QC procedures are verified during site visit by the DOE and assessed against the methodology, PDD and PPA requirements.</p> <p><i>Conclusion:</i> DOE has come to the conclusion that QA/QC procedures are appropriate and sufficient and thereby it will ensure that emission reductions achieved from the project activity can be reported ex-post and verified by the verifying DOE.</p>	/PDD1/ /IM01/ /PPA/	CL B10 and CAR B13	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Pl. also refer to finding B10 and B13.			
<p>B.6.6. Are procedures identified for data management?</p> <p>(EB 55 Annex 1, § 124(b))</p> <p><i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i></p>	<p><i>Description:</i> PDD section B.7.2 has addressed the data management, storage and further confirms that data archiving will be 2 years after the end of crediting period.</p> <p><i>Justification of evidences:</i> Same has been cross checked during the site visit.</p> <p><i>Conclusion:</i> The procedures for data management are found sufficient and appropriate.</p>	/PDD1/ /IM01/	OK	OK
<p>C. Duration of the Project/ Crediting Period</p> <p><i>It is assessed whether the temporary boundaries of the project are clearly defined.</i></p>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>C.1. Is the project's starting date clearly defined and evidenced?</p> <p>(EB 55 Annex 1, § 99)</p> <p><i>Check whether the starting date is correct. Apply the definition of the project starting date as per the "Glossary of CDM terms".</i></p>	<p><i>Description:</i> The starting date for the proposed project activity is that when the purchase order for the first set of wind mills for Maharashtra was placed by Gangadhar Narsingdas Agrawal (GNA) (India) on 7th Nov 2006. Since this is the earliest date on which PP has committed finance towards proposed project activity therefore it is taken as start date of project activity.</p> <p><i>Justification of evidences:</i> The date has been cross checked with purchase order^{PO/SD/}.</p> <p><i>Conclusion:</i> The above consideration for the starting date of the proposed project activity depicts the financial closure and hence complies with the definition provided in CDM glossary of terms, ver.05.</p>	/PDD1/ /SD/ / PO/	OK	OK
<p>C.2. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p><i>Description:</i> The technical life time of WTG has been substantiated by manufacturer's certificate. DOE has also applied the professional experience to assess the life time of WTGs and found appropriate.</p> <p><i>Justification of evidences:</i> The manufacturer's certificate is assessed and also the personnel from operation and maintenance department of manufacturer's company were interviewed.</p> <p><i>Conclusion:</i> Project activity complies with the requirement.</p>	/PDD1/ /TD/	OK	OK
<p>C.3. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p><i>Description:</i> Yes, the start date of crediting period is 01st December 2011 or date of request for registration, whichever be later, which is appropriate and reasonable.</p> <p><i>Justification of evidences:</i> Yes the validation and registration time have been considered while assessing this project activity.</p>	/PDD1/	CAR C1	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> Project activity complies with the requirement. However finding C1 had to be raised and successfully closed during the course of validation.			
D. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) <i>Check the host party regulations, regarding EIA.</i>	<i>Description:</i> No. there is no host party requirements for EIA for wind energy projects in India. <i>Justification of evidences:</i> Same has been cross checked with notification S.O. 1533, 14th September 2006. <i>Conclusion:</i> Project activity complies with the requirement.	/PDD1/ /EIA/	OK	OK
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 55 Annex 1, §§ 131–133) <i>Check the EIA and its approval, if applicable.</i>	<i>Description:</i> Pl. refer to D.1.1.	/PDD1/ /EIA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation?</p> <p>(EB 55 Annex 1, §§ 130–132) <i>Check the PDD (section D). Check whether the project will create any adverse environmental effects.</i> <i>Check the relevant national environmental legislation.</i></p>	<p>Pl. refer to D.1.1. Moreover DOE has assessed the project design and found that project will not create any adverse effect on environment.</p>	<p>/PDD1/ /EIA/</p>	<p>OK</p>	<p>OK</p>
<p>D.1.4. Are transboundary environmental impacts considered in the analysis?</p> <p>(EB 55 Annex 1, §§ 131–133) <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i></p>	<p><i>Description:</i> There are no transboundary environmental impacts as assessed by the DOE. Moreover Pl. refer to D.1.1</p> <p><i>Justification of evidences:</i> Based on site visit observations and dsk review conclusions.</p> <p><i>Conclusion:</i> Project complies to the requirments.</p>	<p>/PDD1/ /EIA/</p>	<p>OK</p>	<p>OK</p>
<p>E. Stakeholder Comments</p> <p><i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i></p>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p>(EB 55 Annex 1, § 128)</p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p><i>Description:</i> Yes, relevant stakeholder groups (local villagers, Local Government authorities) have been consulted^{/LSC/} prior to publication of PDD for GSP.</p> <p><i>Justification of evidences:</i> Same has been cross checked during the site visit by interacting some of the Local stake holders.</p> <p><i>Conclusion:</i> Project activity complies with the requirement of the EB 55 Annex 1.</p>	<p>/PDD1/ (E.1) /LSC/ /IM03/</p>	<p>OK</p>	<p>OK</p>
<p>E.2. Can the local stakeholder consultation process be assessed as adequate?</p> <p>(EB 55 Annex 1, § 129(a)–(c))</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	<p><i>Description:</i> Yes, stakeholder consultation process is assessed during validation procedure. PP has provided all relevant documents for assessment. Moreover during site visit DOE personnel have also taken interview of involved stakeholders. No adverse comment has been received. As assessed stakeholder consultation meeting was found to be adequate</p> <p><i>Justification of evidences:</i> The adequacy of the stakeholder consultation process is crosschecked with the interview of stakeholders and by the submitted proofs.</p> <p><i>Conclusion:</i> Project activity complies with the requirement of the VVM .</p>	<p>/PDD1/ /LSC/ /IM03/</p>	<p>OK</p>	<p>OK</p>

