



# VALIDATION REPORT

## GOKUL REFOILS AND SOLVENT LIMITED

VALIDATION OF THE  
5 MW WIND POWER PROJECT BY GOKUL REFOILS  
AND SOLVENT LIMITED

REPORT No. INDIA-VAL/218.49/2011  
REVISION NO. 2

BUREAU VERITAS CERTIFICATION  
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## VALIDATION REPORT

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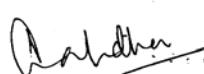
## Summary:

Bureau Veritas Certification has made the validation of the 5 MW Wind Power Project by Gokul Refoils and Solvent Limited project of Gokul Refoils and Solvent Limited located in Motisindholi village and Kadoli village in Abdasa Taluka in Kutch District of Gujarat in India on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology AMS IF version 1 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: INDIA-VAL/218.49/2010	Subject Group: CDM
Project title: 5 MW Wind Power Project by Gokul Refoils and Solvent Limited	
Work carried out by: R.S.Premkumar , Team Leader Naresh Badhwar, Team Member R Reghukumar, Team Member Shrikant Saraf – Technical Expert Sushil Budhia Associates – Financial Expert	
Work approved by:  H.B. Muralidhar, Internal Technical Reviewer  	
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## Indexing terms

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## Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CL	Clarification Request
CO <sub>2</sub>	Carbon Dioxide
DOE	Designated Operational Entity
GHG	Green House Gas(es)
I	Interview
INR	Indian Rupees
IETA	International Emissions Trading Association
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
VVM	Validation and Verification Manual

**TABLE OF CONTENTS**

	<b>Page no.</b>
1 INTRODUCTION	5
1.1 Objectives	5
1.2 Scope	5
1.3 Validation Team	5
2 METHODOLOGY	6
2.1 Review of Documents	7
2.2 Follow-up Interviews	7
2.3 Resolution of Clarification and Corrective Action Requests	8
2.4 Internal Quality Control	8
3 VALIDATION CONCLUSIONS	8
3.1 Approval (49-50)	9
3.2 Participation (54)	9
3.3 Project design document (57)	10
3.4 Changes in the project Activity	10
3.5 Project description (64)	11
3.6 Baseline and monitoring methodology	12
3.6.1 General Requirements (76-77)	12
3.6.2 Project boundary (80)	14
3.6.3 Baseline identification (87-88)	15
3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)	18
3.7 Additionality of a project activity (97)	19
3.7.1 Prior consideration of the clean development mechanism (104)	19
3.7.1.1 Historical information on project timeline	21
3.7.2 Identification of alternatives (107)	21
3.7.3 Investment analysis (114)	21
3.7.4 Barrier analysis (118)	34
3.7.5 Common practice analysis (121)	34
3.8 Monitoring plan (124)	34
3.9 Sustainable development (127)	36
3.10 Local stakeholder consultation (130)	36
3.11 Environmental impacts (133)	37
4 Comments by Parties, Stakeholders and NGO's	37
5 Validation Opinion	38
6 References	39
7 Curriculum Vitae of the DOE's Validation Team Members	44
Appendix A CDM Validation Protocol	46
Appendix B Explanation of how due account of comments was taken by the validation team	184

## 1 INTRODUCTION

Gokul Refoils and Solvent Limited has commissioned Bureau Veritas Certification to validate its CDM project "5 MW Wind Power Project by Gokul Refoils and Solvent Limited" (hereafter called "the project") at Motisindholi village and Kadoli village in Abdasa Taluka in Kutch District of Gujarat in India.

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

### 1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

### 1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

### 1.3 Validation team

The validation team consists of the following personnel:

R.S. Premkumar



VALIDATION REPORT

Bureau Veritas Certification Team Leader, Climate Change Verifier

Naresh Badhwar

Bureau Veritas Certification Climate Change Verifier

R Reghukumar

Bureau Veritas Certification Climate Change Verifier

Shrikant Saraf

Bureau Veritas Certification, Technical Expert

Sushil Budhia Associates

Practicing Chartered Accountant, Financial Expert

H.B. Muralidhar

Bureau Veritas Certification, Internal Technical reviewer

## 2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 1.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55<sup>th</sup> meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The completed validation protocol is enclosed in Appendix A to this report.

## 2.1 Review of Documents

The Project Design Document (PDD) submitted by Gokul Refoils and Solvent Limited and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests Gokul Refoils and Solvent Limited revised the PDD and resubmitted it on 2<sup>nd</sup> February 2011.

The validation findings presented in this report relate to the project as described in the PDD version 07.

## 2.2 Follow-up Interviews

From 25/02/2009 to 28/02/2009 Bureau Veritas Certification performed site visit and interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of M/s Gokul Refoils and Solvent Limited, M/s Verve Consulting Pvt Ltd., M/s Suzlon Infrastructure Services Limited and local villagers were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
Gokul Refoils and Solvent Limited	Project Design and implementation Technical Equipment and operation Compliance with National Laws and regulations. CDM consideration Benchmark Analysis Additionality
Verve Consulting Pvt Ltd	Baseline Determination Additionality Benchmark Analysis Monitoring Plan GHG Calculation Environmental Impacts
M/s Suzlon Infrastructure	Monitoring Plan

**VALIDATION REPORT**

Services Limited	
Local villager	Views and concerns about the project activity

### **2.3 Resolution of Clarification and Corrective Action Requests**

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

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

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

### **2.4 Internal Quality Control**

The validation report underwent a technical review before requesting registration of the project activity. The technical review was performed by a qualified technical reviewer.

## **3 VALIDATION CONCLUSIONS**

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 41 Corrective Action Requests (CARs) and 11 Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s,) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

### **3.1 Approval (49-50)**

India is the only party involved in the project activity at this stage and is the host party. Project participants M/s Gokul Refoils and Solvent Limited have obtained approval (Ref 30) from DNA of India. Project participants provided copy of this letter (Letter No: 4/5/2009-CCC dated 17th April 2009) to the validation team. A copy of office memorandum of Ministry of Environment and Forest, Climate Change Division, Government of India regarding meeting of National CDM Authority was also provided (Ref 29). The validation team confirmed the authenticity of the approval from the website of DNA of India\*. The website confirms approval by DNA under project ID no. 1393-08. The letter of approval clearly states that India has ratified the Kyoto Protocol and the approval is for voluntary participation in CDM project activity. The DNA approval letter refers to precise CDM project activity title as mentioned in the PDD. The project title stated in the letter of approval refer to the precise proposed CDM project activity title in the PDD being submitted for registration. Also, the letter of approval mentions that project contributes to sustainable development. The letter is unconditional with respect to party to the Kyoto Protocol, voluntary participation, contribution to sustainable development and title of project activity. The validation team confirms that this letter is in accordance with paragraphs 45 – 48 of VVM version 1.2.

### **3.2 Participation (54)**

The host party for this project is India. India has ratified the Kyoto Protocol on 26<sup>th</sup> Aug 2002. This was checked from UNFCCC website <http://maindb.unfccc.int/public/country.pl?country=IN>.

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\* [http://cdmindia.nic.in/cdm\\_india.htm](http://cdmindia.nic.in/cdm_india.htm)

The project design document has mentioned M/s Gokul Refoils and Solvent Limited as project participant and this participation is approved by DNA approval letter (Letter No: 4/5/2009-CCC dated 17th April 2009 - Ref 30) and is accepted. The participation for each project participant has been approved by a Party of the Kyoto Protocol. The validation team confirmed the authenticity of the approval from the website of DNA of India. The website confirms approval by DNA under project ID no. 1393-08. The letter of approval clearly states that India has ratified the Kyoto Protocol and the approval is for voluntary participation in CDM project activity. Also, the letter of approval mentions that project contributes to sustainable development.

### **3.3 Project design document (57)**

The pre-project scenario was not included in detail in section A.2 of the webhosted PDD and CAR 1 was raised. CAR 1 was closed after the details were added in revised PDD (Ref 1). Description in section A.2 was also corrected in response to CAR 2, which was raised since the description of some of the host country sustainable criteria were not correctly described. Host country name was corrected in response to CAR 3. Tools referred in methodology were not mentioned in section B1 of PDD and CAR 6 was raised. CAR 6 was closed after the tools referred in methodology were mentioned in revised PDD.

The validation team hereby confirms that the PDD complies with the latest forms and guidance documents for completion of PDD.

### **3.4 Changes in Project Activity**

There are no changes in the capacity of the project observed during site visit. The capacity of project observed during site visit is as mentioned in webhosted PDD. The total capacity of the project is 5 MW.

The PDD version 7 has following major changes with respect to initial version 1 which was webhosted initially.

1. Information in section A.2 has been updated and corrected
2. Latitude and longitude have been corrected
3. Project boundary has been corrected

## VALIDATION REPORT

4. The justification for the applicability condition no. 11, in line with the applied methodology, AMS IF, version 1 has been detailed in Section B.2.
5. Methodology has been changed to AMS IF ver 1
6. Detailed explanation regarding the basis for considering the input parameters in the investment analysis is now provided in Section B.5.
7. Barriers due to prevailing practice, technological barriers and other barriers have been removed.
8. CER estimates revised
9. Chronology of events further detailed
10. IRR calculations revised
11. Monitoring plan revised.

### **3.5 Project description (64)**

Bureau Veritas Certification recognizes the initiative of the Project Participant in helping country fulfill its goals of promoting sustainable development. The project activity involves installation of 4 no. of WEGs of 1.25 MW capacity each, in the state of Gujarat, India. The total capacity of the project is 5 MW. The wind mills are located at Motisindholi village and Kadoli village in Abdasa Taluka in Kutch District of Gujarat in India. The project proponent has an arrangement for wheeling the electrical power generated from the windmills to its industrial units under contractual agreement with Gujarat Energy Transmission Corporation Limited. The electricity is wheeled to the project participant's industrial units at Sidhpur Unit I, Sidhpur unit II and Gandhidham.

This project generates electricity using wind energy, which does not result in any greenhouse gas (GHG) emissions. Thus, this project will lead to a reduction in GHG emissions that would otherwise have occurred when using electricity generated from conventional fossil fuel based sources in the NEWNE regional grid.

Latitude and longitude were not correctly mentioned in webhosted PDD and CAR 4 was raised. CAR 4 was closed after correction were made in the revised PDD (Ref 1). Category name was not correctly mentioned in webhosted PDD and CAR 5 was raised. CAR 5 was closed after the category name was corrected in revised PDD.

In order to validate completeness and accuracy of project description, site visit was made from 25/02/2009 to 28/02/2009 in Kutch district of Gujarat

## VALIDATION REPORT

.and also to the plants where electricity is wheeled. The documents regarding commissioning of wind mills (Ref 19, Ref 20), wheeling and banking agreement (Ref 26, Ref 27) and other documents were reviewed. Based on site visits and document review, the validation team hereby confirms that the project description in PDD (Ref 1) is accurate and complete in all respects and that there are no changes to the project activity/design or boundary as compared to the webhosted PDD.

### **3.6 Baseline and monitoring methodology**

#### **3.6.1 General Requirements (76-77)**

The “5 MW Wind Power Project by Gokul Refoils and Solvent Limited” uses the approved methodology AMS IF Ver 1 (Ref 46).

The steps taken to assess the relevant information contained in the PDD against applicability conditions are described below.

1. Wheeling arrangements and grid connectivity was verified through the wheeling and banking agreement (Ref 26, Ref 27), and physical connection to the grid at sites. The project activity displaces grid electricity in the three units where it is wheeled. (The detailed description is provided in section 3.6.3 of this report).
2. The project activity involves wind mills alone and therefore is a renewable energy project.
3. The project activity is a Greenfield project of project participant.
4. There is neither non-renewable component added, nor co-firing is there for the project activity. The project is not a capacity addition project. The renewable project capacity is 5 MW, which is below the limit of 15 MW for small scale activities.
5. The location of windmills is in the state of Gujarat. As per CEA database (Ref 58), Gujarat comes under NEWNE grid, the geographic and system boundaries of which are clearly identified and information on the characteristics of the grid is available.
6. The project activity is not a retrofit or replacement of an existing facility.
7. The project is not a combined heat and power (cogeneration) system. The project activity is not a Hydro power plant or a biomass plant.
8. The windmills are owned by M/s Gokul Refoils & Solvent Ltd. The validation team verified the same from the commissioning certificates (Ref 19, 20), Purchase orders and work orders issued

(Ref 4 to 14), land lease documents ( Ref 15 to 18) and wheeling and banking agreement (Ref 26, 27).

The electricity generated from the proposed project activity is wheeled to three industrial units owned by M/s Gokul Refoils and Solvent Ltd itself, located at Gandhidham, Sidhpur Unit-I and Sidhpur Unit-II. The two wheeling and banking agreements (Ref 26, 27) indicates that M/s Gokul Refoils & Solvent Ltd has opted to wheel the electricity generated at the wind farm site to its own manufacturing units, bearing State Electricity Board Consumer No. 29217 (Sidhpur Unit-I), Consumer No. 29241 (Sidhpur Unit-II) and Consumer No. 31368 (Gandhidham). The ownership of the three manufacturing units by M/s Gokul Refoils and Solvent Ltd was also verified from the respective units electricity bills (Ref 73) and also verified from acknowledgement of Memorandum of Manufacture issued by the Ministry of Commerce & Industry, Government of India (Ref 78)

Hence in conclusion, it is observed by the validation team that the entire electricity generated by the proposed project activity is wheeled to the three manufacturing units owned by M/s Gokul Refoils and Solvent Ltd which are part of the project boundary. The generated electricity is delivered using grid transmission and distribution network, by signing a wheeling and banking agreement. No electricity generated by the project activity is wheeled to any other consumer. Hence in the proposed project activity, since the supplier and consumer of electricity is the same legal entity viz; M/s Gokul Refoils & Solvent Ltd, no contract is required to be signed and the emission reductions would only be claimed by the facility generating the electricity viz; M/s Gokul Refoils & Solvent Ltd.

All the applicability conditions were not addressed in the earlier version of PDD and CAR 7 was raised. CAR 7 was closed after all the applicability conditions were addressed in revised PDD. The validation team therefore agrees that the project activity meets all the applicability conditions and all other stipulations of the selected approved methodology AMS IF ver 1 (Ref 55).

The validation team hereby confirms that the selected baseline and monitoring methodology AMS IF ver 1 is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

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VALIDATION REPORT

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As stated above, the project capacity is 5 MW which is less than limit of 15 MW as specified in General Guidance to SSC CDM methodologies. As explained in section 3.8 below, data storage will be stored electronically for a period of two years from the crediting period or last issuance whichever is later. The small scale methodology AMS IF ver 1 is applied in conjunction with General Guidance to SSC CDM methodologies (Ref 63).

The project activity is not a de-bundled component of a large scale project activity as there is no registered or application to register a small scale project activity with the project participant in the same project category and technology measure within previous two years whose project boundary is within 1 km of the proposed small scale activity at the closest point, as committed in the PDD.

The validation team hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

### **3.6.2 Project boundary (80)**

The spatial extent of the project boundary is assessed through the description in the PDD and the grid structure in India as known from the official data available from the Central Electricity Authority, CEA (Ref 58). The project activity boundary therefore includes the project power plant (windmills) and all power plants connected physically to the NEWNE electricity grid of India that the CDM project power plant is connected to and the industrial units where the electricity is wheeled.

The electricity imported by the project activity is accounted in the net electricity exported by the project activity,  $EG_{BLy}$ . There are no other sources of project emissions. Hence, in line with the methodology, project participant has considered project emissions as zero for renewable windmills. Further, the project does not involve any transfer of equipment from or to the project activity and thus there is no leakage accountable to the project activity.

The project boundary was not correctly described in earlier version of PDD and grid definitions were not as per latest version of CEA database

**VALIDATION REPORT**

so CAR 8 was raised. The grid definitions were revised as per latest version of CEA database and project boundary was also revised. Hence CAR 8 was closed.

Site visit was made from 25/02/2009 to 28/02/2009 to verify the project details as mentioned in PDD. The project design is sound and the geographical (Motisindholi village and Kadoli village in Abdasa Taluka of Kutch District of Gujarat state in India) and temporal (20 years) boundaries of the project are clearly defined. Life of the project activity equipment is 20 years. The commissioning certificates for the wind mills were reviewed and the details in PDD are as per commissioning certificates.

The validation team confirms that the only greenhouse gas relevant to the project activity is CO<sub>2</sub>. This gas is addressed by the applied methodology. Based on the above assessment, the validation team hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

### **3.6.3 Baseline identification (87-88)**

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

The project activity involves wheeling of electricity generated by the project activity windmills to industrial units of Gokul Refoils & Solvent Ltd at Sidhpur Unit I and Sidhpur Unit II and Gandhidham. Grid electricity consumed by three industrial units of project participant is replaced partially by project activity. The electricity consumption data of three year period prior to decision making was examined and one year data after commissioning of all windmills was also examined.

In Sidhpur Unit I, there was a coal based power plant of 825 KW capacity for which electrical inspection letter was issued on 23<sup>rd</sup> Dec 2003. However, this coal based power plant was subsequently decommissioned and shifted to Gandhidham unit. The electrical inspection letter for coal based power plant in Gandhidham was issued on 6<sup>th</sup> July 2005. The main source of electricity in Sidhpur Unit I is grid with DG set as backup.

Certificate for inspection of electrical installation for Sidhpur Unit II was issued on 20<sup>th</sup> April 2006 which is after the decision date and hence no historical data is available for the period before decision making. The electricity data for the period Jan to Dec 2007 after commissioning of all windmills was examined for Sidhpur Unit II. The electricity generated by

## VALIDATION REPORT

windmills is adjusted in electricity bills. The main source of electricity in Sidhpur Unit II is grid with DG set as backup.

Letter for electrical load sanction was issued for Gandhidham on 13<sup>th</sup> Feb 2004. There is a coal based power plant which was shifted from Sidhpur Unit I and this coal based power plant continues to operate at similar levels even after commissioning of windmills. The electricity generated by windmills is adjusted in electricity bills for Gandhidham unit. Since the coal based power plant continues to operate at similar levels after commissioning of windmills and DG sets are used as back up, the electricity generated from windmills replaces grid electricity in Gandhidham.

The details about electricity consumption data for three year prior to decision making and post project scenario is detailed in PDD. The electricity from windmills is adjusted in the electricity bills of the three units where it is wheeled. The electricity data provided by project participant for grid were randomly cross checked with the copy of electricity bills provided. The DG set are used as a back-up. The project participant provided copy of electricity bills in which the electricity generated by windmills were adjusted after deducting wheeling charges. It is observed from the electricity consumption data of pre-project scenario that the major source of electricity was grid in Sidhpur Unit I and Sidhpur Unit II and wheeled electricity replaces grid electricity. In Gandhidham unit, coal based power plant continues to operate at similar levels even after commissioning of all windmills and DG sets are used as backup and it can be concluded that electricity from windmills replaces grid electricity. From above description it can be concluded that electricity from windmills replaces grid electricity in all the three industrial units

As per the applied methodology AMS IF, version 1, the baseline emissions are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.

$$BE_y = EG_{BL,y} * EF_{CO_2}$$

Where  $BE_y$  is the baseline emissions in a year in t CO<sub>2</sub>,  $EG_{BL,y}$  is the Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh) and  $EF_{CO_2}$  is CO<sub>2</sub> emission factor (tCO<sub>2</sub>e/kWh).