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

<input type="checkbox"/>	Baseline is not identified
<input checked="" type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
Grid is identified as baseline	<input checked="" type="checkbox"/>	<input type="checkbox"/>		ACM0002	<input type="checkbox"/>	The baseline is taken as grid which is as per methodology ACM0002. Hence accepted by validation team.
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		-	<input checked="" type="checkbox"/>	

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113,)

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page))	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Maharashtra						
Project Cost	350.4	Million Rupees	Purchase Orders and offer letters to WTG suppliers.	/PO/ /OL/	<input checked="" type="checkbox"/>	The project cost is based on purchase order and subsequently confirmed by offer letters dated 15 th September 2006, copies of which have been submitted to validation team. The actual value is conservative from the offer letters. The input parameter is considered correct, conservative and appropriate and sourced from purchase order. Hence accepted by the validation team.
O & M Cost per WTG per annum for first 2 years	0	Million Rupees	Purchase Orders to WTG suppliers	/PO/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement mentioned in PO. As the costs are based on offer letter and confirmed by O&M agreement, the input parameters are considered correct and appropriate.
O & M Cost per WTG per annum from 3 rd to 8 th year	1.40	Million Rupees	Purchase order from WTG supplier and Offer letters	/PO/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement mentioned in PO. As the costs are confirmed by O&M agreement, the input parameters are considered correct and appropriate. The offer letter mentions that from 6 th year the costs will be mutually agreed but the PO costs were taken as this was the cost were accepted by the Supplier of the wind turbine as per the countersigned POs checked by the validation team hence accepted. First PO date for Maharashtra and offer letter dates for

						suzlon are having less than 2 months which is very less time and also the O& M cost even if removed fully then also the project is additional hence accepted by the validation team.
O & M Cost per annum	5	%	Purchase Orders to WTG suppliers	/PO/	<input checked="" type="checkbox"/>	5% escalation is confirmed by the purchase order and the O&M agreement mentioned in PO. This is a conservative value compared with the submitted evidence and thus acceptable to the validation team. As the costs are confirmed by O&M agreement, the input parameters are considered correct and appropriate.
Tariff	3.50	Rs/KWh	Power Purchase Agreement (PPA) with Maharashtra State Electricity Distribution Company Limited (MSEDCL) and tariff order	/PPA/ And tariff order	<input checked="" type="checkbox"/>	Tariff is based on the Tariff Order and also confirmed by the PPA signed subsequently. As per the earlier and latest orders, the project is entitled to a tariff of Rs.3.50/kWh only. TÜV NORD checked the orders and PPA and found the input value to be correct and appropriate.
Escalation in tariff each succeeding year	0.15	Rs	Power Purchase Agreement (PPA) with Maharashtra State Electricity Distribution Company Limited (MSEDCL) and tariff order	/PPA/ and tariff order	<input checked="" type="checkbox"/>	Tariff escalation is based on the Tariff Order and also confirmed by the PPA signed subsequently. As per the earlier and latest orders, the project is entitled to a tariff escalation of Rs.0.15/kWh only. Validation team checked the orders and PPA and found the input value to be correct and appropriate.
Refund of Power evacuation charges	0.15	Rs. In million	Power Purchase Agreement (PPA) with Maharashtra State Electricity Distribution Company Limited (MSEDCL)	/PPA/	<input checked="" type="checkbox"/>	Power evacuation charges are refunded in 5 equal installments in 5 years from the start date of operation by MSEDCL as confirmed by the PPA signed. TÜV NORD checked the PPA and found that this is mentioned in section 7.03 of PPA and hence accepted by validation team. This was checked from the initial charges paid by the project proponent.
Insurance per WTG	0.095	Rs. In million	Insurance premium	/INS/	<input checked="" type="checkbox"/>	Insurance cost is based on the enquiry by the project developer with insurance companies,, which the validation team accepted based on its sectoral and local expertise; the project developer had also evidenced the insurance premium paid subsequently through insurance premium receipts. Insurance premium is not a critical parameter in that the project would remain additional even

						if the insurance cost is totally removed.
Interest rate on term loan	12	%	Loan documents with The Saraswat Co-operative Bank	/ADD-7/	<input checked="" type="checkbox"/>	Interest is based on loan sanction letter and subsequent clarification issued by the bank. The bank had sanctioned the loan at 12% interest. Since the actual interest payable by the project activity is taken into consideration, this is in conformity with guidance 11 of Annex 58, EB 51 ⁹ . Hence, the calculations are conservative.
Loan Repayment period	72	Months	Loan documents with The Saraswat Co-operative Bank	/ADD-4,5/	<input checked="" type="checkbox"/>	Repayment period is based on the sanction letter, which has been verified by the validation team. The loan sanction letter provides for repayment in 72 months. The period is correct and appropriate and has been reckoned properly in the financial indicator calculation.
CUF	20.0	%	Letter from Bank dated 11-09-2009.	/ADD-12/	<input checked="" type="checkbox"/>	The project is financed by the Saraswat Co-operative Bank. The Bank has issued a letter confirming that the PLF/CUF of 20% has been considered while assessing the application and sanctioning the loan. Hence, it conforms to Annex 11 of EB 48. Therefore, validation team is convinced that the value applied is correct, conservative and appropriate for the project.
Karnataka						
Project Cost	644.8	Million Rupees	Purchase Orders and offer letters to WTG suppliers.	/PO/ /OL/	<input checked="" type="checkbox"/>	The project cost is confirmed by purchase orders, and offer letters copies of which have been submitted to the validation team. The input parameter is considered correct and appropriate.
O & M Cost per WTG for initial year	0	Million Rupees	Purchase Orders to WTG supplier	/PO/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement mentioned in PO. As the costs are based on offer letter and confirmed by O&M agreement, the input parameters are considered correct and appropriate. This is zero for first year and starts from 2 nd year onwards.
O&M cost per year per WTG for 2 nd to	1.55	Million Rupees	Purchase Orders to WTG supplier	/PO/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement mentioned in PO. As the costs are confirmed by O&M