As per AMS IF, ver 1, Emission factor of a grid shall be calculated as per the procedures provided in AMS-I.D. As per AMS ID, Emission factor ( $EF_{CO_2}$ ) can be calculated in a transparent and conservative manner as a

**VALIDATION REPORT**

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the Tools to calculate emission factor for an electricity system.

OR

(b) The weighted average emissions (in KgCO<sub>2</sub>e/KWh) of the current generation mix. The data of the year in which project generation occurs must be used.

In the PDD, combined margin is calculated as per Tools to calculate emission factor for an electricity system.

The baseline was not correctly described in earlier version of PDD and CAR 9 was raised. CAR 9 was closed after the baseline description was corrected in revised PDD. Project participant has used the official published data on operating and build margin emission factors. The version of the data used is as available on the date of webhosting of the PDD for global stakeholder comments (viz start of validation). This data is published by Central Electricity Authority, CEA who is the sole authority for the publication of such data in India. This data is based on the tools to calculate emission factor for an electricity system. Project participant has applied weight factors for the OM and BM [75% & 25% respectively] as specified in the tool to arrive at the emission factor for the combined margin. Accordingly, the combined margin emission factors are 0.9062 for NEWNE Grid.

Validation team agrees to this emission factor since it is based on the official background data published by CEA. The validation team further notes that the emission factors are not provided by DNA but by the competent authority.

Based on the above assessment, the validation team hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline

## VALIDATION REPORT

scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

It is noted that the selected baseline scenario is in line with the selected approved methodology AMS IF ver 1. Validation team therefore confirms that the selected baseline scenario reasonably represents what would happen in the absence of the project activity.

### **3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)**

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below:

Project participant has used the algorithm and formulae in line with the Emission Factor tool (Ref 57). As required under AMS IF ver 1, project participant has calculated the baseline emissions by multiplication of the amount electricity displaced with the electricity produced by the renewable generating unit and the grid emission factor. The detailed algorithms are described under sections B.6.1 of the PDD and calculations are shown in section B6.3 of PDD.

The project activity is electricity generation using wind mills and as per AMS IF ver 1, the project emissions are zero. Project participant has however, indirectly accounted for project emissions by subtracting the measured electricity imported from the electricity exported by the project activity. Further, the project does not involve any transfer of equipment from or to the project activity and thus there is no leakage accountable to the project activity.

Validation team assessed the calculations of estimated CERs as provided by project participant in a spreadsheet (Ref 36). The assumptions in this spreadsheet were validated as follows -

<b>Parameter, Value</b>	<b>Source of information</b>	<b>Validation justification</b>
Project Capacity, MW 5	POs & wheeling agreement	The project capacity is per the documents verified and seen at site.
Number of machines, 4 in Gujarat	POs, commissioning certificate	The number of machines are as per the commissioning certificates and seen at site.
PLF, 25.57% for	As per loan	PLF is as per EB 48, Annex 11 as

## VALIDATION REPORT

Gujarat	application submitted to Bank	loan application submitted to Bank. Please refer section 3.7.3 of this report.
Baseline 0.9062 for NEWNE Grid	EF, CEA database ver 4	CEA database is an official source of data and hence acceptable

PLF was revised in response to CAR 15. PLF is in line with EB 48, Annex 11. The estimated annual average of approximately 9548 tCO<sub>2</sub>e over the crediting period of emission reduction represents a reasonable estimation using the assumptions given by the project. All the assumptions for this estimate either come from the assumptions used for investment analysis or grid emission factor as taken from CEA website. These are already validated in sections 3.7.3 of this report. The validation team confirms that the estimates of baseline emissions can be replicated using the information provided. It also can be verified using the spreadsheet (Ref 36) for calculations of CERs. All assumptions and data used by the project participants are listed in the PDD, including their references and sources. All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD. All values used in the PDD are considered reasonable in the context of the proposed CDM project activity. The validation team confirms that the baseline methodology is correctly applied for calculation of baseline emissions and emission reductions.

### 3.7 Additionality of a project activity (97)

The steps taken, and sources of information used, to cross-check the information contained in the PDD on additionality are described below:

The steps taken by the validation team to assess the additionality of the Project Activity including review of documents indicated in the assumptions in the IRR excel sheet (Ref 37). The detailed steps are described in Sections 3.7.1 through 3.7.5 below.

#### 3.7.1 Prior consideration of the clean development mechanism (104)

Project participant provided copies of the two purchase orders for project activity windmills. First purchase order was issued for 2.5 MW (2 WTGs) and second purchase order was issued for the remaining 2.5 MW (2 WTGs). Since for windmills, there cannot be any other real action before the purchase order, the validation team accepted the date of placement of P.O for the 1<sup>st</sup> set of windmills as the starting date for the project activity. Accordingly, 15/04/2006, which is the date of placement of the first

VALIDATION REPORT

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purchase order (for 2.5 MW), is accepted as the starting date of the project activity.

Validation team assessed the serious consideration of CDM from the extract from the minutes of the Board Meeting dated 30/03/2006 (Ref 2). The validation team physically checked the register (Ref 3) of board meeting records and observed that the extract provided to the validation team was verbatim same as that recorded in the Board minutes register. The minutes of the meeting clearly record that expected revenue from carbon trading would contribute towards sustainability of the operation and maintenance of the wind power project.

Project participant entered into a Memorandum of Understanding with Fuel Solutions regarding selling of CERs (Ref 21). Project participant initially placed purchase order for 2.5 MW (2nos windmills) and appointed M/s Sanguine Management Services Private Limited as CDM consultant (Ref 22). However, the contract was later cancelled due to no significant progress as evident from the letter written to CDM consultant (Ref 23). Subsequently, the project proponent appointed Verve Consulting Private Ltd as their CDM consultant (Ref 25). The project participant has taken actions to secure CDM status namely appointment of CDM consultants parallel to commissioning of wind mills and time gap between project start date (i.e 15/04/2006) and appointment of 1<sup>st</sup> consultant (on 02/09/2006 namely M/s Sanguine Management Services Private Limited) as well as the 2<sup>nd</sup> consultant (on 15/02/2008 namely M/s Verve Consulting Private Limited) is less than two years. DOE was also appointed on 04/10/2008. Since the time gap between the two documented evidences is less than two years, there has been real action to secure CDM status in parallel to the implementation of the project activity as per EB 49, Annex 22.

In the previous version of PDD, chronology of events was not detailed and CAR 12, CAR 30 and CAR 31 were raised. The CAR 12, CAR 30 and CAR 31 were closed after corrections were incorporated in the revised PDD and a detailed chronology of events was provided. As explained above, it is seen that the project participant was aware of CDM prior to the start date of the project activity. From the minutes of the Board Meeting, it is seen that the benefits of CDM were a decisive factor in the decision to proceed with the project activity. Further, as explained above, continuing and real actions were taken by project participant to secure CDM status in parallel with the implementation of the project activity. This is in line with Annex 22 of EB 49.

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VALIDATION REPORT

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The validation team therefore confirms that CDM was seriously considered by the Project Proponent in the decision to proceed with the implementation of the project activity. Based on the above assessment, the validation team hereby confirms that the proposed CDM project activity complies with the requirements of EB 49, Annex 22.

### **3.7.1.1 Historical Information on project timeline**

There is no historical information on project timeline applicable to the project activity with respect to any real action prior to start date of project activity. Proposal was received by project participant from Suzlon Energy Ltd on 28/03/2006 and project participant took the decision to implement the project activity in its Board meeting held on 30/03/2006. Subsequently purchase order was placed for first set of WTGs on 15/04/2006.

### **3.7.2 Identification of alternatives (107)**

The approved methodology AMS IF ver 1 prescribes the baseline, hence as per para 105 of VVM manual ver 1.2 no further analysis on identification of alternatives is required.

As per Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities, Project participant has used investment barrier to demonstrate additionality.

### **3.7.3 Investment analysis (114)**

The project participant has demonstrated the additionality of the project using the investment barrier, as stated in Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities.

The Project Participant in PDD has detailed the latest EB guideline for demonstrating additionality namely Guidelines for demonstrating additionality of renewable energy projects <=5 mw and energy efficiency projects with energy savings <=20 gwh per year, Version 01, EB 54, Annex 15. However it was observed that none of the applicability conditions are fulfilled viz;

1. The geographic location of the project activity is in LDCs/SIDs or in a special underdeveloped zone of the host country identified by the Government before 28 May 2010.

**Validation Opinion** - The geographic location of the project activity is in the state of Gujarat in India which has not been identified as an LDC/SID by the host country, India.

2. The project activity is an off grid activity supplying energy to Households/communities (less than 12 hrs grid availability per 24 Hrs/day is also considered as off grid for this assessment).

## VALIDATION REPORT

**Validation Opinion** - The proposed project activity is a grid connected activity supplying energy to the regional grid viz; Southern grid. Hence this condition is not fulfilled.

3. The project activity is for distributed energy generation with both conditions (i) and (ii) satisfied (see below);

- (i) Each of the independent subsystem/measure in the project activity is smaller than or equal to 750 kW electrical installed capacity;
- (ii) End users of the subsystem or measure are households/communities/SME.

**Validation Opinion** – The independent sub-system /measure in the project activity is larger than 750 kW viz; 1250 kW. Hence this condition is not fulfilled.

4. The project activity employs specific renewable energy technologies/measures recommended by the host country DNA and approved by the Board to be additional in the host country (conditions apply: The total installed capacity of technology/measure contributes less than or equal to 5% to national annual electricity generation).

**Validation Opinion** – There are no specific renewable energy technologies / measures that are recommended by the host country DNA and approved by the Board as additional in the host country, India. Hence this condition is also not fulfilled.

Since none of the conditions of the latest EB guideline were satisfied, the Project Participant has demonstrated additionality as per Attachment A to Appendix B of the simplified modalities and procedures for small scale CDM project activities (Ref 49). Benchmark analysis has been used.

Equity IRR has been used as a financial indicator. The validation team validated the assumptions in the investment analysis as follows –

Parameter, Value	Source information	Validation justification
Cost of wind mills, INR 63.47 million per WTG	Proposal of Suzlon Energy Ltd dated 28/03/2006 (Ref 31)	The cost has been taken from proposal of Suzlon Energy Ltd for WTG and it reflects value applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58).
Location,	Site visit and commissioning certificate (Ref 19, Ref 20)	The location is confirmed through site visit and commissioning certificates.
Number of Purchase		The number of machines are verified

## VALIDATION REPORT

<b>Parameter, Value</b>	<b>Source information</b>	<b>Validation justification</b>
machines, 4	orders(Ref 4 & 9), commissioning certificates (Ref 19, Ref 20)	from site visit, purchase orders and commissioning certificates
PLF, 25.57% for Gujarat (Generation 2.8 million units per WTG)	As per loan application submitted to State Bank of Travancore dated 10/04/2006 (Ref 32 & 33)	The validation team agrees that this assumption is reasonable since it is based on loan application submitted to State Bank of Travancore for loan. There is also a loan application submitted to the Union Bank of India dated 10/04/2006 which also indicates the same value for the PLF. This is in line with the Guidelines for the reporting and validation of PLF's, EB 48 Annex 11 which stipulates that Plant load factors shall be defined ex-ante based on 'The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing.
O&M cost, INR 1.296 million per WTG (including service tax and VAT ) from second year onwards and with 5% annual escalation	Proposal of Suzlon Energy Ltd dated 28/03/2006 (Ref 31)	The cost has been taken from proposal of Suzlon Energy Ltd for WTG and it reflects value applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58).
Insurance cost INR 0.12 million per WTG	Proposal of Suzlon Energy Ltd dated 28/03/2006	The cost has been taken from proposal of Suzlon Energy Ltd for WTG and it reflects value applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58).
Annual land lease rental, substation maintenance	Proposal of Suzlon Energy Ltd dated 28/03/2006	The charges have been taken from proposal of Suzlon Energy Ltd for WTG and it reflects value applicable at the time of decision making. This

## VALIDATION REPORT

<b>Parameter, Value</b>	<b>Source information</b>	<b>Validation justification</b>
and other certification charges, INR 0.1 million/WTG		is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58).
Transmission loss, 2%	Transmission loss of 2% is taken which is conservative as compared to 4% given in Suzlon proposal dated 28/03/2006	PLF is taken as the windmill and metering is at sub-station so transmission loss is considered from windmill to sub-station. Transmission loss of 2% is taken which is conservative as compared to 4% given in Suzlon offer dated 28/03/2006 applicable at the time of decision making.
Wheeling charges, 4%	Wheeling charges of 4% are taken from Suzlon proposal dated 28/03/2006	The electricity is wheeled to the factory units of Gokul Refoils & Solvent and wheeling charges of 4% are taken. These charges are as per Suzlon proposal dated 28/03/2006 applicable at the time of decision making. Also the wheeling charges are 4% as per the actual wheeling agreement signed.
Tariff, INR 3.75/kWh	Import charges from Electricity bills at the time of decision making	The electricity is wheeled to factory units of M/s Gokul Refoils & Solvent Ltd. The electricity import charges have been taken from electricity bills of the plants where the power generated from the project activity would be wheeled, which are applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58).
Debt :equity ratio, 70:30	As per Board decision	PP has had one investment in previous three years with debt equity ratio of 60:40. The debt equity considered in decision making was 70:30. Value of debt equity ratio of 70:30 is taken which is conservative as compared to previous investment. Moreover, the debt equity ratio is applicable at the time of decision making. Actual debt equity ratio for

## VALIDATION REPORT

<b>Parameter, Value</b>	<b>Source information</b>	<b>Validation justification</b>
		the project is also 70:30.
Loan interest, 13%	As per debt taken by PP (Loan from Punjab National Bank) (Ref 43) prior to the decision date.	Interest rate of 13% is taken as per debt taken by PP (Loan from Punjab National Bank) for another project prior to the decision making date, which is in line with EB 51 Annex 58
Baseline EF, 0.9062 for NEWNE Grid	CEA database ver 4	CEA database is an official source of data and hence acceptable

The input values have been validated in line with para 110 of VVM ver 1.1 as detailed below

### **1) Cost of windmills**

The cost of individual WTG is considered as INR 63.47 million which works out to be INR 253.9 million for 4 WTG's. The basis for considering the WTG cost is from the proposal of M/s Suzlon Energy Ltd dated 28/03/2006 (Ref 31) and it reflects the value applicable at the time of investment decision. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, since the project is already implemented at the time of validation, the cost of the WTG has been cross-checked with the actual cost based on the purchase orders placed for the 4 WTG of the project activity (Ref 4to 14). The actual cost of the four WTGs is observed to be INR 234.04 million which is 8% less than the cost of WTG's considered at the time of investment decision. Hence a sensitivity analysis has been carried out at ±10% variation on the capital cost which covers the actual capital cost also. The equity IRR considering -10% variation on capital cost is 13.67% which is less than the benchmark of 14.41%. Since the sensitivity analysis on the capital cost is based on the actual value of the WTG's (based on the P.O), no further escalation in the parameter of capital cost is considered.

### **2) Operation and Maintenance Cost**

Operation and maintenance cost (O&M cost) is considered as INR 1.296 million per WTG (including service tax and VAT) from second year onwards, based on the proposal from M/s Suzlon Energy Ltd dated 28/03/2006 (Ref 31) and it reflects the value applicable at the time of investment decision. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, since the project is already implemented, the O&M cost in the proposal has been cross-checked with the actual operation and maintenance cost of WTG. As per the O&M agreement (Ref 71), the cost is observed to be INR 1.249 million per WTG (including service tax and

**VALIDATION REPORT**

VAT) from second year onwards, which is 4% less than the O&M cost considered at the time of investment decision. Hence a sensitivity analysis has been carried out at  $\pm 10\%$  variation on O&M cost which covers the actual O&M cost also.

The equity IRR considering -10% variation on O&M cost is 11.61% which is below the benchmark of 14.41%.

### **3) Escalation in O& M Cost**

Escalation in Operation and maintenance cost (O&M cost) is considered as 5% per year from the 3<sup>rd</sup> year onwards, based on the proposal of M/s Suzlon Energy Ltd dated 28/03/2006 (Ref 31) and it reflects the value applicable at the time of investment decision. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, since the project activity is already implemented, the escalation in the O&M cost has been cross-checked with the escalation indicated in the actual O&M agreement (Ref 71) which was also observed to be 5% per year from the 3<sup>rd</sup> year onwards. Hence the same was accepted by the validation team.

### **4) Plant Load Factor (PLF)**

PLF is taken as 25.57% which is based on the generation estimate of 2.8 million units per WTG. as indicated in the loan application submitted to State Bank of Travancore dated 10/04/2006 (Ref 32). There is another loan application submitted to the Union Bank of India (Ref 33) dated 10/04/2006 which also indicates the same value for the PLF. The validation team agrees that this assumption is reasonable since it is based on loan application submitted to financial institution for financing the project activity. This is in line with the Guidelines for the reporting and validation of PLF's, EB 48 Annex 11 which stipulates that Plant load factors shall be defined ex-ante based on 'The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing. Since the PLF is taken from loan application to bank while applying for project financing, which is in line EB 48, Annex 11, the same is accepted by the validation team.

The validation team also reviewed the actual PLF observed after commissioning of WTGs. The PLF achieved during the years 2007, 2008 and 2009 were 19%, 20% and 18% respectively.(Ref 72). Hence the actual PLF observed during the years 2007 to 2009 is lower than the PLF considered in the IRR working. The validation team further reviewed the applicable tariff order for Gujarat (GERC Order No 2 of 2006) and observed that the PLF considered by the commission is 23 % which is also lower than the PLF considered by the project participant in investment analysis. The validation team noted that the PLF of wind turbine decreases with time due to wear and tear of the machine. Tariff

**VALIDATION REPORT**

orders of some the Electricity Regulatory Commissions in India like Tamil Nadu Electricity Regulatory Commission (TNERC order dated 15/05/2006) considers derating of 1% every year after 10 years in generation units. In view of these, no escalation in PLF is considered in investment analysis. However a sensitivity analysis has still been carried out by the project participant at  $\pm 10\%$  variation on PLF. The equity IRR considering +10% variation on PLF was 13.93% which is lower than the benchmark of 14.41%.