⁹ Guidance 11 of annex 58, EB 51 states, "In cases where a post-tax benchmark is applied the DOE shall ensure that actual interest payable is taken into account in the calculation of income tax"

6 th year						agreement, the input parameters are considered correct and appropriate.
O&M cost escalation from 3 rd year	5	%	Purchase Orders to WTG supplier	/PO/	<input checked="" type="checkbox"/>	5% escalation is confirmed by the purchase order and the O&M agreement mentioned in PO. As the costs are confirmed by O&M agreement, the input parameters are considered correct and appropriate.
Tariff	3.40	Rs/KWh	Power Purchase Agreement (PPA) with BESCOM	/PPA/	<input checked="" type="checkbox"/>	Tariff is based on the Tariff Order and also confirmed by the PPA signed subsequently. As per the earlier and latest orders, the project is entitled to a tariff of Rs.3.40/kWh only. Validation checked the orders and PPA and found the input value to be correct and appropriate.
Escalation in tariff	0.0	Rs/KWh	Power Purchase Agreement (PPA) with BESCOM	/PPA/	<input checked="" type="checkbox"/>	There is no Tariff escalation. This is confirmed by the PPA signed subsequently. Validation team checked the orders and PPA and found the input value to be correct and appropriate.
Interest rate on term loan	12	%	Loan documents with The Saraswat Co-operative Bank	/ADD-8/	<input checked="" type="checkbox"/>	Interest is based on loan sanction letter and subsequent clarification issued by the bank. The bank had sanctioned the loan at 12% interest. Since the actual interest payable by the project activity is taken into consideration, this is in conformity with guidance 11 of Annex 58, EB 51 ¹⁰ . Hence, the calculations are conservative.
Loan Repayment period	72	Month	Loan documents with The Saraswat Co-operative Bank	/ADD-4,5/	<input checked="" type="checkbox"/>	Repayment period is based on the sanction letter, which has been verified by the validation team. The loan sanction letter provides for repayment in 72 months. The period is correct and appropriate and has been reckoned properly in the financial indicator calculation.
Insurance per WTG	0.057	Rs. In million	Insurance premium	/INS/	<input checked="" type="checkbox"/>	Insurance cost is based on the enquiry by the project developer with insurance companies,, which the validation team accepted based on its sectoral and local expertise; the project developer had also evidenced the insurance premium paid subsequently through insurance premium receipts. Insurance premium is not a critical parameter in that the project would remain additional even

¹⁰ Guidance 11 of annex 58, EB 51 states, "In cases where a post-tax benchmark is applied the DOE shall ensure that actual interest payable is taken into account in the calculation of income tax"

						if the insurance cost is totally removed.
CUF	26.5	%	Letter from Bank dated 11-09-2009	/ADD-12/	<input checked="" type="checkbox"/>	The project is financed by the Saraswat Co-operative Bank. The Bank has issued a letter confirming that the PLF of 26.5% has been considered while assessing the application and sanctioning the loan. Hence, it conforms to Annex 11 of EB 48. Therefore, validation team is convinced that the value applied is correct, conservative and appropriate for the project.
Auxiliary Consumption	0.5	%	KERC order ¹¹	/KERC/	<input checked="" type="checkbox"/>	Tariff order of KERC dated 18 th Jan 2005 was checked and found that 0.5% of auxiliary consumption is mentioned which is taken in the calculation by PP. This was found to be satisfactory, hence accepted by Validation team and found to be appropriate.
Gujarat						
Project Cost	465.0	Million Rupees	Purchase Orders to WTG supplier	/PO/	<input checked="" type="checkbox"/>	The project cost is confirmed by purchase orders, copies of which have been submitted to validation team. The input parameter is considered correct and appropriate.
O & M Cost for first 4 years	0	Million Rupees	Purchase Orders to WTG supplier	/PO/ /O&M/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement. As the costs are based on offer letter and confirmed by O&M agreement, the input parameters are considered correct and appropriate. This is zero for first four years.
O&M cost per WTG per annum from 5 th year	0.6	Million Rupees	Purchase Orders to WTG supplier	/PO/ /O&M/	<input checked="" type="checkbox"/>	O&M cost is confirmed by the purchase order and the O&M agreement. As the costs are confirmed by O&M agreement, the input parameters are considered correct and appropriate.
O&M cost escalation	5	%	Purchase Orders to WTG supplier	/PO/ /O&M/	<input checked="" type="checkbox"/>	5% escalation is confirmed by the purchase order and the O&M agreement. As the costs are confirmed by O&M agreement, the input parameters are considered correct and appropriate.
Tariff	3.37	Rs/KWh	Power Purchase Agreement (PPA) with Gujarat State Electricity Board	/PPA/	<input checked="" type="checkbox"/>	Tariff is based on the Tariff Order and also confirmed by the PPA signed subsequently. As per the earlier and latest orders, the project is entitled to a fixed tariff of Rs.3.37/kWh only. The Validation team checked the orders and PPA and found the input value to be correct and appropriate.