### **5) Tariff**

Tariff considered is INR 3.75/kWh. The tariff considered is Import charges (energy charges) from Electricity bills at the time of decision making. The electricity is wheeled to three factory units of M/s Gokul Refoils & Solvent Ltd. The electricity import charges have been taken from electricity bills of the plants where the power generated from the project activity would be wheeled. The decision for the project activity was taken in March 2006. The team reviewed the electricity bills (Ref 73) of Gandhidham and Sidhpur Unit-I for the period prior to decision making. Sidhpur unit II was started post decision making and hence no electricity bills were available for Sidhpur unit II at the time of decision making. The energy charges (as per electricity bill) for the month of Dec 2005 for Gandhidham unit were INR 3.75/KWh. The validation team also reviewed other bills and energy charges (as per electricity bill) for Gandhidham unit for May 2004, Nov 2004 and June 2005 were also INR 3.75/KWh. The energy charges for Sidhpur Unit -I for Dec 2005 were INR 3.75/KWh. The validation team also reviewed other bills and energy charges (as per electricity bills) for Siddhpur unit-I in Jan 2004, Oct 2004, Jan 2005 and June 2005 were also INR 3.75/KWh. Thus the import electricity charges available to project participant at the time of decision making was INR 3.75/KWh and same was considered in investment analysis. The tariff value is applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). Since the energy charges in various months as stated above of 2004 and 2005 were INR 3.75/KWh, hence no escalation was considered in energy import charges. However, sensitivity has been carried out on  $\pm 10\%$  variation on tariff. Equity IRR considering +10% variations on tariff was 13.93% which is much less than the benchmark of 14.41%.

The assumption of the energy charges in the investment analysis has been considered from the actual electricity bills of the manufacturing units, where the electricity generated from the proposed project activity would be wheeled. The validation team noted the data that has been considered in the investment analysis is based on the actual data viz; the electricity bills of the manufacturing units, which was available with the project participant at the time of investment decision, which is in line with para 110 of VVM Version 1.1. This being the only source of actual data available with the project participant at the time of investment decision,

**VALIDATION REPORT**

which indicates no increase in the tariff, no escalation was considered in the IRR working. Hence the validation team considers no escalation in tariff to be a valid approach by the project participant.

However the project participant has subjected the tariff to a sensitivity analysis of 10% and it is observed from the sensitivity analysis at  $\pm 10\%$ , the equity IRR considering +10% variations on tariff was 13.93% which is lower than the benchmark of 14.41%.

### **6) Insurance Cost**

Insurance cost is considered as INR 0.12 million per WTG, totalling to INR 0.48 million for 4 WTG's, based on the insurance cost indicated in the proposal of M/s Suzlon Energy Ltd dated 28/03/2006 (Ref 31) for WTG and it reflects value applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, the validation team cross-checked the insurance cost assumption with the actual insurance cost of WTG since the project is already implemented. The insurance premium (Ref 74) for four WTGs for first year was INR 0.496 million. Therefore the total insurance cost considered at the time of decision making is less than the actual insurance cost and is conservative. Hence, the same was accepted by the validation team.

### **7) Annual land lease rental, substation maintenance and other certification charges**

Annual land lease rental, substation maintenance and other certification charges are taken as INR 0.1 million per WTG, based on the proposal of M/s Suzlon Energy Ltd dated 28/03/2006 (Ref 31) for WTG and it reflects value applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, validation team reviewed the actual substation maintenance charges (Ref 75) and observed the same to be INR 0.119 million per WTG per annum. The sub-station maintenance charges considered at the time of decision making is lower than the actual charges and hence conservative and the same was accepted by the validation team.

### **8) Transmission Loss**

Transmission loss of 2% is considered in the IRR working which is conservative as compared to 4% indicated in the Suzlon proposal dated 28/03/2006. PLF is as taken at the windmill and metering takes place at sub-station, hence transmission loss is considered from windmill to sub-station. The validation team also reviewed the data of Local Controller System (Ref 72) at the wind mill and net electricity exported to the grid at sub station as indicated in the GERC Share Certificate (Ref 76) and observed that the transmission loss between the wind mill and sub-station, as calculated from the difference in the two readings, works out to be 4% for the year 2008 and 5% for the year 2009. Hence the validation

**VALIDATION REPORT**

team confirms that the transmission loss of 2%, considered in the IRR working is conservative as compared to actual transmission loss.

### **9) Wheeling Charges**

Wheeling charges of 4% are taken from Suzlon proposal dated 28/03/2006 and it reflects the value applicable at the time of investment decision. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). In line with para 110 of VVM ver 1.1, since the project is already implemented at the time of validation, the validation team cross-checked the wheeling charges from the actual Wheeling and Banking agreement (Ref 26, 27) and observed that the wheeling charges are 4%. Since there was no difference observed in the wheeling charges in the Suzlon offer and the actual wheeling agreement, the same was accepted by the validation team. Further the parameter was not subjected to an escalation since an escalation would only result in a lower IRR and hence not conservative.

### **10) Debt Equity Ratio**

Debt equity ratio is taken as 70:30 as per Board decision. Para 11 of EB 51 Annex 58 states that debt equity ratio of previous investments are to be considered. Project participant has had one investment in previous three years with debt equity ratio of 60:40. Value of debt equity ratio of 70:30 is considered as it is conservative as compared to debt equity ratio of the previous investment of 60:40. The validation team further reviewed the actual debt equity ratio for the project activity and observed the same to be also 70:30. Hence the debt equity ratio of 70:30 is considered conservative.

### **11) Interest rate**

Interest rate of 13% is considered as per debt taken by the project participant (Loan from Punjab National Bank) for another project prior to the decision making date. Para 11 of EB 51 Annex 58 requires that interest rate may be taken as per recent debt acquired by project participant. Since the interest rate has been taken as per previous debt, the same is accepted by the validation team. In line with para 110 of VVM ver 1.1, since the project is already implemented at the time of validation, the validation team reviewed the actual loan agreement (Ref 77) which states the interest rate to be 1.5% + State Bank of Travancore PLR. The State Bank of Travancore PLR was 11.5% during the year 2006, which was also observed from the Corporate Statements that the financing bank has submitted to the National Stock Exchange [<http://www.nseindia.com/marketinfo/companyinfo/eod/announcements.jsp?symbol=SBT>] and hence the actual interest rate also amounts to 13.00%. The interest rate considered at the time of decision making and the actual interest rate viz; 13% is therefore the same and hence was accepted by the validation team.

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VALIDATION REPORT

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**Capacity Demand Charges**

The electricity generated from windmills is wheeled using grid transmission and distribution network. The manufacturing units draw electricity from grid and electricity units wheeled are adjusted in the monthly electricity bills of the three respective units. The electricity so wheeled meets only the partial electricity requirements of the three manufacturing units and these manufacturing units continue to draw remaining electricity from the State grid, even after the commissioning of project activity WTG's. The validation team noted that the capacity demand charges are paid to the State Electricity Utility based on the sanctioned load and it was observed that there is no change in sanctioned load due to wheeling of electricity from the project activity, as verified from the electricity bills for the period before and after commissioning of project activity windmills. Thus there are no savings accountable on the basis of capacity demand charges for any of three manufacturing units where the electricity generated from the proposed project activity is wheeled and hence this parameter was not considered.

The validation team has verified the assumptions as above and observed that they are correct and based on conservative values that are applicable at the time of investment decision making. CER price is taken as 12 Euros and exchange rate at the time of decision making is taken as 1 Euro = Rs 53.65. The input values are validated as per para 111 of VVM ver 1.2 and input values are as para 6 of EB 51 Annex 58 as explained below.

The project cost has been taken from proposal of Suzlon Energy Ltd which is applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). Actual cost is 8% lower than the cost considered at the time of decision making. Sensitivity analysis was carried on  $\pm 10\%$  variation in capital cost which covers the actual cost also. O&M cost and escalation in O&M cost have been taken from proposal of Suzlon Energy Ltd which is applicable at the time of decision making. This is in line with para 6 of Guidelines on the Assessment of Investment Analysis (EB 51, Annex 58). Actual O&M cost is 4% less than the O&M cost considered at the time of decision making. Sensitivity analysis was carried on  $\pm 10\%$  variation in O&M cost which covers actual O&M cost also. The electricity is wheeled to factory units of project participant and hence electricity charges of INR 3.75/KWh. This is higher than the tariff as per GERC tariff order (dated 11/08/2006) which is INR 3.37/KWh for sale to grid. Sensitivity analysis was carried on  $\pm 10\%$  variation in tariff. PLF has been taken as per loan application submitted to State Bank of Travancore dated 10/04/2006. This is in line with the Guidelines for the reporting and validation of PLF's, EB 48 Annex 11 which stipulates that Plant load factors shall be defined ex-ante based on 'The plant load factor provided to banks and/or equity

## VALIDATION REPORT

financiers while applying the project activity for project financing. Sensitivity analysis was carried on ±10% variation in PLF as detailed in subsequent paragraphs.

The financial expert has verified the equity IRR calculations and observed them to be correct. The book depreciation has been correctly calculated in the IRR calculations. It is as per Schedule XIV of The Companies Act. The project participant has also considered benefits from accelerated depreciation [tax shield] and also additional depreciation of 20% as per Section 32 of Income tax Act. Income Tax Act allows accelerated depreciation benefits to be absorbed in wind mill project and other businesses of project participant. The project participant accordingly absorbed the benefits due to accelerated depreciation in wind mill project and other businesses and tax savings due to these have been added in cash flow. Once the accelerated depreciation has been absorbed and tax savings added to cash flow, losses can not be carried forward in subsequent years and income becomes taxable. The project participant is eligible to tax holiday for a period of any consecutive 10 years out of the 15 years in respect of the "income earned from the electricity generation business" as per provisions of Section 80 IA. During this period the project participant is required to only pay a "minimum alternate Tax"(MAT). The MAT tax has been computed according to the prescribed tax rules. Income after adjusting carried over losses is given only for the purpose of computing deduction section 80 IA. The income after adjusting carried over losses has been computed to determine in which years deduction under Section 80 IA is eligible. To avail this deduction, income has to be computed taking wind mill on a stand alone basis and considering as if the accelerated tax depreciation is absorbed against the income from wind mill unit. Deduction under Section 80IA is not eligible for years where there are losses in income after adjusting carried over losses. The financial expert and the validation team hereby confirm that project participant has applied all the statutory levies and taxes as per the then valid Income Tax rules.

The project participant had used return on equity as benchmark. As per para 12 of Guidelines on the Assessment of Investment Analysis (EB 51 Annex 58), Required/expected returns on equity are appropriate benchmarks for an equity IRR. Therefore, return on equity is accepted as an appropriate benchmarks for a equity IRR. Expected return on equity is calculated based on the CAPM (Capital Asset Pricing Model) using publicly available financial data. The required rate of return on equity is calculated as risk free rate plus beta times risk premium where beta represents the risk involved in the project type. This method is in accordance with the additionality tool as benchmark is based on official publicly available financial data (based on parameters that are standard in

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VALIDATION REPORT

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market) and hence the above approach for calculating benchmark was accepted.

Further, each of the parameters used in calculation of return on equity was checked for their appropriateness. Risk free rate has been sourced from weighted average yield on central government securities published by Reserve Bank of India, Government of India. Risk free rate is taken as 7.28%. Since this is a official source of data which is publicly available, it is accepted. Risk premium is calculated as the difference between the market return and average risk free rate. Average risk free rate was calculated as 9.37%. The market return is arrived at based on the BSE Sensex data which is a publicly available data and hence it is accepted. The market return based on BSE Sensex data is 18.3%.

As explained in the PDD, the beta value for the project type was based on Beta values of power generating companies in India and listed on the stock exchange at the time of investment decision. The beta has been taken for 5 companies from Bloomberg data. Minimum of the beta values was taken. The minimum beta value considered was 0.796. Bloomberg snapshots were provided project participant. Since beta is of power generating companies are taken from Bloomberg and hence was accepted.

The validation team verified the correctness and authenticity of the data used for the calculation of return on equity and found them to be correct and publicly available. This is also in line with the guidelines for benchmark selection stipulated in the Guidance on the Assessment of Investment Analysis, EB 51 Annex 58 and hence the validation team has accepted the same. The equity IRR works out to be 11.12% and return on equity (benchmark) works out to be 14.41%. The equity IRR is lower than the benchmark.

As per the guidance to assessment of investment analysis, the sensitivity for all parameters constituting more than 20% of either total project costs or total project revenues have been analysed, subject to reasonable variation. The project participant has carried out sensitivity analysis for  $\pm 10\%$  variation in project cost, tariff, O&M cost and PLF which is in line with para 17 and 18 of Guidelines for Assessment of Investment Analysis (EB 51 Annex 58). Actual cost is 8% lower than the cost considered at the time of decision making. Sensitivity analysis was carried on  $\pm 10\%$  variation in capital cost which cover the actual cost also. Actual O&M cost is 4% less than the O&M cost considered at the time of decision making. Sensitivity analysis was carried on  $\pm 10\%$  variation in O&M cost which

## VALIDATION REPORT

covers actual O&M cost also. The results of equity IRR for the sensitivity analysis carried out for the parameters viz., project cost, tariff, PLF and operation and maintenance cost have been tabulated as follows:

<b>Parameter</b>	<b>Equity IRR values (%)</b>	
	<b>+10%</b>	<b>-10%</b>
Project cost	9.02%	13.67%
Tariff	13.93%	8.21%
PLF	13.93 %	8.21 %
O&M cost	10.62 %	11.61%

As seen above the equity IRR with sensitivity on project cost, tariff, PLF and O&M cost is less than the benchmark. In the earlier version of PDD, source of data used was not clear and CAR 33 was raised. CAR 33 was closed after sources of all data were provided and stated in the excel file and PDD. Salvage value was not considered in IRR calculations and tariff values taken was not correct and CAR 34 was raised. CAR 34 was closed after corrections were made in IRR calculations. Salvage value as taken and tariff was corrected. Sensitivity analysis carried out earlier was not in line with Guidelines on the Assessment of Investment analysis and CAR 35 was raised. CAR 35 was closed after sensitivity analysis was corrected.

The validation team, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

The validation team therefore confirms that the equity IRR for the project activity without CDM revenue is 11.12% and even with sensitivity analysis, the values does not cross the benchmark and hence it can be considered that the project is not viable without CDM revenues. IRR with CDM revenues worked out to be 14.58%. Hence the IRR with CDM revenues crosses the benchmark. Thus the project is viable with CDM revenues. Thus the project is additional.

### 3.7.4 Barrier analysis (118)

## VALIDATION REPORT

Barriers due to prevailing practice, technological barriers and other barriers were mentioned in the webhosted PDD. The validation team was of the opinion barriers due to prevailing practice, technological barriers and other barriers were not prohibitive and CAR 38, CAR 39, CAR 40 and CAR 41 were raised. The CAR 38, CAR 39, CAR 40 and CAR 41 were closed when barriers due to prevailing practice, technological barriers and other barriers were removed from the revised PDD.

### **3.7.5 Common practice analysis (121)**

Common practice analysis has not been used to demonstrate additionality. As per Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities, additionality can be demonstrated by any one of the four barriers listed. Project participant has demonstrated additionality using investment barrier.

### **3.8 Monitoring plan (124)**

The Project uses the approved consolidated monitoring methodology AMS IF Ver 1. Please refer discussions on the applicability of the methodology at section 3.6.1 above.

Validation team considers the monitoring plan to be complying with the requirements of the methodology. The reasons are as follows –

1. According to the methodology, monitoring shall consist of metering the net electricity displaced by the project activity. The project participant has included the parameter,  $EG_{BLy}$ , in the monitoring plan.
2. AMS IF ver 1 states monitoring of  $EF_{CO2,y}$  as per para 13-15 of the methodology. Para 14 states that  $EF_{CO2,y}$  will be calculated as per procedures of AMS ID. Methodology AMS ID prescribes determining  $EF_{CO2,y}$  as per Tools to calculate emission factor for an electricity system. In line with the Tools to calculate emission factor for an electricity system,  $EF_{CO2,y}$  is fixed ex-ante based on CEA database ver 4.
3. Project participant has provided for electronic archiving of all the monitored data. This is stated in section B.7.1 & B.7.2 of the PDD.
4. Project participant has provided for keeping the data for 2 years after the end of the crediting period or last issuance whichever is later. Project participant has chosen fixed crediting period of 10 years.
5. The monitoring plan includes requirements for meter calibration. The meters used for monthly electricity recording at each Wind Turbine

## VALIDATION REPORT

Generator and at the sub station are calibrated annually by the authorized agency of the state electricity utility.

6. Continuous monitoring is carried out by energy meters. Hourly measurements and monthly recording will be carried out.
7. The validation team validated the metering system at site as follows viz;
  - a. There is a energy meter at each Wind Turbine Generator.
  - b. The representative of project participant (through O&M contractor i.e. Suzlon Infrastructure Services Ltd) take the monthly recording of the electricity generated at the individual Wind Turbine Generator.
  - c. There is also an energy meter at the State Electricity Utility sub-station, which is also of 0.5s accuracy class.
  - d. The representatives of the Gujarat Energy Transmission corporation Limited (GETCO), a transmission company and the representative of project participant (through O&M contractor i.e. Suzlon Infrastructure Services Ltd) take a monthly reading of the electricity supplied to the grid at the sub-station. This includes the electricity generation readings of project WTGs as well as Wind Turbine Generator's of other investors.
  - e. The apportioning of electricity for each investor is carried out using the monthly recorded data at the individual Wind Turbine Generator and the monthly recorded data at the sub-station.
  - f. The Gujarat Energy Development Agency (GEDA), a agency of Govt of Gujarat provides the 'Certificate for Share of Electricity generated' for the individual investor. This share certificate indicates the monthly net electricity supplied by an investor to the grid.
8. As the electricity is wheeled to the industrial units of project participant at Gandhidham, Sidhpur Unit I and Sidhpur Unit II. The electricity is wheeled using grid infrastructure. A wheeling charge of 4% will be deducted from the net units exported to the grid as mentioned in the certificate of share of electricity.
9. The cross-checking of the measurement results are done against the deductions made in electricity bills of factory units of Gokul Refoils & Solvent Ltd at Sidhpur Unit I, Sidhpur Unit II and Gandhidham.

The validation team physically verified the metering system installed at site and the substation of the project activity. Monitoring plan was not correctly described in the PDD and CAR 18 and CAR 19 were raised. CAR 18 and CAR 19 were closed after corrections were made in the monitoring plan. Project participant has described the metering system in detail in section B.7.2 of the revised PDD. Validation team confirms that the

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VALIDATION REPORT

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description correctly represents the metering system available at the project activity sites. The validation team hereby confirms that the monitoring plan complies with the requirements of the methodology.