¹¹ Page No. 17, KERC tariff Order dated 18th Jan 2005; www.kerc.org/

Escalation in tariff	0	%	Power Purchase Agreement (PPA) with Gujarat State Electricity Board	/PPA/	<input checked="" type="checkbox"/>	There is no Tariff escalation. This is confirmed by the PPA signed subsequently. The validation team checked the orders and PPA and found the input value to be correct and appropriate.
Interest rate on term loan	12	%	Loan documents with Axis Bank	/ADD-9,10/	<input checked="" type="checkbox"/>	Interest is based on loan sanction letter and subsequent clarification issued by the bank. The bank had sanctioned the loan at 12% interest. Since the actual interest payable by the project activity is taken into consideration, this is in conformity with guidance 11 of Annex 58, EB 51 ¹² . This is also in line with EB62 annex 5. Hence, the calculations are conservative.
Loan Repayment period	84	Months	Loan Documents with Axis Bank	/ADD-2,3/	<input checked="" type="checkbox"/>	Repayment period is based on the sanction letter, which has been verified by the validation team. The loan sanction letter provides for repayment in 84 months. The period is correct and appropriate and has been reckoned properly in the financial indicator calculation.
Insurance per WTG	0.029	Rs. In million	Insurance premium	/INS/	<input checked="" type="checkbox"/>	Insurance cost is based on the enquiry by the project developer with insurance companies,, which the validation team accepted based on its sectoral and local expertise; the project developer had also evidenced the insurance premium paid subsequently through insurance premium receipts. Insurance premium is not a critical parameter in that the project would remain additional even if the insurance cost is totally removed.
CUF	23	%	Bank confirmation letter dated 11-09-2009	/ADD-13/	<input checked="" type="checkbox"/>	The project is financed by the Axis Bank. The Bank has issued a letter confirming that the PLF of 23% has been considered while assessing the application and sanctioning the loan. Hence, it conforms to Annex 11 of EB 48. Therefore, validation team is convinced that the value applied is correct, conservative and appropriate for the project.
Debt Rate (project specific)	12	%	Loan sanction letters	/ADD-9,10/	<input checked="" type="checkbox"/>	PP has taken loans from two Banks. The interest rates are 12% and 13%. Minimum of the two is considered which is conservative. This was verified from the loan sanction letters by the validation team.

¹² Guidance 11 of annex 58, EB 51 states, "In cases where a post-tax benchmark is applied the DOE shall ensure that actual interest payable is taken into account in the calculation of income tax"