The validation team also interacted with the O&M service provider, M/s. Suzlon Infrastructure Services Ltd. The agency is experienced in the monitoring system and is managing O&M of numerous other wind farm CDM projects. The validation team therefore is of the opinion that the project participant through the O&M agency is capable of implementing the monitoring plan in the context of the project activity.

### **3.9 Sustainable development (127)**

Description on sustainable development was corrected in response to CAR 2. In the revised version of PDD, the project participant described contribution to sustainable developed as per four indicators of sustainable development stipulated by Ministry of Environment & Forests. The validation team is of the opinion that the description is adequate. The project provides employment to local people as was confirmed by meeting with local villager during site visit. The project supplies electricity to state grid. According to Indian regulation, the implementation of the wind mills does not require an environmental impact assessment. Hence no public hearing is necessary for these projects. In response to CAR 23, project participant described regarding adequate disposal of solid and oily waste generated from the project activity. The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Please refer to section 3.1 of this report.

### **3.10 Local stakeholder consultation (130)**

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

The local stakeholders consultation meetings were conducted by Project Participant to get their comments and suggestions of the project activity. Stakeholders' consultation meetings was held on 10th April 2008. Advertisement was published in newspaper on 1st April 2008.

Complete identification of stakeholder that made comments was not made in webhosted PDD and CAR 26 was raised. CAR 26 was closed after complete identification of stakeholders was made in revised PDD.

A copy of newspaper advertisement was provided to the validation team. During the site visit of the validation team to the windmill site, interview

**VALIDATION REPORT**

was conducted with local villager. The local villager appreciated the Project activity. The project has given employment to local people and the local villager viewed the project as contributing to local environmental benefits and social-economy. There were no negative comments from the stakeholders regarding the project activity. The validation team hereby confirms that the process of local stakeholder consultation is observed to be adequate

### **3.11 Environmental impacts (133)**

As per the Schedule of the EIA notification dated 14th September 2006 (Ref 61), given by the Ministry of Environment and Forests (Government of India) under the Environment (Protection) Act 1986, EIA is not a regulatory requirement in India for wind energy projects. Thus the project activity doesn't require EIA. The project activity does not involve any negative environmental impacts, as the WEGs are installed for generation of power using wind which is a clean source of energy. In response to CAR 23, project participant described regarding adequate disposal of solid and oily waste generated from the project activity.

## **4. COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

The initial PDD using methodology AMS ID ver 13 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 30<sup>th</sup> Dec 2008 to 28<sup>th</sup> Jan 2009. No comments were received.

The project participant had earlier used methodology AMS ID, ver 13. In EB 54, a new methodology AMS IF, Renewable electricity generation for captive use and mini-grid was approved. The methodology is for projects that displace grid or captive electricity with renewable electricity. The project participant revised the PDD with methodology AMS IF, ver 1. Thus the revised PDD was again webhosted on the UNFCCC for global stakeholders comments. The PDD was again webhosted from 13<sup>th</sup> June 2010 to 12<sup>th</sup> July 2010. Comments were received from 1 entity. The project participant provided response to these comments. Validation team took due account of these comments and the respective responses while making the validation opinion. The details of the comments received, responses by the project participant/s and the explanation of how due account of these is taken by the validation team are attached as Appendix B with this validation report. Comments regarding skilled/unskilled people hired from surrounding areas and environmental impacts of windmills have been appropriately addressed by project participant as detailed in Appendix B.

## 5. VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the 5 MW Wind Power Project by Gokul Refoils and Solvent Limited Project in India. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant used Attachment A to Appendix B of Simplified modalities and procedures for small scale CDM project activities for demonstration of the additionality. The PDD provides investment barrier to demonstrate additionality. The internal rate of return of the project (with even sensitivity on project cost, tariff, PLF and operation and maintenance cost) is less than the benchmark chosen and hence it is demonstrated that the project is additional.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (version 7) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of '5 MW Wind Power Project by Gokul Refoils and Solvent Limited' as CDM project activity.

## 6. REFERENCES

### **Category 1 Documents:**

Documents provided by Gokul Refoils and Solvent Limited that relate directly to the GHG components of the project.

- (Ref 1) Project Design Document ver 07 dated 02/02/2011
- (Ref 2) Extract from the minutes of the Board meeting of M/s Gokul Refoils & Solvent Limited held on 30<sup>th</sup> March 2006.
- (Ref 3) Board register containing original of above minutes
- (Ref 4) Purchase order dated for supply of 2 nos of Wind Turbine Generator dated 15<sup>th</sup> April 2006 (for 2.5 MW) and amendment in purchase order dated 20<sup>th</sup> April 2006
- (Ref 5) Work order for civil works, electrical work and erection and commissioning of 2 nos WTGs in Kutch, Gujarat dated 15<sup>th</sup> April 2006. and amendment in purchase order dated 20<sup>th</sup> April 2006.
- (Ref 6) Work order for supply and installation of electrical line for power transmission and metering in respect of windfarm project consisting of 2 nos WTG dated 15<sup>th</sup> April 2006 and amendment in purchase order dated 20<sup>th</sup> April 2006.
- (Ref 7) Purchase order for supply of 2 nos transformer (s) for Suzlon make WTG dated 20<sup>th</sup> April 2006
- (Ref 8) Work order for supply for electrical items in respect of windfarm project consisting of 2 nos WTG dated 15<sup>th</sup> April 2006 and amendment in work order dated 20<sup>th</sup> April 2006.
- (Ref 9) Purchase order for supply of 2 nos 1250 KW Suzlon make WTGs dated 15<sup>th</sup> Sept 2006.
- (Ref 10) Purchase order for supply of 2 nos Transformer for 1250 KW Suzlon make WTGs dated 15<sup>th</sup> Sept 2006.
- (Ref 11) Purchase order for supply of 2 nos of Tubular tower Transformer for 1250 KW Suzlon make WTGs dated 15<sup>th</sup> Sept 2006.
- (Ref 12) Power evacuation facility for 2 nos WTGs of 1250 KW capacity dated 15<sup>th</sup> Sept 2006.
- (Ref 13) Work order for supply and installation of electrical line for Power transmission and metering for 2 nos WTGs dated 15<sup>th</sup> Sept 2006
- (Ref 14) Work order for civil works including foundation and allied works for 2 nos WTG dated 15<sup>th</sup> Sept 2006.
- (Ref 15) Land lease document for one WTG between the Project Participant and M/s Sarjan Realities dated 12<sup>th</sup> June 2006
- (Ref 16) Land lease document for one WTG between the Project Participant and M/s Sarjan Realities dated 12<sup>th</sup> June 2006
- (Ref 17) Land lease document for one WTG between the Project Participant and M/s Suzlon Gujarat Windpark Ltd dated 25<sup>th</sup> Nov 2006

## VALIDATION REPORT

- (Ref 18) Land lease document for one WTG between the Project Participant and M/s Suzlon Gujarat Windpark Ltd dated 25<sup>th</sup> Nov 2006
- (Ref 19) Certificate of commissioning for windmills (2 nos) Ref no. GEDA/PWF/SGWPL/PWF-GR&SL/Vanku/3190 dated 14/09/2007.
- (Ref 20) Certificate of commissioning for windmills (2 nos) Ref no. GEDA/SGWPL/PWF-GR&SL/Kadoli/2006-07/7818 dated 04/01/2007.
- (Ref 21) Memorandum of Understanding for Certified Emission Reduction (CER) sales between project participant and Fuel solutions dated 13<sup>th</sup> April 2006
- (Ref 22) Agreement between project participant and Sanguine Management Services Private Limited dated 2<sup>nd</sup> Sept 2006
- (Ref 23) Letter by project participant to Sanguine management Services Pvt Ltd dated 12/06/2007 and cancellation letter dated 16/10/2007
- (Ref 24) Proposal by Verve Consulting Pvt Ltd to project participant dated 15<sup>th</sup> Nov 2007.
- (Ref 25) Contract between project participant and Verve Consulting Private Limited dated 15<sup>th</sup> Feb 2008.
- (Ref 26) Wheeling and Banking agreement between Gujarat Energy transmission Corporation Limited and project participant (for 2 WTG) dated 4<sup>th</sup> October 2006.
- (Ref 27) Wheeling and Banking agreement between Gujarat Energy transmission Corporation Limited and project participant (for 2 WTG) dated 19<sup>th</sup> March 2007.
- (Ref 28) Application for Host country approval by project participant dated 04/11/2008.
- (Ref 29) Fax message dated 06/03/2009 from DNA of India regarding meeting of the National CDM authority
- (Ref 30) Host country approval letter Ref No: 4/5/2009-CCC dated 17/04/2009.
- (Ref 31) Proposal from Suzlon Energy Ltd for WTGs Ref no SEL/AHD/AD dated 28/03/2006.
- (Ref 32) Term Loan request letter from project participant (2 WTG) to State bank of Travancore dated 10<sup>th</sup> April 2006
- (Ref 33) Term Loan request letter from project participant (2 WTG) to Union bank of India dated 10<sup>th</sup> April 2006
- (Ref 34) Notice of local stakeholder meeting in the newspaper Kutch Mitra dated 1<sup>st</sup> April 2008.
- (Ref 35) Minutes of the local stakeholder meeting held on 10<sup>th</sup> April 2008.
- (Ref 36) CER calculation spreadsheet
- (Ref 37) IRR calculation spreadsheet

- (Ref 38) Benchmark spreadsheet
- (Ref 39) Specification of S 70 and S64 model WTGs by M/S Suzlon Energy Ltd for lifetime of WTGs.
- (Ref 40) Electricity consumption data of Gandhidham, Sidhpur (Unit I and Unit II) of project participants for pre-project and post-project scenario.
- (Ref 41) Bloomberg snapshots of Power companies for beta value used in return on equity calculations
- (Ref 42) Reserve Bank of India Annual Report 2004-05 (<http://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/65516.pdf>) for risk free rate in return on equity calculations.
- (Ref 43) Previous Loan document for Gokul Refoils & solvents from Punjab National Bank (for recent debt taken).
- (Ref 44) Letter by Company secretary of Gokul Refoils & Solvents regarding debt equity ratio.
- (Ref 45) Letter from Suzlon Energy Limited dated 27/08/2010 regarding lifetime of project activity.
- (Ref 46) Letter by Sushil Budhia Associates for IRR Ref No: MG-449/006/2010-2011 dated 11/10/2010.
- (Ref 47) Techno Economic report presented in the Board meeting at the time of decision making.
- (Ref 48) Letter from the office of Chief Electrical Inspector regarding inspection of CPP at Sidhpur Unit I dated 23/12/2003
- (Ref 49) Application for increase in load sanction to Gujarat Electricity Board dated 15/07/2004
- (Ref 50) Load sanction letter by Uttar Gujarat Vij Company Ltd Ref no: UGVCL/Tech/HT/3561 dated 25/05/2005
- (Ref 51) Letter of Gujarat Electricity Board or sanction of power or Gandhidham unit Ref no: KC/Tech/RT/1480 dated 13/02/2004.
- (Ref 52) Certificate of electrical inspector for Sidhpur dated 20/04/2006.
- (Ref 53) Letter from the office of Chief Electrical Inspector regarding inspection of CPP at Gandhidham dated 06/07/2005.

**Category 2 Documents:**

Background documents related to the design and/or methodologies employed in the design or other reference documents.

## VALIDATION REPORT

- (Ref 54) Guidelines for completing the simplified Project Design Document (CDM-SSC-PDD) and the form for proposed new small scale methodologies (CDM-SSC-NM) ver 5
- (Ref 55) AMS IF Ver 1, Renewable electricity generation for captive use and mini-grid.
- (Ref 56) Attachment A to Appendix B of the simplified modalities and procedures for small scale CDM project activities
- (Ref 57) Tool to calculate emission factor for an electricity system ver 2
- (Ref 58) CEA CO2 baseline database for Indian power sector version 4 dated Oct 2008
- (Ref 59) Guidelines on the assessment of investment analysis ver 3.1, EB 51 Annex 58
- (Ref 60) Income Tax Act, Government of India  
[\[http://law.incometaxindia.gov.in/TaxmannDit/DisplayPage/dpage1.aspx\]](http://law.incometaxindia.gov.in/TaxmannDit/DisplayPage/dpage1.aspx)
- (Ref 61) EIA Notification (S.O 1533) dated 14<sup>th</sup> September 2006
- (Ref 62) GERC tariff order of 2006 dated 11/08/2006
- (Ref 63) General Guidance to SSC CDM Methodologies ver 14.1
- (Ref 64) Guidelines on assessment of de-bundling for SSC project activities, ver 3, EB 54, Annex 13.
- (Ref 65) Non-binding best practice examples to demonstrate additionality for SSC project activities, ver 1, EB 35, Annex 34.
- (Ref 66) Letter by Suzlon Energy Ltd dated 19/07/2010 regarding number of unskilled and skilled labour employed from surrounding areas.
- (Ref 67) Guidelines for demonstrating additionality of renewable energy projects =<5 mw and energy efficiency projects with energy savings <=20 gwh per year, Version 01, EB 54, Annex 15
- (Ref 68) Memorandum of Understanding for Certified Emission Reduction (CERs) sales between Fuel Solutions and Gokul Refoils & Solvents Limited dated 18/04/2010.
- (Ref 69) AMS ID, ver 16, Grid connected renewable electricity generation
- (Ref 70) Tool for demonstration and assessment of additionality, ver 5.2, EB 39, Annex 10.
- (Ref 71) Maintenance (with parts and/consumables) agreement dated 1<sup>st</sup> Sept 2009 between Gokul Refoils & Solvent Ltd and Suzlon Infrastructure Services Ltd
- (Ref 72) LCS generation data from four WTGs for 2007, 2008 and 2009
- (Ref 73) Electricity bills for Gandhidham, Sidhpur Unit-I for period prior to and after decision making and bills for Sidhpur Unit-II.

- (Ref 74) Insurance premium paid receipts for WTGs of United India Insurance Company Ltd and The Oriental Insurance Company Ltd
- (Ref 75) Invoice for sub-station maintenance charges for four WTGs.
- (Ref 76) Net electricity exported to grid at sub-station (as per sharing certificate)
- (Ref 77) Letter of credit by State bank of Travancore for Gokul Refoils & Solvent Ltd
- (Ref 78) Acknowledgement of memorandum of manufacture by Ministry of Commerce & Industry, Government of India for three industrial units.

**Persons interviewed:**

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

1. Mr K.J. Thakkar, Managing Director, Gokul Refoils & Solvent Ltd
2. Mr Hitesh Thakkar, Director, Gokul Refoils & Solvent Ltd
3. Mr G.L. Suthar, Liasioning Officer, Gokul Refoils & Solvent Ltd
4. Mr Ranjit Rajput, Asst Manager, Gokul Refoils & Solvents
5. Mr Pravin Chandra, Verve Consulting Pvt Ltd
6. Mr. Ankush Jain, Verve Consulting Pvt Ltd
7. Mr Paras Aggarwal, Verve Consulting Pvt Ltd
8. Mr Narendra Jadeja, Local villager
9. Mr Dadan Singh, M/s Suzlon Energy Limited
- 10 Mr S.K. Behra, M/s Suzlon Energy Limited

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## VALIDATION REPORT

## **7. CURRICULUM VITAE OF THE DOE'S VALIDATION TEAM MEMBERS**

### **R.S.Premkumar (Team Leader)**

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in the field of Environmental Engineering and has more than 13 years of Industrial work experience in the field of environmental and occupational health and safety management systems. He has undergone intensive training on Clean Development Mechanism. He is involved in the Validation/verification for more than 30 CDM projects.

### **Naresh Badhwar (Team Member)**

Graduate in Civil Engineering from IIT Bombay and Post graduate from Michigan Technological University, USA (Major: Environmental Engineering) and MBA (PT), Finance from Faculty of Management Studies, Delhi. He has around 12 years of experience in environmental regulatory organization, consultancy etc. He has undergone intensive training on Clean Development Mechanism and Environment Management System. He is involved in validation of more than 10 CDM projects.

### **R Reghukumar (Team Member)**

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Post graduate in Environmental Engineering, Management and certified Project Management Professional from PMI, Pennsylvania, USA, with 20 years of work experience, which include teaching, Environmental Management & Monitoring as part of the environmental regulatory authority and Management system auditing with exposure to variety industrial processes. He has undergone intensive training on Clean Development Mechanism and involved in validation / verification of CDM projects.

### **Shrikant Saraf (Technical Expert)**

He is an electrical engineer and is expert in power transmission, monitoring and transmission. Mr. Saraf has been trained for Clean Development Mechanism requirements and has since accompanied verification and validation team as power expert during several CDM validation and verification visits.

### **Sushil Budhia Associates (Financial Expert)**

Services from Sushil Budhia Associates were delivered by Mr. Sushil Budhia and Ms. Usha Gopalan who are both Chartered Accountants. Mr. Sushil Budhia has been practicing as Chartered Accountant for 25 years and he has very wide experience on project finance, taxation and financial auditing. Ms Usha Gopalan has over 15 years of experience in Project finance, taxation and auditing. Mr. Sushil Budhia and Ms. Usha Gopalan have undergone training on Clean Development Mechanism They have conducted verification of financial indicators like IRR for more than 70 CDM projects.

**H B Muralidhar: (Internal Technical Reviewer)**

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in Electrical Engineering with 25 years of experience power generation and distribution related fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects

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## VALIDATION REPORT

## APPENDIX A: CDM PROJECT VALIDATION PROTOCOL

**Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (version 01.2).**

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>1. Approval</b>			INDIA		
a. Have all Parties involved approved the project activity?	VVM	44	DNA approval has been provided	OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	Letter No. 4/5/2009-CCC dated 17 <sup>th</sup> April 2009 has been received from PP. DNA has given a written letter of approval	OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45			
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Letter states that Govt of India has ratified Kyoto Protocol	OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	Letter states that it is approval of voluntary participation of proposed CDM project activity.	OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Letter states that project contributes to sustainable development in India.	OK	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	The title given in host country approval and PDD are same	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Letter is unconditional with respect to (i) to (iv) above	OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Letter has been issued by Ministry of Environment & Forests which is DNA for India and it is for the project activity under validation. Title in approval letter is same as project title stated in PDD.	OK	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	The validation team confirmed the authenticity of the approval from the website of DNA of India. The website confirms approval by DNA under project ID no. 1393-08	OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Refer 1.f above	-	-
<b>2. Participation</b>			<b>Gokul Refoils &amp; Solvent Ltd</b>		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Name of Gokul Refoils & Solvent Limited is given in section A3. of PDD	OK	OK
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	DNA approval has been provided which gives approval for participation.	OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Name of Project participant i.e. Gokul Refoils & Solvent Limited is given in section A3. of PDD	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Name in A3 of PDD is Gokul Refoils & Solvent Limited whereas the name of PP in Annex I is Gokul Refoils & Solvents Limited. Please clarify.	CL 1	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval	VVM	52	DNA approval has been provided which gives approval for participation. (Letter No. 4/5/2009-CCC dated 17 <sup>th</sup> April 2009)	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
document for each of the project participants)					
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	There are no other entities included in PDD other than Gokul Refoils & Solvent Limited	OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	DNA approval has been provided by project participant and it is issued from the relevant DNA.	OK	OK
h. Is there doubt with respect to (g) above?	VVM	53	The validation team confirmed the authenticity of the approval from the website of DNA of India. The website confirms approval by DNA under project ID no. 1393-08.	OK	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Refer 2.h above	-	-
<b>3. Project design document</b>					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	CDM -SSC- PDD form version 3 in effect as of 22 December 2006 has been used. Refer 3.c and other sections below	-	-
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	PDD is as per the requirements for completing PDD. Refer 3.c and other sections below	-	-
c. In CDM-SSC-PDD section A.1 are following provided?	EB 34	Ann 09			
i. Title of project	EB 34	Ann 09	Yes, the title is given as 5 MW Wind Power Project by Gokul Refoils and Solvent Limited.	OK	OK
ii. Current version number and date of document	EB 34	Ann 09	The version no and date are given as Version 1 dated 07/07/2008	OK	OK
d. In CDM-SSC-PDD section A.2 are following provided (max. one page)?	EB 34	Ann 09			
i.A brief description of the project activity	EB	Ann	Pre-project and project scenario are not covered in	CAR 1	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline	34	09	<p>detail for all the plants where electricity is wheeled. Energy balance in pre-project and project scenario is not provided for both the plants where electricity is wheeled.</p> <p>The name of village in commissioning certificate is mentioned as village Vanku whereas name of village in PDD is mentioned as Motisindholi. Please clarify.</p> <p>References/sources are not provided for all the data, tables, figures used in PDD.</p> <p>The specification given in PDD are not matching with the specification given in purchase order ( eg. rotation speed given in PDD is 1010/1515 RPM and rotation speed given in PO is 1006/1506 RPM). The specifications needs to be corrected and they are not mentioned separately for rotor, gear box etc. .</p>		
ii. Explanation how the GHG emission reductions are effected	EB 34	Ann 09	Brief description is mentioned on reduction of greenhouse gases but complete details are not mentioned. Please clarify the same	CL 2	OK
iii. The PP's view on the contribution of project activity to sustainable development	EB 34	Ann 09	<p>The following statement in section A.2 needs to be explained.</p> <p>Industrialisation as on one hand emerged as a backbone of economic development; energy on the other hand is acting as a vital component beyond</p>	CAR 2	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>GDP growth.</p> <p>Explain the meaning of electromechanical work as mentioned in social well being.</p> <p>There is no reference or source given for Power supply scenario (table) and Peak and energy shortage in the state /UT 2004-05 (graph). References/sources are to be provided for all tables and graphs referred in PDD.</p> <p>In environmental well being please explain following</p> <p>Incorporation of renewable energy technology in furtherance of improvement of the environmental quality would also help in better health standards</p>		
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	There are no changes observed during site visit in project capacity. Other comments are mentioned in sections below	-	-
e. In CDM-SSC-PDD section A.3 are following provided in the tabular format?	EB 34	Ann 09			
i. List of project participants and Party(ies)	EB 34	Ann 09	Name of Project participant i.e. Gokul Refoil & Solvents is mentioned in tabular format.	OK	OK
ii. Identification of host party	EB 34	Ann 09	India (Ministry of Environment & Forests) is mentioned as host part. The host party is not correct	CAR 3	OK
iii. Indication whether the Party wishes to be considered as project participant	EB 34	Ann 09	It is indicated as 'No' meaning that it does not wishes to be considered as project participant.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
f. In CDM-SSC-PDD section A.4.1 are following provided?	EB 34	Ann 09			
i. Technical description, location, host party(ies) and address as required?	EB 34	Ann 09	The project is located in Motisindholi village and Kadoli village in Abdasa Taluka of Kutch district of Gujarat. Host party is India	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 34	Ann 09	The latitude, longitude of both the villages are same. Latitude, longitude are not correct.	CAR 4	OK
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	There are no changes observed in location of project. Other comments are mentioned in sections below	-	-
g. In CDM-SSC-PDD section A.4.2 are following provided	EB 34	Ann 09			
i. the list of categories of project activities as per the latest categorization of Appendix B to the simplified modalities and procedures for small-scale CDM project activities, hereafter referred to as Appendix B. (refer <a href="http://cdm.unfccc.int/methodologies/SSCmethodologies">http://cdm.unfccc.int/methodologies/SSCmethodologies</a> )	EB 34	Ann 09	The category name is not correct. The category name is not as per Appendix B of simplified modalities and procedures for small scale activities. In PDD the category is mentioned as "Grid connected renewable electricity generation" Version 13 The category name is not correct.	CAR 5	OK
ii. A description of how environmentally safe and sound technology and know how is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity	EB 34	Ann 09	It is not mentioned whether there is technology transfer in the project activity. Please clarify.	CL 3	OK
h. In CDM-SSC-PDD section A.4.3 is the estimation of emission reductions provided, as requested, in a tabular format?	EB 34	Ann 09	Emissions reductions are given in tabular format.	OK	OK
i. In CDM-SSC-PDD section A.4.4 is information	EB	Ann	It is mentioned that there is no public funding for	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
regarding Public funding provided?	34	09	the project activity		
j. In CDM-SSC-PDD section A.4.5 are following provided?	EB 34	Ann 09			
i. Confirmation that the small-scale project activity is not a debundled component of a	EB 34	Ann 09	It is mentioned in A4.5 that it not a debundled component of a large scale project activity. It is mentioned that there is no project activity with the project participant mentioned above in the same project category and technology or measure registered within the previous two years and whose project boundary is within one km of the project boundary of the proposed small scale activity at the closest point	OK	OK
ii. Indication if there is a registered small-scale project activity under the CDM or an application to register another small-scale project activity under the CDM	EB 34	Ann 09	Refer 3.j.i above	-	-
a. With the same project participants	EB 34	Ann 09	Refer 3.j.i above	-	-
b. Registered within the period of 2 years	EB 34	Ann 09	Refer 3.j.i above	-	-
c. Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity under the CDM at the closest point.	EB 34	Ann 09	Refer 3.j.i above	-	-
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	There is no change in capacity of project observed during site visit. Please refer sections below for comments on other aspects of project	-	-
k. In CDM-SSC-PDD section B.1 is the approved baseline and monitoring methodology and	EB 34	Ann 09	Approved baseline and monitoring methodology AMS – ID ver 13 , Grid connected renewable	CAR 6	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
version no provided?			electricity generation is used. The tool referred in the methodology are not mentioned.		
I. In CDM-SSC-PDD section B.2 are the following provided?	EB 34	Ann 09			
i. Justification of the choice of project activity and category?	EB 34	Ann 09	<p>Justification for category is not provided. All the applicability conditions are not mentioned with justifications.</p> <p>Reference is given in Annex 3 of PDD of ACM0002 but methodology does not refer ACM0002. Please explain.</p>	CAR 7	OK
ii. Demonstration that the project activity qualifies as a small-scale project activity and that it will remain under the limits of small-scale project activity types during every year of the crediting period as per the following:For Type I : the capacity of the proposed project activity will not exceed 15 MW (or an appropriate equivalent); For Type II: the annual energy savings on account of efficiency improvements will not exceed 60 GWh (or an appropriate equivalent) in any year of the crediting period; For Type III: the estimated emission reductions of the project activity will not exceed 60 ktCO <sub>2</sub> e in any year of the crediting period.	EB 34	Ann 09	<p>It is mentioned that the total installed capacity of the wind power generator is 5 MW which is lower than the threshold capacity of 15 MW justifies the consideration of the project activity under Type I of small scale project activity. It is not mentioned that it will remain under limits of small scale during each year of crediting period. Please clarify.</p>	CL 4	OK
m. In CDM-SSC-PDD section B.3 is the project boundary of the project activity, based on the guidance of the applicable project category, provided?	EB 34	Ann 09	<p>Project boundary is not correct. Grid and plants where electricity is wheeled are not included. Western grid is mentioned and it is not as per CEA ver 4. Formatting of figure and table is not correct.</p>	CAR 8	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
n. In CDM-SSC-PDD section B.4 are following provided?	EB 34	Ann 09			
i. The baseline for the proposed project activity with reference to the chosen project category	EB 34	Ann 09	For systems other than using landfill gas, waste gas, wastewater treatment and agro-industries projects, generators using exclusively fuel oil and/or diesel fuel the methodology AMS-ID prescribes baseline as kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh). Version 1 of Tools to calculate emission factor for an electricity system is used whereas the latest version is 1.1. Various alternatives are given. However, alternatives are not given with respect to the two plants where electricity is wheeled. Alternatives for meeting the power requirement in absence of project activity are not provided for two plants. Baseline is not determined after analysing the alternatives for meeting the power requirements. Baseline is not as per the methodology.	CAR 9	OK
ii. Justification of key assumptions and rationales	EB 34	Ann 09	Refer 3.n.i above	-	-
iii. Transparent illustration of all data used to determine the baseline emissions (variables, parameters, data sources etc)	EB 34	Ann 09	Refer 3.n.i above	-	-
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	Refer 3.n.i above for identification of baseline for the project.	-	-
o. In CDM-SSC-PDD section B.5 are following	EB	Ann			



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided?	34	09			
i. Explanation that the proposed project activity is additional as per options provided under attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities	EB 34	Ann 09	<p>As per Attachment A to Appendix B, the investment barrier is given as 'A financially more viable alternative to the project activity would have led to higher emissions' whereas in PDD it is mentioned as 'A financially more viable alternative to the project activity would have led to the following barrier'</p> <p>Thus description is not correct.</p> <p>Barriers due to prevailing practice, investment analysis, technological barriers and other barriers have been used to demonstrate additionality. Please explain how they are prohibitive.</p>	CAR 10	OK
ii. National policies and circumstances relevant to the baseline of the proposed project activity	EB 34	Ann 09	Government of India policies especially with regard to various financial and fiscal incentives being given are not mentioned.	CAR 11	OK
iii. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation. (this is part of the large scale project guidelines. It is better to be retained)	EB 34	Ann 09	A detailed chronology table is not provided for showing awareness of CDM prior to start date of project activity and to show that benefits to CDM was a decisive factor in the decision to proceede and to demonstrate that continuing and real actions were taken to secure CDM status in parallel with its implementation.	CAR 12	OK
p. In CDM-SSC-PDD section B.6.1 are following provided?	EB 34	Ann 09			



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Explanation on how the procedures, in the approved project category to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity.	EB 34	Ann 09	Refer section 5.e below. Relevant electric system as per CEA version 4 is not identified. Explanation and justification for using combined margin are not provided. Complete details are not mentioned for justifying selection of simple OM as per tools.	-	-
ii. Clearly stating of which equations will be used in calculating emission reductions.	EB 34	Ann 09	Refer section 5.e below	-	-
iii. Explanation and justification of all relevant methodological choices, including: where the category provides different options to choose from; where the category provides for different default values	EB 34	Ann 09	Refer section 5.e below. Relevant electric system as per CEA version 4 is not identified. Explanation and justification for using combined margin are not provided. Complete details are not mentioned for justifying selection of simple OM as per tools.	-	-
q. In CDM-SSC-PDD section B.6.2 are following provided?	EB 34	Ann 09			
i. A compilation of information on the data and parameters that are not monitored but determined upfront so as to be available for validation	EB 34	Ann 09	EF data are taken from CEA database which is an official source of information. Information on EFbm, EFbm and EFcm are given, however values are not given upto 4 places of decimal.	CAR 13	OK
ii. The actual value applied	EB 34	Ann 09	Value of EFom, EF bm, EF cm applied are given however values are not given upto 4 places of decimal. Version 4 of CEA database is referred however grid definitions in various sections of PDD is not as per version 4.	CAR 14	OK
iii. Explanation and justification for the choice of the source of data	EB 34	Ann 09	Official data of CEA is used.	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 34	Ann 09	References to CEA database is given	OK	OK



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 34	Ann 09	Refer 3.q.i above		-	-
r. In CDM-SSC-PDD section B.6.3 are following provided?	EB 34	Ann 09				
i. A transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	EB 34	Ann 09	<p>The windmills are located at two different locations with different PLFs, however calculations are shown combined for both the locations. The locations are nearby so variation in PLF may be explained and it is not evident if it is conservative compared to GERC tariff order. Detail calculations are not shown as to how the figure of total electricity generation is estimated. The electricity generation after deducting for line losses and wheeling charges is not considered in calculation of emission reductions. Detailed calculations indicating line losses, wheeling charges with references are not provided. Excel sheet for CER calculations does not contain detailed calculation.</p> <p>It is mentioned in PDD that power generated during 2006-07 is taken as reference for deciding quantum of power to be generated from four WTG. This is not acceptable as there can be year to year fluctuations. The calculations are not correct.</p>	CAR 15	OK	



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 34	Ann 09	Detailed calculations are required to be shown. Refer 3.r.i above	-	-
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 34	Ann 09	The excel sheet provided also does not contain detailed calculations. Refer 3.r.i above.	-	-
iv. Emission reduction calculations for each component are provided separately if more than one component activity is applied	EB 34	Ann 09	The windmills are located at two different locations with different PLFs. The locations are nearby so variation in PLF may be explained and it is not evident if it is conservative compared to GERc tariff order. Refer 3.r.i above.	-	-
s. In CDM-SSC-PDD section B.6.4 are the results of the ex ante estimation of emission reductions for all years of the crediting period, in a tabular format, provided?	EB 34	Ann 09	The results are provided in a tabular format. The units needs to be clarified.	CL 5	OK
t. In CDM-SSC-PDD section B.7.1 are following provided?	EB 34	Ann 09			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 34	Ann 09	It is mentioned that cumulative quantum of electricity supplied from the wind turbine to the grid will be monitored. As per methodology, Monitoring shall consist of metering the electricity generated by the renewable technology However, monitoring of import and export is not mentioned.	CAR 16	OK
ii. For each below parameter the following information, using the table provided:	EB 34	Ann 09			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and	EB 34	Ann 09	Details of various sharing certificates, sub station generation report, monthly generation report, accounting for losses etc are not included. Details regarding how CER will be calculated are not	CAR 17	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
justify which data sources should be preferred			mentioned.		
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	EB 34	Ann 09	Complete details are not mentioned on measurement methods and procedures including QA/QC plan, a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method	CAR 18	OK
iii. A detailed description of the monitoring plan.	EB 34	Ann 09			
a. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 34	Ann 09	Refer 3.t.iii.b below.	-	-
b. The responsibilities for and institutional arrangements for data collection and	EB 34	Ann 09	Responsibilities, institutional arrangements and details for data capture, data storage and period for	CAR 19	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
archiving			which data needs to be stored are not mentioned in details in PDD.		
c. Does the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 34	Ann 09	Monitoring plan mentions about responsibility, CDM team to monitor however the monitoring plan is not transparent on sub station generation report, monthly generation report and sharing certificate etc. The monitoring plan does not contain details procedures that are actually being followed at site including day of month when reading is taken, procedures to be adopted in case of malfunctioning of meters at sub-station etc, means of accounting for CERs if starting date of first verification is in middle of month.	CAR 20	OK
d. Relevant further background information in Annex 4	EB 34	Ann 09	Further information on monitoring plan is provided in Annex 4.  Annex-4 it is mentioned that copy of certificate from GEDA is attached at Annex-5 but there is no annex-5. Please clarify.	CAR 21	OK
u. In CDM-SSC-PDD section B.8 are following provided	EB 34	Ann 09			
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 34	Ann 09	Date of completion of methodology is given as 07/07/2008.	OK	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 34	Ann 09	The person/entity responsible for application of baseline study and monitoring methodology is mentioned as Gokul Refoils and Solvent and Verve Consulting Pvt. Ltd.	OK	OK
iii. Indicated if the person/entity is also a project	EB	Ann	Gokul Refoils and Solvent is a project participant,	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
participant listed in Annex 1	34	09	however Verve Consulting Pvt. Ltd is not a project participant.		
v. In CDM-SSC-PDD section C.1.1 are following provided?	EB 34	Ann 09			
i. The starting date of a CDM project activity is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 34	Ann 09	The project activity start date is given as 06/09/2006 which is date at which first set of WTGs was commissioned. This is not matching with the commissioning date as given in commissioning certificate. The date as per commissioning certificate is 18/7/2006. Also, as per EB 33, para 76, start date of a CDM project activity is the earliest of the dates at which the implementation or construction or real action of the project activity begins. The start date is not correct.	CAR 22	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 34	Ann 09	Start date is not correct. Refer 3.v.i above.	-	-
iii. If this starting date is earlier than the date of publication of the CDM-SSC-PDD for global stakeholder consultation by a DOE, does Section B.5 above contain a description of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).? (though this is in guideline for large scale projects, it is advisable to maintain this for small scale projects as well)	EB 34	Ann 09	Please refer 3.o.iii above	-	-
w. In CDM-SSC-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 34	Ann 09	Operational lifetime is given as 20 years 0 months.	OK	OK