Debt (project specific)	58.69	%	Loan sanction letters	/ADD-9,10/	<input checked="" type="checkbox"/>	This is the actual percentage of loan taken by the PP. This was cross verified by the VT by interviewing the PP and also checking the loan sanction letters.
Equity (project specific)	41.31	%	Calculated	/XLS2/	<input checked="" type="checkbox"/>	This is the actual percentage of equity which the PP has invested in the project. This was cross verified by interviewing the PP during the site visit by the validation team.
Tax rate (project specific)	33.66	%	HUF (No MAT Applicable)	/IT/	<input checked="" type="checkbox"/>	This is as per accepted accounting practice in India. This was cross verified from the Income tax act as well.
Beta value	0.87	-	Calculated from the Beta values of 7 companies	BFUL/ /NTPC/ /CESC/ /NLC/ /TATA/ /REL/ /GIPCL/	<input checked="" type="checkbox"/>	This is checked from the spreadsheet. Also the calculation values used from the seven companies were verified from the websites mentioned in the spreadsheet. The time frames chosen for calculation of beta values taken for benchmark computations were found to be correct and as per financial accounting principles. Hence accepted by validation team. The project specific values were taken for comparison with Generic values which were available at the time of investment decision, but the project specific values were not available at the time of investment decision. These were used for comparison purpose but as the WACC by Generic parameter is coming out to be 14.08 % and WACC by project specific parameters comes out to be 13.88 %. Hence these parameters used were available at the time of decision making as well. But the benchmark taken as conservative i.e. WACC Project specific i.e. 13.88%. The companies chosen were the power generation companies hence accepted by the validation team. This was also cross verified from the other registered projects mentioned on UNFCCC website.

Debt / equity ratio of:					
Reliance Infra	0,54			BFUL/	
CESC	0,52			/NTPC/	
GIPCL	0,65			/CESC/	
NLC	0,16	-	Calculated from the debt and equity of the particular companies	/NLC/	☒
NTPC	0,44			/TATA/	
TATA Power	0,50			/REL/	
BFUL	0,55			/GIPCL/	
Tax Rate of:					
Reliance Infra	5,92			/BFUL/	
CESC	8,44			/NTPC/	
GIPCL	33,33	%	Calculated from Profit before tax (PBT) and tax paid by the company	/CESC/	☒
NLC	24,36			/NLC/	
NTPC	17,63			/TATA/	
TATA Power	16,50			/REL/	
BFUL	0			/GIPCL/	
Equity Beta (Levered) of:					
Reliance Infra	0,68			/BFUL/	
CESC	1,51			/NTPC/	
GIPCL	1,41			/CESC/	
NLC	1,15	-	BSE sensex 500 and calculated based on the websites checked.)	/NLC/	☒
NTPC	0,77			/TATA/	
TATA Power	1,21			/REL/	
BFUL	1,82			/GIPCL/	
Asset Beta (Unlevered) of:					
Reliance Infra	0,45	-	Calculated by using the values of levered Beta, Debt equity ratio and Tax rate.	/BSE/	☒
				/XLS2/	

CECSC GIPCL NLC NTPC TATA Power BFUL	1,02 0,99 1,02 0,57 0,86 1,17					found to be satisfactory and hence accepted by validation team.
Market Return / CAGR	24.58	%	Calculated by using BSE 500 stock prices	/BSE/	<input checked="" type="checkbox"/>	This is checked from the spreadsheet. This is calculated by using the values of BSE 500. The values calculated in the spreadsheet were verified from the BSE500 values mentioned in spreadsheet. The timeframes chosen for calculating the CAGR and the beta values of the companies are based on the time when the companies were listed on BSE and data availability of respective indices on the BSE website. BSE 500 index is available from Feb-1999. Therefore for computation of CAGR data from immediate next financial year (starting from Apr 1999) till the financial year (2005-06) preceding investment decision is considered. Hence accepted by validation team.
Risk Free Return / Central Government's Market Loan	7.34	%	Reserve bank of india	/RBI/	<input checked="" type="checkbox"/>	This value is verified from the spreadsheet and website http://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/72295.pdf . This was found to be satisfactory hence accepted by validation team.
Risk Premium	17.2	%	Calculated by using BSE 500 stock prices & Reserve bank of india	/BSE/ /RBI/	<input checked="" type="checkbox"/>	This value is calculated by using the formula Market return – Risk free return. This is correctly calculated as checked from the spreadsheet. Both market return and risk free return values were also verified by the validation team as mentioned above. Hence accepted by validation team.
WACC Assuming Project Specific Parameters	13.88	%	Calculated	/XLS2/	<input checked="" type="checkbox"/>	The spreadsheet was checked and found to be satisfactory. This is chosen as benchmark as it is conservative compared to the WACC Assuming Generic Parameters.
Debt Rate (Generic Parameters)	11.9	%	Average of 5 bank debt rate	/PLR/	<input checked="" type="checkbox"/>	As PP was having the possibility of getting the loans from various banks the average rate taken from 5 different banks. This is acceptable as these are the leading banks of the country. This was also cross verified by VT from the reserve bank of india