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
x. In CDM-SSC-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and completed C.2.1 or C.2.2 accordingly?	EB 34	Ann 09	It is stated that project will use fixed crediting period and details are mentioned in C2.2.	OK	OK
y. In CDM-SSC-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 34	Ann 09	The project participant has taken fixed crediting period.	OK	OK
z. In CDM-SSC-PDD section C.2.1.1 are the dates in the following format: (DD/MM/YYYY) provided?	EB 34	Ann 09	Refer 3.x above	-	-
aa. In CDM-SSC-PDD section C.2.1.2 is the length of the first crediting period in years and months?	EB 34	Ann 09	Refer 3.x above	-	-
bb. In CDM-SSC-PDD section C.2.2 is it indicated fixed crediting period at most ten (10) years	EB 34	Ann 09	Fixed crediting period is taken as 10 years	OK	OK
cc. In CDM-SSC-PDD section C.2.2.1 are the dates in the format (DD/MM/YYYY) provided?	EB 34	Ann 09	Dates are mentioned as 01/07/2009 or date of registration whichever be later	OK	OK
dd. In CDM-SSC-PDD section C.2.2.2 is the length of the crediting period in years and months provided?	EB 34	Ann 09	The length of crediting period is mentioned as 10 years 0 months.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ee. In CDM-SSC-PDD section D.1 is the documentation on the analysis of the environmental impacts, if required by Host Party, provided?	EB 34	Ann 09	<p>EIA is not required for wind projects in India. Please explain the following statements in D1</p> <p>Pollution is inevitable generation of waste stream from production of secondary form of energy through use of primary fossil fuel.</p> <p>Nor will the operation of the project activity will harm the maintenance and natural evolution of genetic diversity of flora and fauna.</p> <p>Text mentioned above needs to be explained.</p> <p>Method of disposal of solid waste and hazardous oily waste from windmills is not detailed in PDD.</p>	CAR 23	OK
ff. In CDM-SSC-PDD section E.1 are following provided?	EB 34	Ann 09			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted	EB 34	Ann 09	<p>Copy of advertisement in Kutch Mitra dated 1<sup>st</sup> April 2008 has been provided. Please clarify whether notices were also placed in other newspapers.</p> <p>It is also mentioned in PDD that consultation was held with local villagers prior to start of project activity. Please provide details.</p>	CAR 24	OK
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM	EB 34	Ann 09	<p>It is mentioned that Representative, Gokul Refoils and Solvents Ltd. gave a brief introduction of the project. Technical insights were given by Mr. Dwijal Mamtora, Technical representative of</p>	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
modalities and procedures			SUZLON and CDM aspects were discussed by CDM consultant..		
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation	EB 34	Ann 09	<p>As per PDD, Stakeholder meeting was held on 3<sup>rd</sup> April 2008 and DOE contract was signed on 6<sup>th</sup> Nov 2008.</p> <p>As per PDD, the stakeholder meeting was held on 3<sup>rd</sup> April 2008 whereas as per letter of Gokul Refoils and Solvents dated 31/3/08, the stakeholder meeting was held on 10<sup>th</sup> April 2008. Please clarify</p>	CAR 25	OK
gg. In CDM-SSC-PDD section E.2 are following provided?	EB 34	Ann 09			
i. Local stakeholders that have made comments identified	EB 34	Ann 09	Complete identification of stakeholders that have made comments is not provided in PDD.	CAR 26	OK
ii. A summary of these comments	EB 34	Ann 09	Summary of comments are given in E2. However complete details are not mentioned. Please clarify the same. Minutes of meeting are to be provided	CL 6	OK
hh. In CDM-SSC-PDD section E.3 is and explanation of how due account have been taken of comments received from local stakeholders provided?	EB 34	Ann 09	It is mentioned that no negative comments were received.	OK	OK
ii. In CDM-SSC-PDD Annex 1 are following provided?	EB 34	Ann 09			
i. Contact information of project participants	EB 34	Ann 09	Name in A3 of PDD is Gokul Refoils & Solvent Limited whereas the name of PP in Annex I is Gokul Refoils & Solvents Limited. Please clarify.	CL 1	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP,	EB 34	Ann 09	The details are provided in Annex I.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Country, Telephone and Fax or e-mail					
jj. In CDM-SSC-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 34	Ann 09	It is mentioned in Annex 2 that there is no public funding for the project activity.	OK	OK
kk. In CDM-SSC-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 34	Ann 09	CEA version 4 is referred in Annex 3 but grid definition based on earlier version are mentioned in PDD. Please refer 3.p.ii above. It is mentioned that combined margin emission factor is estimated using ACM 0002. Please refer 3.l.i above	-	-
ll. In CDM-SSC-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 34	Ann 09	The details on monitoring methodology is provided in Annex 4. However a QA/QC plan needs to be incorporated. Serial no. of commissioning certificate mentioned in Annex-4 Is not matching with the copy of commissioning certificate provided during site visit. Please clarify.	CL 7	OK
<b>4. Project description</b>					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	The project description is provided in PDD.  The WTG numbers and other identification details are not included in PDD in project description	CAR 27	OK
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59			
i. sufficiently covering all relevant elements?	VVM	59	Pre-project and project scenario needs to be	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			covered in more detail. Refer 3.d.i above.		
ii. accurate?	VVM	59	It is mentioned that project will generate 114 lakh KWh whereas net power generated in B6.3 is 105.1 lakh KWh. Line losses, wheeling charges needs to be mentioned and details to be provided and explained with supporting documents. Please refer 3.d.i and 3.r.i above	-	-
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Energy balance in pre-project and project scenario needs to be provided. Refer 3.d.i above	-	-
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	There is no change in the capacity of project observed during site visit. Please refer sections below for comments on other aspects of project.	-	-
c. Is the proposed CDM project activity in existing facilities or utilizing existing equipments?	VVM	60	Proposed project activity is a new activity. However it needs to be clarified that there is no equipment transfer.	CL 8	OK
d. Is the CDM project activity one of the following types:	VVM	60			



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Large scale?	VVM	60	Project is not a large scale project	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	Project is a small scale project activity with total installed capacity of the wind power generator is 5 MW which is lower than the threshold capacity of 15 MW	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	Project is not a bundled project.	OK	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	Site visit was carried out from 25 <sup>th</sup> to 28 <sup>th</sup> Feb 2009.	OK	OK
f. If yes to (d.iii) above, was the number of physical site visits base on sampling?	VVM	60	It is not a bundled project	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	It is not a bundled project	OK	OK
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	Site visit was carried out from 25 <sup>th</sup> to 28 <sup>th</sup> Feb 2009.	OK	OK
i. For all other proposed CDM project activities not referred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	Site visit was carried out from 25 <sup>th</sup> to 28 <sup>th</sup> Feb 2009.	OK	OK
j. If no, was it appropriately justified?	VVM	62	Site visit was carried out from 25 <sup>th</sup> to 28 <sup>th</sup> Feb 2009.	OK	OK
k. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	Proposed project activity is a new activity.	CL 8	OK
l. If yes, does the project description clearly state	VVM	63	Not applicable	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the differences resulting from the project activity compared to the pre-project situation?					
<b>5. Baseline and monitoring methodology</b>					
<b>a. General requirement</b>					
a. Do the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Approved baseline and monitoring methodology AMS – ID , Grid connected renewable electricity generation is used which is approved by CDM EB.	OK	OK
b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b) below	-	-
c. Had the PP correctly applied the selected methodology?	VVM	66	Refer to (5.b) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Refer to 6.b below	-	-
i. Whether Additionality demonstrated as per Attachment A to Appendix B of the simplified modalities and procedures for small scale project activities.			Additionality is demonstrated as per investment barrier. Please refer section 6.b below	-	-
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	It is mentioned that cumulative quantum of electricity supplied from the wind turbine to the grid will be monitored. However, it is to be explained	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			whether import and export are monitored separately. Refer 3.s.i above		
i. Is the monitoring methodology applicable to the project being considered?	VVM	67	Yes, methodology is applicable to the project activity	OK	OK
ii. Is the application of the monitoring methodology transparent?	VVM	67	No, the application of the monitoring methodology is not transparent since it does not include information on imports by project activity. Measurement of electricity imported and exported is not detailed. Refer 3.t.i above.	-	-
iii. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?	VVM	67	The monitoring methodology relies on metered data and hence it will give opportunity for real measurement of achieved emission reductions	OK	OK
<b><i>b. Applicability of the selected methodology to the project activity</i></b>					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity including that the used version is valid?	VVM	68	Yes, approved methodology, AMS-ID, Grid connected renewable electricity generation is used. However each of the applicability conditions are not mentioned in the PDD with justifications. Please refer 3.l.i above	-	-
i. Does project consists of renewable energy units?	VVM	68	Yes, the project involves wind based power generation.	OK	OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	AMS ID is applicable for wind projects. Please refer 3 above for issues identified on applicability of methodology and other issues etc. There is no specific guidance for AMS ID other than general guidance on SSC CDM	-	-
c. Is the methodology correctly quoted?	VVM	70	Tools referenced in the methodology are not mentioned in section B1 of PDD. Please refer 3.k above.	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Reference is given in Annex 3 of PDD of ACM0002 but methodology does not refer ACM0002. Please refer 3.l.i above		
d. Are the applicability conditions of the methodology met?	VVM	71	The project proponent needs to include details on meeting each of the applicability conditions stating all the applicability conditions. Please refer 3.l.i above	-	-
ii. Does unit has both renewable and non-renewable component?	VVM	71	The project only involves installation of windmills. Please refer 3.l.i above.	OK	OK
e. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No emissions other than allowed by methodology are expected.	OK	OK
f. Is the choice of the methodology justified?	VVM	71	The project proponent needs to include details on meeting each of the applicability conditions stating all the applicability conditions. Please refer 3.l.i above.	-	-
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to 3.l.i above	-	-
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	The project proponent needs to include details on meeting each of the applicability conditions stating all the applicability conditions. Please refer 3.l.i above.	-	-
iii. Does project activity supplies electricity to grid or wheeling of electricity?	VVM	71	The electricity is wheeled to the industry.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	71	The project proponent needs to include description that all the applicability conditions are met and also mention all the documents. Please refer 3.l.i above.	-	-
j. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	Refer 3.l.i and 5.b.h above	-	-
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	The project proponent needs to include description that all the applicability conditions are met. Please refer 3.l.i above.	-	-
l. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	Not applicable	-	-
m. If answer to (5.b.c) above is "no", revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	Not applicable	-	-
n. If yes to (5.b.k) and (5.b.l) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	Not applicable	-	-
<b>c. Project boundary</b>					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the	VVM	78	Project boundary is not correct. Grid and plants where electricity is wheeled are not included. Western grid is mentioned and it is not as per CEA ver 4. Formatting of figure and table is not correct.	CAR 8	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
proposed CDM project activity?					
i. Does project boundary includes physical geographical site of renewable generation source?	VVM	78	Project boundary Is not correct. Grid and plants where electricity is wheeled are not included. Western grid is mentioned and it is not as per CEA ver 4. Formatting of figure and table is not correct.	CAR 8	OK
b. Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	Latest version of CEA database is not used. Please refer 5.c.a.i above.	-	-
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Latest version of CEA database is not used. Please refer 5.c.a.i above.	-	-
d. Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	There is no change in project boundary observed during site visit. Please refer 5.c.a.i above.	-	-
e. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	No sources and GHGs are required by methodology	OK	OK
f. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	79	Refer 5.c.a.i and 5.c.d above	-	-
g. If yes, have the project participants justified that choice?	VVM	79	Refer 5.c.a.i and 5.c.d above	-	-
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	Refer 5.c.a.i and 5.c.d above	-	-
<b>d. Baseline identification</b>					



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	For systems other than using landfill gas, waste gas, wastewater treatment and agro-industries projects, generators using exclusively fuel oil and/or diesel fuel the methodology AMS-ID prescribes baseline as kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh). Version 1 of Tools to calculate emission factor for an electricity system is used whereas the latest version is 1.1. Various alternatives are given. However, alternatives are not given with respect to the two plants where electricity is wheeled. Alternatives for meeting the power requirement in absence of project activity are not provided for two plants. Baseline is not determined after analysing the alternatives for meeting the power requirements. Baseline is not as per the methodology.	CAR 9	OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	Baseline description is not correct. Refer 5.d.a above.	-	-
i. Whether tools to calculate emission factor for an electricity system has been used?	VVM	82	Version 1 of tools to calculate emission factor for an electricity system is used whereas the latest version is 1.1. Refer 5.d.a above.	-	-
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario	VVM	82	Yes, the methodology requires determining combined margin as per tool to calculate the emission factor for an electricity system.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
and demonstrate additionality") to establish the baseline scenario?					
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	Tools to calculate emission factor for an electricity system were used, however latest version has not been used. Annex 3 refers to calculate combined margin as per ACM 0002 which needs to be corrected. Please refer 3.k and 3.l.i above	-	-
i. Whether relevant electric power system has been identified?	VVM	82	Relevant electric system as per CEA version 4 needs to be identified. Please refer 3.q.ii above	-	-
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	Refer 5.d.a above.	-	-
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	Refer 5.d.a above.	-	-
g. Has any reasonable alternative scenario been excluded?	VVM	83	Refer 5.d.a above.	-	-
h. Is the baseline scenario identified reasonably supported by:					
i.Assumptions?	VVM	84	Refer 5.d.a above.	-	-
ii.Calculations?	VVM	84	Refer 5.d.a above.	-	-
iii.Rationales?	VVM	84	Refer 5.d.a above.	-	-
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Reference is given to cost of electricity generation from coal based power shows much larger variability than mentioned in PDD which is not correct. Calculations on cost for rejecting various alternatives such as coal based power generation are not included.	CAR 28	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			The references for natural gas shortage does not mention anything specific regarding non availability of natural gas in Gujarat.		
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (Identify the sources)	VVM	84	Detailed information, sources and references are not provided in PDD. Refer 5.d.a above	-	-
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	The pre-project energy usage, fuel usage details needs to be provided. Justification with proper references are required for rejecting various alternatives. Refer 5.d.a above	-	-
l. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	Government of India policies especially with regard to various financial and fiscal incentives being given are not mentioned.	CAR 11	OK
m. Does the PDD provide a verifiable 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?	VVM	86	Refer 5.d.a above.	-	-
<b>e. Algorithms and/or formulae used to determine emission reductions</b>					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	Relevant electric system as per CEA version 4 is not identified. Explanation and justification for using combined margin are not provided. Complete details are not mentioned for justifying selection of simple OM as per tools.	CAR 29	OK



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	<p>The windmills are located at two different locations with different PLFs, however calculations are shown combined for both the locations. The locations are nearby so variation in PLF may be explained and it is not evident if it is conservative compared to GERC tariff order. Detail calculations are required to be shown as to how the figure of total electricity generation is estimated. The electricity generation after deducting for line losses and wheeling charges needs to be considered in calculation of emission reductions. Detailed calculations indicating line losses, wheeling charges with references are to be provided. Excel sheet for CER calculations does not contain detailed calculation.</p>	CAR 15	OK
i. Are the calculations documented in a complete and transparent manner?	VVM	90	<p>The CEA data and its background information is publicly available. Since project participant used the official and publicly available data, the information is transparent. However the latest version of CEA data is not referred in PDD. Please refer 5.e.b above</p> <p>More details are required for justifying selection of simple OM as per tools.</p> <p>Net annual generation is 105.1 lakh KWh but value taken for calculation is 11400 MWh pa. Net</p>	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			electricity generation should be used for estimating emission reductions. Refer 3.r.i above		
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Yes, AMS-ID allows calculation of combined margin by two methods.	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	Methodology allows any one of the methods to be used. Calculations needs to be based on data from official source. CEA database which is from an official source has been used, however, latest version is to be referred in PDD. Refer 5.e.a above	-	-
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Ex-ante calculation of emission factor is carried out. However, net electricity generated will be monitored throughout the crediting period.	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91			
i. Appropriate and correct?	VVM	91	Detailed calculations are required.	CAR 15	OK
ii. Applicable to the proposed CDM project activity?	VVM	91	The data are applicable	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	The data is official and observed to be conservative. Net annual generation is 105.1 lakh KWh but value taken for calculation is 11400 MWh pa. Net electricity generation should be used for estimating emission reductions. Refer 3.r.i above	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Ex-ante calculation of emission factor is carried out. However, electricity generated will be monitored throughout the crediting period.	OK	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Refer 5.e.h above	-	-
<b>6. Additionality of a project activity</b>					
a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	94	The PP has considered barriers due to prevailing practice, investment analysis, technological barriers and other barriers to demonstrate additionality	OK	OK
b. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Attachment A to Appendix B has been used for demonstrating additionality	OK	OK
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Attachment A to Appendix B has been used for demonstrating additionality	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	Barriers due to prevailing practice, investment analysis, technological barriers and other barriers are used to demonstrate additionality	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Common practice is not used as additionality tool is not used as the project is a small scale project.	OK	OK
c. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
d. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
e. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
f. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
h. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
i. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Additionality tool is not used to demonstrate additionality so no identification of alternatives is carried out.	OK	OK
j. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	Investment analysis and barrier analysis have been used	OK	OK
k. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Investment analysis has been used	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost	EB	Ann	Simple cost analysis has not been used	OK	OK



## VALIDATION REPORT

BUREAU  
VERITAS

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
analysis;	39	10			
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Investment comparison analysis has not been used	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Benchmark analysis has been used	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	IRR has been used as financial indicator	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Sensitivity analysis has been carried out	OK	OK
I. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10			
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	Simple cost analysis has not been carried out. There are revenues other than CDM also.	OK	OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Benchmark analysis has been used. Attachment A to Appendix B has been used.	OK	OK
m. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Simple cost analysis has not been carried out. There are revenues other than CDM also.	OK	OK
n. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis?	EB 39	Ann 10	IRR has been used as financial indicator. Please refer 6.c below	-	-