						document. It is conservative Hence acceptable to the validation team.
Debt (Generic Parameters)	70.00	%	Accounting practice in host country	/CERC/	<input checked="" type="checkbox"/>	This is as per accepted accounting practice in India. This is also as per the tariff orders of the states in which project is installed. This was also cross verified by CERC guidelines as well by the validation team.
Equity (Generic Parameters)	30.00	%	central electricity regulatory commission	/CERC/	<input checked="" type="checkbox"/>	This is as per accepted accounting practice India. This is also as per the tariff orders of the states in which project is installed. This was also cross verified by CERC guidelines as well by the validation team.
Tax rate (Generic Parameters)	11.22	%	http://exim.indiamart.com/budget-2006-07/	/MAT/	<input checked="" type="checkbox"/>	The website mentioned was cross checked and this was also accepted by VT as the value was matching and it was cross verified by interviewing the PP during the site visit.
Plant Capacity	25.5	MW	First Purchase order (Placed for 4 Nos. of WTG's in the state of Maharashtra) dated 07/11/2006. Purchase order for WTG's in Gujarat dated 05/07/2007. Purchase order for WTG's in Karnataka dated 30/11/2007. Purchase order for WTG's in Gujarat dated 05/12/2007.	/PO/	<input checked="" type="checkbox"/>	The value is based on the purchase orders. The provided data source has been checked and the applied value was verified. The value is correct and appropriate for the project.
Tax holiday	10	Years	Income Tax Act	/IT/	<input checked="" type="checkbox"/>	As per Sec. 80IA of the Income Tax Act, infrastructure companies (under which the project activity falls) are entitled to claim tax holiday for any 10 consecutive years in the first 15 years of operation. Hence, the assumption and computation of tax liability are correct and appropriate.
Service Tax	12.24	%	Service tax rules	/FACT/	<input checked="" type="checkbox"/>	These were prevalent at the time of investment decision. This was verified from the finance act 1994 section 68(2).

Depreciation (IT)	80	Percent	Income Tax Rules	/IT/	<input checked="" type="checkbox"/>	Depreciation provided for computation of IT liability is based on the Income Tax rules. The rate has been verified and found to be correct
Salvage Value	0.090	Rs. In million	Assumption	...	<input checked="" type="checkbox"/>	Considering growth of Indian economy, manpower cost and other cost associated with the transportation of materials the scrap value of the project can be neglected which is otherwise offset by the decommissioning cost. Therefore the scrap value of the project is considered negligible and can be neglected but as per the financial expert the nominal value of 0.090 million rupees was taken in calculation so that it is in line with EB 62 Annex 5 guidelines, which was accepted by the validation team as well. Further, it needs to be highlighted that till date no WTGs have been decommissioned in India after 20 years of operation. Hence, no reference regarding WTG decommissioning in India could be provided and referenced.
Number of WTGs of 1.5MW	11	Nos	Assumption	PO	<input checked="" type="checkbox"/>	Total number of 1.5MW turbines installed at site are 11 in number. The total is 16.5 MW. This was verified from the purchase orders and commissioning certificates.
Number of WTGs of 0.6 MW	15	Nos	Assumption	PO	<input checked="" type="checkbox"/>	Total number of 0.6 MW turbines installed at site are 15 in number. The total is 9.0 MW. This was verified from the purchase orders and commissioning certificates
Project life	20	Years	Technical Specifications	/TS/	<input checked="" type="checkbox"/>	It is based on the information given by the machinery supplier on the technical life time of the equipment. Incidentally, this is also in conformity with the operating life given by Suzlon Energy. Documentary evidence submitted conforms to Annex 15, EB 50. Hence, the value considered by PP is correct and appropriate for the project activity.
WACC Assuming Generic Parameters	14.08	%	Calculated	/XLS2/	<input checked="" type="checkbox"/>	The spreadsheet was checked and found to be satisfactory. This is not chosen as benchmark.