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify					
o. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10			
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	IRR has been used as financial indicator	OK	OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.	EB 39	Ann 10	IRR has been used as financial indicator and benchmark analysis has been carried out. Please refer 6.c below	-	-
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital	EB 39	Ann 10	Benchmark of Govt bond rates increased by risk premium has been used. Please refer 6.c below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
p. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10			
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly	EB 39	Ann 10	IRR has been used as financial indicator. Please refer 6.c below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.					
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Please refer 6.c below for issues identified on IRR analysis	-	-
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Please refer 6.c below for issues identified on IRR analysis	-	-
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Please refer 6.c below for issues identified on IRR analysis	-	-
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Please refer 6.c below for issues identified on IRR analysis	-	-
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	Please refer 6.c below for issues identified on IRR analysis	-	-
q. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Sensitivity analysis has been carried out. Please refer 6.c below for issues identified on sensitivity analysis.	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
r. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Please refer 6.c below	-	-
s. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-
t. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10			
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	Investment analysis is carried out. Attachment A to Appendix B is used to demonstrate additionality	OK	OK
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant	EB 39	Ann 10	Please refer 6.d below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.					
iii. (c) Barriers due to prevailing practice: The project activity is the “first of its kind”.	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-
u. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Please refer 6.d below	-	-
v. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10			
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.						
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below		-	-
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below		-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
w. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Barrier analysis is not acceptable. Please refer 6.d below	-	-
x. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10			
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Common practice analysis is not carried out as additionality tool is not used to demonstrate additionality.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Common practice analysis is not carried out as additionality tool is not used to demonstrate additionality.	OK	OK
y. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Common practice analysis is not carried out as additionality tool is not used to demonstrate additionality.	OK	OK
z. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the	EB 39	Ann 10	Common practice analysis is not carried out as additionality tool is not used to demonstrate additionality.	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.					
aa. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Common practice analysis is not carried out as additionality tool is not used to demonstrate additionality.	OK	OK
bb. Has it been proved that the project is additional?	EB 39	Ann 10	Please refer 6c, 6.d below	-	-
cc. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	Investment barrier is used as per Attachment A to Appendix B.	OK	OK
dd. If Investment barrier has been explained, is it demonstrated that financially more viable alternative to the project activity would have led to higher emissions? Please explain.	EB 35	Ann 34	Benchmark analysis has been used	OK	OK
ee. If Access-to-finance has been explained, is it demonstrated that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	Access to finance barrier has not been used	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ff. If Technological barrier has been explained, is it demonstrated that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	Please refer 6.d below	-	-
gg. If prevailing practise barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	Barrier analysis is not acceptable. Please refer 6.d below	-	-
hh. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	Barrier analysis is not acceptable. Please refer 6.d below	-	-
ii. Have the project participants identified the most relevant barrier?	EB 35	Ann 34	Barrier analysis is not acceptable. Please refer 6.d below	-	-
jj. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	Barrier analysis is not acceptable. Please refer 6.d below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>a. Prior consideration of the clean development mechanism</b>					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	Yes, the project activity start date is 6/9/2006 which is prior to date of publication of PDD for stakeholder comments. However the start date is not correct. Please refer 3.v.i above.	-	-
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	A detailed chronology of events is not provided  Techno feasibility report needs to be provided. Board resolution mentions referring to proposal from Suzlon and installation of 5 MW whereas on scrutiny of Suzlon documents submitted prior to Board resolution it refers to only 2.5 MW.  Revised chronology submitted during the site visit is not complete. A detailed chronology of events is not provided detailing all the evidences that have been submitted. The sign of witness is not there in the agreement with first consultant. Covering letter for agreement with first consultant, letter of acceptance from first consultant and response to notice of cancellation are to be provided.	CAR 30	OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at	VVM	99	The project activity start date is given as 06/09/2006 which is date at which first set of WTGs was commissioned. However as per EB 33,	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
which either the implementation or construction or real action of a project activity begins.”?			para 76, start date of a CDM project activity is the earliest of the dates at which the implementation or construction or real action of the project activity begins. The start date is not correct. Refer 3.u.i above		
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	No, the project activity is a new project. However it needs to be clarified whether there is any equipment transfer. Please refer 4.c above.	-	-
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	As per EB 33,para 76, start date of a CDM project activity is the earliest of the dates at which the implementation or construction or real action of the project activity begins. The start date is not correct. Refer 3.v.i above	-	-
f. Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	The activity start date is before 2 <sup>nd</sup> August 2008.	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and/or UNFCCC secretariat).	VVM	101	Not applicable	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102			
ii. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	102	<p>Board resolution has been provided. A detailed chronology of events is not provided for showing awareness of CDM prior to project activity start date and also it is not shown that CDM was a decisive factor in the decision to proceed with the project.</p> <p>A detailed chronology table is not provided.</p>	CAR 31	OK
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?	VVM	102	Board resolution has been submitted however the statements in Board resolutions needs to be clarified regarding 100% equity .Refer 6.c.e below	-	-
iii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	102	A detailed chronology of events is not provided to show real actions were taken to secure CDM status for the project in parallel with its implementation. Appointment of CDM consultant has taken place after commissioning of first windmill and also after six months from the date of board resolution.	CAR 32	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	102	Appointment of CDM consultant has taken place after commissioning of first windmill and also after six months from the date of board resolution. Documents are to be submitted to show real actions were taken to secure CDM status for the	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			project in parallel with its implementation. Refer 6.a.h.iii and 6.a.b above		
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	Please clarify whether there are any documents on emission reduction purchase agreement or documentation regarding sale of potential CERs	CL 9	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	Date of appointed DOE is 6/11/2008 which is after commissioning of second set of WTGs Refer 6.a.h.iii	-	-
d. submission of a new methodology to the CDM Executive Board?	VVM	102	Not applicable	-	-
e. publication in newspaper?	VVM	102	There is no evidence of publication in newspaper	OK	OK
f. interviews with DNA?	VVM	102	There is no evidence of interview with DNA.	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?			There is no evidence of earlier correspondence on the project with DNA or UNFCCC secretariat	OK	OK
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	Chronology of event sis not detailed and complete. Please refer 6.a.b. above	-	-
<b><i>b. Identification of alternatives</i></b>					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	Methodology prescribes baseline but details are required as to how power requirements of the industry were met before the project activity and details of fuels used. Please refer 5.d.a above.	-	-
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	PDD includes alternatives for power generation	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
c. Does the list of alternatives given in the PDD ensure that:	VVM	106			
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	PDD includes using wind energy as one of the alternatives	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	106	The alternatives are mentioned but detailed justification is required for rejecting the alternatives. Please refer 5.d.a above.	-	-
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	The alternatives comply with the legal requirements	OK	OK
<b>c. Investment analysis</b>					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Yes, investment analysis has been used to demonstrate additionality	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108			
i. the most economically or financially attractive alternative?	VVM	108	No alternatives are compared	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	It is shown that IRR without CDM is below the benchmark	OK	OK
c. Was this shown by one of the following approaches?	VVM	109			
i. The proposed CDM project activity would produce no financial or economic benefits	VVM	109	Not applicable	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	Not applicable	-	-
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	IRR without CDM is shown to be below the benchmark	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	IRR is computed for 20 years which is the lifetime of project	OK	OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	IRR is computed for 20 years which is the lifetime of project	OK	OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity,	EB 51	Ann 58	IRR is computed for 20 years which is the lifetime of project	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
without reference to the proposed CDM crediting period?					
h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Salvage value is not accounted in the IRR calculations. Please refer 6.c.rr below	-	-
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Salvage value is not accounted in the IRR calculations. Please refer 6.c.rr below	-	-
j. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 51	Ann 58	Salvage value is not accounted in the IRR calculations. Please refer 6.c.rr below	-	-
k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 51	Ann 58	No references or sources are given for the assumptions made in IRR calculations either in PDD or in the IRR sheet. It is not clear from the PDD and IRR sheet whether input values were applicable at the time of decision making.	CAR 33	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	No references or sources are given for the assumptions made in IRR calculations either in	CAR 33	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			PDD or in the IRR sheet. It is not clear from the PDD and IRR sheet whether input values were applicable at the time of decision making.		
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	No references or sources are given for the assumptions made in IRR calculations either in PDD or in the IRR sheet. It is not clear from the PDD and IRR sheet whether input values were applicable at the time of decision making.	CAR 33	OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recommence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 51	Ann 58	Not applicable	-	-
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	Excel spreadsheet has been provided for IRR calculations	OK	OK
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	The formulas are readable and cells are viewable and unprotected	OK	OK
s. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 51	Ann 58	Not applicable	-	-
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not applicable	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcuation of equity IRR? (this is not allowed)	EB 51	Ann 58	Please refer 6.c.rr below	-	-
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
cc. Has required/expected returns on equity selected	EB	Ann	Benchmark applied is Govt bond rates increased	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
as appropriate benchmark for an equity IRR?	51	58	by risk premium. Please refer 6.c.ww below	-	-
dd. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
ff. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 51	Ann 58	Internal benchmark has not been used	OK	OK
gg. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 51	Ann 58	Internal benchmark has not been used	OK	OK
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	Internal benchmark has not been used	OK	OK
ii. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
conduted?					
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 51	Ann 58	Benchmark applied is Govt bond rates increased by risk premium. Please refer 6.c.ww below	-	-
kk. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 51	Ann 58	Please refer 6.c.rr below	-	-
ll. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 51	Ann 58	Sensitivity analysis has been carried out. Please refer 6.c.vv below	-	-
mm. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 51	Ann 58	Please refer 6.c.vv below	-	-
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Please refer 6.c.vv below	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
oo. Does the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 51	Ann 58	Please refer 6.c.vv below		-	-
pp. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 51	Ann 58	Please refer 6.c.vv below		-	-
qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 51	Ann 58				
i. 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?	EB 51	Ann 58	Please refer 6.c.rr below		-	-
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 51	Ann 58	Please refer 6.c.rr below		-	-
rr. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters	VVM	111	Evidence is not provided for all the input values taken for financial analysis.  Evidence is not provided for following		CAR 34	OK



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## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
using the available evidence and expertise in relevant accounting practices conducted?			<ul style="list-style-type: none"> <li>(i) Cost of WTG- 496 lacs / WTG</li> <li>(ii) Evidence for govt bond rate and market risk premium – Govt bond rate from RBI during September 2005 as provided in the link is 7.4381, whereas the value taken is 7.3 in PDD</li> <li>(iii) Substation charges</li> <li>(iv) Processing charges</li> <li>(v) O &amp; M agreement (showing charges with escalation)-. However the O&amp;M agreement is not yet signed with Suzlon</li> <li>(vi) land arrangement charges</li> <li>(vii) insurance charges</li> </ul> <p>Salvage value is not accounted in the IRR calculations</p> <p>Tarrif considered is Rs. 3.62, which is not transparent if it is the tarrif for export to grid or the adjusted tarrif considering wheeling</p> <p>In depreciation, claim is more than 95%. Depreciation rate for land is not relevant.</p> <p>CEA data base referred in the calculations</p> <p>It needs to be clarified as how there are two different PLFs in the same region.</p> <p>As per discussions held during site visit, The</p>		



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>financial calculations are to be revised in view of PLF, benchmark, depreciation, tax calculations</p> <p>The PDD is not transparent on the financial incentives and fiscal incentives for wind projects given by Govt of India.</p> <p>Proposal from Suzlon is referred. The proposal mentions IRR of 34.21% and payback period of 5.04 years. The data do not match with the calculations in PDD. Please clarify</p> <p>Board resolution considers 100% equity sharing which is inconsistent with assumptions in the IRR submitted. Please explain the statement in Board that investment is considering 100% equity sharing and remaining through loan.</p>		
ss. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	111	Refer 6.c.rr above as financial calculations are not correct.	-	-
tt. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	There are no feasibility reports provided. Techno-economic feasibility report as referred in Board resolution is to be provided. Refer 6.a.b above.	-	-
uu. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	111	Refer 6.c.rr above as financial calculations are not correct.	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	<p>It is mentioned in EB 41 Annex 45, (Guidance on the Assessment of Investment Analysis) that 'As a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and .10%'</p> <p>However in PDD, The PDD contains variations of +- 7.5% in power generation. It may be clarified whether it is the PLF that is varied. Please explain.</p>	CAR 35	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Justification is not mentioned in PDD regarding suitability of benchmark..	CAR 36	OK
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Market risk premium is taken from <a href="http://cercind.gov.in/rep1304.pdf">http://cercind.gov.in/rep1304.pdf</a> . This is a report from Crisil Advisory Services and it is mentioned in this report that ' This report is meant for discussion purpose only'. Also the report is not relevant at the time of decision making and is not specific to the project type and hence not in line with the requirement of the additionality tool	CAR 37	OK
yy. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112	Suitability of benchmark may be explained in PDD. Please refer 6.c.ww above.	-	-
i.assessing previous investment decisions by the project participants involved?	VVM	112	Please refer 6.c.ww above.	-	-
ii. determining whether the same benchmark has been applied?	VVM	112	Please refer 6.c.ww above.	-	-
iii.determining if there are verifiable	VVM	112	Please refer 6.c.ww above.	-	-



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
circumstances that have led to a change in the benchmark?					
zz. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM	113	Board resolution refers to techno-economic feasibility report which needs to be provided. Refer 6.a.b above.	-	-
xx. If yes:	VVM	113			
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	113	Not applicable	-	-
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Not applicable	-	-
iii. If not, was the appropriateness of the values validated?	VVM	113	Not applicable	-	-
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	113	Not applicable	-	-
<b>d. Barrier analysis</b>					
a. Has barrier analysis been used to demonstrated	VVM	115	Barrier due to prevailing practice, technological	OK	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the additionality of the proposed CDM project activity?			barriers and other barriers have been used to prove additionality.		
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	The barriers discussed under prevailing practice are not acceptable as they are not prohibitive. The justification is not there for considering them as a barrier.	CAR 38	OK
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	It is not shown that barriers do not prevent implementation of alternatives.	CAR 39	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	No issues are mentioned that have impact on financial returns of the project.	OK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	The barriers discussed under prevailing practice are not acceptable as they are not prohibitive. The justification is not there for considering them as a barrier.	CAR 38	OK
d. Were the barriers determined as real by:	VVM	117			
i. assessing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	117	Please refer 6.d.b.i above and please refer 6.d.d.ii, 6.d.d.iii below.	-	-
ii. ensuring that existence of barriers is substantiated by independent sources of	VVM	117	It is not justified as to why low wind generation capacity is a barrier despite Govt. giving financial	CAR 40	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
data such as relevant national legislation, surveys of local conditions and national or international statistics?			and fiscal incentives.		
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	117	<p>In other barriers, please explain following</p> <p>Lack of experience in the field is not a barrier for wind power project as it is not prohibitive.</p> <p>'The job above from the additional investment requirement has to cover up hurdles of bureaucratic bottle necks in laying transmission lines'.</p> <p>Explain how pre-mature termination of contract is a barrier and also non-availability of grid</p> <p>Incurring expenditure on a sub-station is not a barrier</p>	CAR 41	OK
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	117	It is not shown that barriers do not prevent implementation of alternatives. Refer 6.d.i above	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>e. Common practice analysis</b>					
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	This is not first of its kind small scale project	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	119	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Attachment A to appendix B of simplified modalities and procedures for small scale CDM project activities is used to demonstrate additionality.	OK	OK
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.)	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-
d. Was a region other than the entire host country chosen?	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	Common practice analysis has not been carried out as Additionality tool is not used to demonstrate additionality. Refer 6.e.b above	-	-
<b>7. Monitoring plan</b>					
a. Does the PDD include a monitoring plan?	VVM	122	Monitoring plan is given in section B7.2 of PDD.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Monitoring plan is based on AMS-ID	OK	OK
c. Were the list of parameters required by the selected methodology identified?	VVM	123	AMS-ID states Monitoring shall consist of metering the electricity generated by the renewable technology. This is not clearly stated in PDD. Refer 3.t.i above	-	-
d. Does the monitoring plan contains all necessary parameters?	VVM	123	It is mentioned that cumulative quantum of electricity supplied from the wind turbine to the grid will be monitored.. As per methodology, Monitoring shall consist of metering the electricity generated by the renewable technology However, import and export needs to be monitored separately. Refer 3.t.i above	-	-
e. Are the parameters clearly described?	VVM	123	Separate measurement of electricity import and export is to be carried out.  The PDD does not mention anything about data achieving and data storage. Refer 3.t.iii.b above	-	-
f. Does the means of monitoring described in the plan comply with the requirements of the	VVM	123	No, the monitoring methodology is not in line with AMS I.D. PDD mentions only cumulative quantum	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
methodology?			<p>of electricity supplied from the wind turbine to the grid will be monitored whereas import and export separately are to be monitored.</p> <p>Monitoring plan mentions about responsibility, CDM team to monitor. Details of various sharing certificates, sub station generation report, monthly generation report, accounting for losses etc needs to be included. Details regarding how CER will be calculated needs to be mentioned. Refer 3.t.ii.a above</p>		
g. Is the application of the monitoring methodology transparent?	VVM	123	<p>No, the application of the monitoring methodology is not transparent since it does not include information on imports by project activity. Measurement of electricity imported and exported is to be carried out. Refer 3.t.i above</p> <p>Monitoring plan mentions about responsibility, CDM team to monitor however the monitoring plan is not transparent on sub station generation report, monthly generation report and sharing certificate etc. The monitoring plan should contain detailed procedures that are actually being followed at site including day of month when reading is taken, procedures to be adopted in case of malfunctioning of meters at sub-station etc, means of accounting for CERs if starting date of first verification is in middle of month. Refer 3.s.iii.c above</p>	-	-



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Are the data double-checked against commercial data?	VVM	123	There is no double-checking of data mentioned in PDD. Please clarify	CL 10	OK
ii. Are procedures identified for internal review of GHG project compliance with operational requirements as applicable	VVM	123	Project participant has not defined the procedures for internal review. Please clarify.	CL 11	OK
h. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	122	The monitoring methodology relies on metered data and hence it is feasible	OK	OK
i. Does the monitoring plan provide details regarding calibration of monitoring equipments/instruments or does it include zero check as a substitute for calibration. As per EB guidance related to calibration (monitoring) requirements, zero check can not be considered as a substitute for calibration?	EB 24	37	Complete details are not mentioned on measurement methods and procedures including QA/QC plan, which calibration procedures are applied, what is the accuracy of the measurement method. Please refer section 3.t.ii.b above	-	-
j. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123			
i. data management procedures?	VVM	123	Monitoring plan mentions about responsibility, CDM team to monitor however the monitoring plan should clearly indicate about sub station generation report, monthly generation report and sharing certificate. Refer 7.g above.	-	-
ii. quality assurance procedures?	VVM	123	QA/QC plan needs to be included. Refer 3.t.ii.b above	-	-
iii. quality control procedures?	VVM	123	QA/QC plan needs to be included. Refer 3.t.ii.b above	-	-



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VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>8. Sustainable development</b> a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	<p>The following statement in section A.2 needs to be explained.</p> <p>Industrialisation as on one hand emerged as a backbone of economic development; energy on the other hand is acting as a vital component beyond GDP growth.</p> <p>Explain the meaning of electromechanical work as mentioned in social well being.</p> <p>There is no reference or source given for Power supply scenario (table) and Peak and energy shortage in the state /UT 2004-05 (graph). References/sources are to be provided for all tables and graphs referred in PDD.</p> <p>In environmental well being please explain following</p> <p>Incorporation of renewable energy technology in furtherance of improvement of the environmental quality would also help in better health standards.</p>	CAR 2	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	DNA approval states that project contributes to sustainable development in India.	OK	OK

## VALIDATION REPORT

 BUREAU  
 VERITAS

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>9. Local stakeholder consultation</b>					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	<p>Copy of advertisement in Kutch Mitra dated 1<sup>st</sup> April 2008 has been provided. Please clarify whether notices were also placed in other newspapers.</p> <p>It is also mentioned in PDD that consultation was held with local villagers prior to start of project activity. Please provide details.</p>	CAR 24	OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	As per PDD, the stakeholder meeting was held on 3 <sup>rd</sup> April 2008 whereas as per letter of Gokul Refoils and Solvents dated 31/3/08, the stakeholder meeting was held on 10 <sup>th</sup> April 2008. Please clarify. Please refer 3.ff.iii above	-	-
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	Complete identification of stakeholders that have made comments is not provided in PDD. Summary of comments in E2 needs to be more detailed. Minutes of meeting are to be provided. Refer 3.ff.i. Refer 3.ff.ii above	-	-
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	It is mentioned in E.3 that there were no negative comments in stakeholder meeting	OK	OK
<b>10. Environmental impacts</b>					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	<p>EIA is not required for wind projects in India. Please explain the following statements in D1</p> <p>Pollution is inevitable generation of waste stream from production of secondary form of energy through use of primary fossil fuel.</p>	CAR 23	OK



## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>Nor will the operation of the project activity will harm the maintenance and natural evolution of genetic diversity of flora and fauna.</p> <p>Text mentioned above needs to be explained</p> <p>Method of disposal of solid waste and hazardous oily waste from windmills is not detailed in PDD.</p>		
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	No EIA is required for wind projects in India	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	No EIA is required for wind projects in India	Ok	OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	No EIA is required for wind projects in India	OK	OK