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 55 Annex 1, §118)

<input checked="" type="checkbox"/>		No barrier parameters are used for additionality justification		
<input type="checkbox"/>		Assessment of barriers see below		
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

(§§ 40-42, VVM Version 1.2)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment ^{*)}	Action taken by the validation team to take due account on the comment ^{*)}	Conclusion (incl. CARs CLs or FARs)

^{*)} In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL

TÜV NORD Certification		
Statement of Competence		
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program		
Mr. Pankaj Mohan		
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2014-07-11
VCS	Senior Assessor (Validation, Verification)	2014-07-11
Authorization status for technical areas within sectoral scopes:		
CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	
1.2	Renewable energy	
2.1	Electricity distribution	
3.1	Energy demand	
4.1	Cement sector*	
4.5	Waste Heat Recovery*	
*valid for validation/verification assessments contracted prior to 2012-03-17.		
150 – Rev. 3, Date: 2011-10-28		
150_S01-F003_2011-10-28_rev3.doc		
S01-F003 rev1 / 2011-08-02		

TÜV NORD Certification		
Statement of Competence		
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program		
Mr. Archak Pattanaik		
SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2012-12-21
VCS	Lead Assessor	2012-12-21
Authorization status for technical areas within sectoral scopes:		
CODE	TECHNICAL AREA	
1.1	Thermal Energy Generation	
1.2	Renewable Energies	
4.3	Iron and Steel	
4.5	Waste Heat Recovery	
5.1	Chemical Process Industries	
9.1	Metal Production	
11.1	Chemical Process Industries	
12.1	Chemical Process Industries	
13.1	Waste handling and disposal	
072 – Rev. 1, Date: 2011-06-21		
072_S01-F003_2011-03-18_rev0		
S01-F003 rev0 / 2010-04-19		

TÜV NORD Certification		
Statement of Competence		
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program		
Mr. Abhishek Kumar Srivastava		
SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2014-02-06
VCS	Lead Assessor	2014-02-06
Authorization status for technical areas within sectoral scopes:		
CODE	TECHNICAL AREA	
1.2	Renewable Energies	
3.1	Energy demand	
13.1	Waste Handling and Disposal	
083 – Rev. 1, Date: 2011-06-28		
083_S01-F003_2011-06-28_rev1		
S01-F003 rev0 / 2010-04-19		

**Statement of Competence**Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program**Ms. Kiran D. Nayak**

SCHEME	STATUS	VALID UNTIL
CDM	Trainee	2014-11-20
VCS	Trainee	2014-11-20

289 – Rev. 0, Date: 2011-11-21

289_S01-F003_2011-11-21_rev0.doc

S01-F003 rev1 / 2011-08-02

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

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2014-02-01
VCS	Assessor	2014-02-01

158 – Rev. 0, Date: 2011-06-29

158_S01-F003_2011-06-29_rev0

S01-F003 rev0 / 2010-04-19

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

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2013-10-17
VCS	Lead Assessor Technical Reviewer	2013-10-17

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal

122 – Rev. 1, Date: 2011-08-08

122_S01-F003_2011-08-08_rev1

S01-F003 rev1 / 2011-08-02



Statement of Competence

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

Mr. Alexander Richter

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor Technical Reviewer	2014-03-13
VCS	Lead Assessor Technical Reviewer	2014-03-13

136 -- Rev. 1, Date: 2011-08-29