## VALIDATION REPORT

**Table 2** Specific validation activities .

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<b>1. Project design of small-scale clean development mechanism project activities</b>					
a. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities?	VVM	134	The project is a small-scale activity with capacity 5 MW which is less than threshold capacity of 15 MW. The project is Type1, renewable energy project and category is D, energy generation for a system. It is not a debundled component as mentioned in A4.5 of PDD.	OK	OK
b. Does the project activity qualify within the thresholds of the three possible types of small scale project activities? [Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts; Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt hours per year; Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilotonnes of carbon dioxide equivalent annually.]	VVM	135	The installed capacity of the project is 5 MW which is less than the threshold capacity of 15MW applicable for Type 1 small scale CDM project activities	OK	OK
c. Does the project activity conform to one of the	VVM	135	The project is Type: I, Renewable energy project	OK	OK



BUREAU  
VERITAS

## VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
approved small-scale categories?			and project category is D, Electricity generation for a system	-	-
d. Does the project activity apply the relevant tool and methodology?	VVM	135	Refer to (5.b) above	-	-
e. Are the small-scale methodologies applied in conjunction with the general guidance to the methodologies, which provides guidance on equipment capacity, equipment performance, sampling and other monitoring-related issues?	VVM	135	Methodology AMS-ID is applied to project activity. Please refer Table 1 above for issues identified on monitoring etc	-	-
f. Is the project activity a debundled component of a large-scale project, i.e., is there a registered small-scale CDM project activity or an application to register another CDM project activity: (a) with the same project participants; (b) in the same project category and technology/measure; and (c) registered within the previous 2 years; and (d) whose project boundary is within 1 km of the proposed boundary of the proposed small-scale activity at the closest point?	VVM	135	It is mentioned in A4.5 that it is not a debundled component of a large scale project activity. It is mentioned that there is no project activity with the project participant mentioned above in the same project category and technology or measure registered within the previous two years and whose project boundary is within one km of the project boundary of the proposed small scale activity at the closest point	OK	OK
g. Is an assessment of the environmental impacts of the proposed CDM project activity required by the host Party?	VVM	135	Refer to Table 1 (10) above	-	-
h. Is the project additional?	VVM	136	Refer to Table 1 (6.) above	-	-

## VALIDATION REPORT

 BUREAU  
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**Table 3 Resolution of Corrective Action and Clarification Requests**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion
<p><b>CAR 1</b>            Pre-project and project scenario are not covered in detail for all the plants where electricity is wheeled. Energy balance in pre-project and project scenario is not provided for both the plants where electricity is wheeled.</p> <p>The name of village in commissioning certificate is mentioned as village Vanku whereas name of village in PDD is mentioned as Motisindholi. Please clarify.</p> <p>References/sources are not provided for all the data, tables, figures used in PDD.</p> <p>The specification given in PDD are not matching with the specification given in purchase order ( eg. rotation speed given in PDD is 1010/1515 RPM and rotation speed given in PO is 1006/1506 RPM). The specifications needs to be corrected and they are not mentioned separately</p>	Table 1 3 d.i	<p>The electricity from proposed project is wheeled to Gokul's two units:</p> <ol style="list-style-type: none"> <li>1. Sidhpur</li> <li>2. Gandhidham</li> </ol> <p>In pre-project scenario, following sources of electricity were used:</p> <ol style="list-style-type: none"> <li>1. Sidhpur: 3 DG Sets and Electricity from Grid</li> <li>2. Gandhidham: 2 DG Sets, a 0.75 MW Coal based Captive power plant and Electricity from grid.</li> </ol> <p>The proposed project was implemented in Year 2006. Cumulative electricity utilisation data for both the units:</p>	<p>The electricity consumption details are to be shown separately for each unit where electricity is wheeled.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response				Validation conclusion team																													
for rotor, gear box etc.		<table border="1"> <thead> <tr> <th>Year</th><th>Grid (including wind)</th><th>DG</th><th>TG</th><th>Total</th></tr> </thead> <tbody> <tr> <td>2004</td><td>7,851,620</td><td>953,269</td><td>0</td><td>8,804,889</td></tr> <tr> <td>2005</td><td>10,765,313</td><td>1,079,018</td><td>0</td><td>11,844,331</td></tr> <tr> <td>2006</td><td>15,081,367</td><td>454,000</td><td>3,711,941</td><td>19,247,308</td></tr> <tr> <td>2007</td><td>18,789,262</td><td>667,666</td><td>6,145,055</td><td>25,601,983</td></tr> <tr> <td>2008</td><td>12,850,035</td><td>76,935</td><td>3,220,652</td><td>16,147,622</td></tr> </tbody> </table> <p>As demonstrated in table below, total electricity consumption increased by 33% in year 2007 as compared to year 2006. An increase in electricity from Diesel generator, Coal based power plant and Wind turbine was also witnessed, whereas electricity taken from grid decreased. Hence, it can be easily concluded that Wind turbine replaced electricity from grid.</p>				Year	Grid (including wind)	DG	TG	Total	2004	7,851,620	953,269	0	8,804,889	2005	10,765,313	1,079,018	0	11,844,331	2006	15,081,367	454,000	3,711,941	19,247,308	2007	18,789,262	667,666	6,145,055	25,601,983	2008	12,850,035	76,935	3,220,652	16,147,622
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VERITAS

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## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>Electricity from DG is used as a back up option and has seen fluctuation even prior to project activity, hence it can't be considered as a plausible baseline.</p> <p>Electricity from Coal based Captive power plant did witnessed a fall in 2008, but this was much less than that from grid. Also, installed capacity from it is much less as compared to from Wind turbine and hence can't be considered as a plausible baseline option.</p> <p>Hence, as proved by electricity balance for Gokul, electricity from grid is the most plausible baseline option.</p> <p><b><u>Reply 2</u></b></p> <p>The proposed project was commissioned in year 2006. Hence, scenario prior to 2006 is considered from developing baseline.</p>	



## VALIDATION REPORT

BUREAU  
VERITAS

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team																																								
		<p>Electricity generated from proposed project will be wheeled to 3 industrial units of Gokul:</p> <ul style="list-style-type: none"> <li>1. Sidhpur Unit 1</li> <li>2. Sidhpur Unit 2</li> <li>3. Gandhidham</li> </ul> <p>The revised electricity consumption data of industrial units is:</p> <p><b>Sidhpur Unit 1</b></p> <table border="1"> <thead> <tr> <th>Year</th><th>Grid</th><th>DG</th><th>Total</th></tr> <tr> <th></th><th>GWh</th><th>GWh</th><th>GWh</th></tr> </thead> <tbody> <tr> <td>2004</td><td>3.42</td><td>0.82</td><td>4.24</td></tr> <tr> <td>2005</td><td>4.40</td><td>0.87</td><td>5.27</td></tr> <tr> <td>2006</td><td>5.31</td><td>0.06</td><td>5.37</td></tr> </tbody> </table> <p><b>Sidhpur Unit 2</b></p> <table border="1"> <thead> <tr> <th>Year</th><th>Grid</th><th>DG</th><th>Total</th></tr> <tr> <th></th><th>GWh</th><th>GWh</th><th>GWh</th></tr> </thead> <tbody> <tr> <td>2004</td><td>0</td><td>0</td><td>0</td></tr> <tr> <td>2005</td><td>0</td><td>0</td><td>0</td></tr> <tr> <td>2006</td><td>3.11</td><td>0</td><td>3.11</td></tr> </tbody> </table>	Year	Grid	DG	Total		GWh	GWh	GWh	2004	3.42	0.82	4.24	2005	4.40	0.87	5.27	2006	5.31	0.06	5.37	Year	Grid	DG	Total		GWh	GWh	GWh	2004	0	0	0	2005	0	0	0	2006	3.11	0	3.11	
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BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion																																													
		<p><b>Gandhidham</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Grid</th> <th>DG</th> <th>TG</th> <th>Total</th> </tr> <tr> <th></th> <th>GWh</th> <th>GWh</th> <th>GWh</th> <th>GWh</th> </tr> </thead> <tbody> <tr> <td>2005</td> <td>6.50</td> <td>0.13</td> <td>0.00</td> <td>6.63</td> </tr> <tr> <td>2006</td> <td>6.19</td> <td>0.20</td> <td>6.77</td> <td>13.17</td> </tr> </tbody> </table> <p><b>Total</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Grid</th> <th>DG</th> <th>TG</th> <th>Total</th> </tr> <tr> <th></th> <th>GWh</th> <th>GWh</th> <th>GWh</th> <th>GWh</th> </tr> </thead> <tbody> <tr> <td>2004</td> <td>3.42</td> <td>0.82</td> <td>0.00</td> <td>4.24</td> </tr> <tr> <td>2005</td> <td>10.90</td> <td>1.0</td> <td>0.00</td> <td>11.9</td> </tr> <tr> <td>2006</td> <td>14.62</td> <td>0.26</td> <td>6.77</td> <td>21.65</td> </tr> </tbody> </table> <p>Hence, it is clearly demonstrated electricity from grid was the chief source of energy in the absence of proposed project activity. DG sets were used as back up whereas coal based turbine generator was used as an additional source of electricity to Gandhidham.</p>	Year	Grid	DG	TG	Total		GWh	GWh	GWh	GWh	2005	6.50	0.13	0.00	6.63	2006	6.19	0.20	6.77	13.17	Year	Grid	DG	TG	Total		GWh	GWh	GWh	GWh	2004	3.42	0.82	0.00	4.24	2005	10.90	1.0	0.00	11.9	2006	14.62	0.26	6.77	21.65	
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## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team																				
		<p>After Commissioning of wind turbines:</p> <table border="1"> <thead> <tr> <th>Year</th><th>Grid</th><th>DG</th><th>TG</th><th>Total</th></tr> <tr> <th></th><th>GWh</th><th>GWh</th><th>GWh</th><th>GWh</th></tr> </thead> <tbody> <tr> <td>2007</td><td>17.24</td><td>0.52</td><td>6.15</td><td>23.91</td></tr> <tr> <td>2008</td><td>20.96</td><td>0.62</td><td>3.22</td><td>24.79</td></tr> </tbody> </table> <p>As demonstrated, post commissioning of project, grid remains the chief source of electricity with DG as a back up. There is no appreciable change in electricity generation from sources other than grid. Hence, baseline scenario for the proposed project activity is electricity from grid.</p> <p>Energy balance is not required since it is a wind project.</p> <p>The site of the WTG is Village Motisindholi, whereas Vanku is the site of sub station. In the GETCO commissioning certificate the name of the site is mentioned as Village Motisindholi, Abdasa in District Kutch.</p> <p>Sources for all data, tables, figures is provided in the PDD</p> <p>The specifications of WTG have been corrected in</p>	Year	Grid	DG	TG	Total		GWh	GWh	GWh	GWh	2007	17.24	0.52	6.15	23.91	2008	20.96	0.62	3.22	24.79	<p>Please provide electricity data of three year period prior to decision date for units where electricity is wheeled.</p>
Year	Grid	DG	TG	Total																			
	GWh	GWh	GWh	GWh																			
2007	17.24	0.52	6.15	23.91																			
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## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>the PDD.</p> <p><b>Reply 3</b></p> <p>In line with AMS 1.F Version 1, historical data of electricity consumption in Gokul's 3 units is used to determine baseline for the project. The proposed project provides electricity to Gokul's industrial unit at:</p> <ol style="list-style-type: none"> <li>1. Sidhpur unit 1</li> <li>2. Sidhpur Unit 2</li> <li>3. Gandhidham</li> </ol> <p>As per the methodology, three year historical data is required for establishing the baseline, but since operations at Gandhidham unit started on 3<sup>rd</sup> of February 2004, hence only two year electricity consumption data of the same is available. Also, operations at Sidhpur Unit 2 began post board decision on 20<sup>th</sup> of May 2006 hence no historical data is available for the unit.</p> <p><b>Sidhpur Unit 1</b></p> <p>At Sidhpur unit-1 grid was the major source of electricity. Two diesel generators of 625 KW each were used as a backup option.</p> <p>Expansions were planned at Sidhpur unit 1 and as</p>	



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>part of expansion plan, Coal based power plant coal was planned to meet additional power requirements. Henceforth, a coal based power plant of capacity 825 KW was established. Electrical inspection certificate for coal based plant was issued on 23<sup>rd</sup> of December 2003 However, due to financial constraints, plant was not expanded to initially planned levels. Hence, the electricity requirements of plant were not enough to utilise total capacity of power plant. Thus, it was decided to shift the power plant to Gandhidham unit and to meet the additional electricity requirements at Sidhpur through grid. Henceforth, Gokul started the process of increasing its grid electricity sanction load and submitted application to Electricity board on 15<sup>th</sup> of July of 2004 for increasing its electricity load by 150 KVa from 700 KVa to 850 KVa. In the meantime it started process of decommissioning of coal based power plant and finally operations of Coal power plant were ceased in August 2004 and it was finally dismantled on 20<sup>th</sup> of December 2004 from Sidhpur. In the meantime, since it was imperative for Gokul to run its operations smoothly, hence the additional power requirements were met using Diesel generators.</p>	Pre-project scenario and



## VALIDATION REPORT



Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>Large amount of electricity was generated using Diesel generator in year 2004-05 was an aberration because of unusual circumstances. Prime source of electricity is grid and Diesel generator are just a back up option.</p> <p><b>Sidhpur Unit 2</b> Operations at Sidhpur Unit 2 began post board decision on 20<sup>th</sup> of April 2006, hence no historical data is available for the unit. But, electricity from grid is major source of energy for the unit. Electricity generated from wind turbines is wheeled to unit through grid and the same is adjusted in unit's electricity bill. One diesel generators of 625 KW is used as a backup option.</p> <p><b>Gandhidham</b> Grid was the major source of electricity. A coal based power plant of 825 KVA is also used for meeting electricity requirements of the unit. Three diesel generators of 500 KW each were used as a backup option. In 2005, Gandhidham plant underwent expansion</p>	<p>detailed in revised PDD. Corrections have been made in revised PDD. Specifications have been corrected. Grid electricity data of pre-project scenario of units where electricity is wheeled is cross checked randomly with electricity bills. Logbook of DG sets of Gandhidham were seen during site visit and it was observed that DG sets were not in operation all the time and are used as back-up. It is observed from the electricity consumption data of pre-project scenario that the major source of electricity was grid and wheeled electricity replaces grid electricity.</p>



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>and an 825 KW Coal based power plant, which was previously operating at Sidhpur Unit started its operations at Gandhidham Unit in July 2005 to supplement grid as power source. It supplies electricity to Gandhidham unit only. Coal power plant was commissioned to meet existing and additional plant requirements.</p> <p>The first wind turbine of proposed project got commissioned in July 2006. Even after commissioning of proposed project the coal based power plant continues to operate at similar operating levels and there has been no change in its electricity generation levels due to wind project undertaken by Gokul. Hence, the proposed project replaces electricity from grid and has no effect on coal based power plant.</p> <p>Hence, the historical data of electricity consumption from all three units and post project scenario clearly demonstrates that the grid has been the source of electricity with diesel generator as a backup option. The proposed project supplies electricity to three during wheeling electricity through state electricity grid. It does not have any effect on coal based power plant which supplies electricity to Gandhidham unit only.</p>	<p>It can be concluded that electricity from windmills replaces grid electricity as DG sets are used as backup and coal based power plant at Gandhidham continues to operate at similar levels even after the commissioning of windmills. Thus the project replaces grid electricity in units where electricity is wheeled. Hence the CAR is closed.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>Hence, the proposed project displaces grid electricity and thus electricity from grid is the plausible option for the project.</p> <p>The detailed electricity consumption figures for all three industrial units from all sources have been provided in Section B. 4 of the PDD.</p>	
<p>CAR 2</p> <p>The following statement in section A.2 needs to be explained.</p> <p>Industrialisation as on one hand emerged as a backbone of economic development; energy on the other hand is acting as a vital component beyond GDP growth.</p> <p>Explain the meaning of electromechanical work as mentioned in social well being.</p> <p>There is no reference or source given for Power supply scenario (table) and Peak and energy shortage in the state /UT</p>	Table 1 3.d.iii	<p>The statement was referred to stress on the importance of energy in a nation's economy.</p> <p>The statement has been removed from the PDD.</p> <p>The electromechanical work referred to operational needs of project activity.</p> <p>The statement has been removed from the PDD.</p> <p>The table and graph have been removed from social well being from Section B.2 of the PDD.</p> <p>Incorporation of renewable energy technology will improve environmental quality.</p> <p>The same has been corrected in the PDD</p> <p>The statements regarding industrialization being backbone of economy and statement regarding electromechanical work had been removed from PDD. The tables regarding power supply scenario and graph regarding peak and energy shortage have been removed from</p>	



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion
2004-05 (graph). References/sources are to be provided for all tables and graphs referred in PDD.  In environmental well being please explain following  Incorporation of renewable energy technology in furtherance of improvement of the environmental quality would also help in better health standards			section A.2 of PDD. The corrections have been made in revised PDD. Hence the CAR is closed.
CAR 3  India (Ministry of Environment & Forests) is mentioned as host part. The host party is not correct	Table 1 3.e.ii	Correction in host country name has been made in section A.3	Corrections have been made in host country name. The host country mentioned is India which is correct. Hence the CAR is closed,
CAR 4  The latitude, longitude of both the villages are same. Latitude, longitude are not correct.	Table 1 3.f.ii	The latitude and longitude have been corrected in section A.4.1.4  <b>Reply 2</b>  The latitudes and longitudes have been corrected and are provided in decimals.	The latitude, longitude are not provided in decimals.  The latitude and longitude are not given separately for each



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p><b>Reply 3</b></p> <p>Latitude and longitudes are provided for individual WTGs.</p>	WTGs.  The latitude and longitude have been provided in decimals. The latitude and longitude have been provided separately for each WTG. Hence the CAR is closed
CAR 5  The category name is not correct. The category name is not as per Appendix B of simplified modalities and procedures for small scale activities. In PDD the category is mentioned as Grid connected renewable electricity generation" Version 13 The category name is not correct.	Table 1 3.g.i	<p>The correction in category have been made in section A.4.2</p> <p><b>Reply 2</b></p> <p>In the revised PDD correction in category has been made in Section A.4.2</p>	Category name is not correct.  Category has been corrected in revised PDD. Hence the CAR is closed.
CAR 6  Approved baseline and monitoring	Table 1 3.k	Tool to calculate the emission factor for an electricity system (Version: 1.1) is used in the PDD. The same has been mentioned in Section B.1	Latest version of tools is to be used.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
methodology AMS – ID ver 13 , Grid connected renewable electricity generation is used. The tool referred in the methodology are not mentioned.		<p>Reply 2: Tool to calculate the emission factor for an electricity system (Version: 2) is used in the PDD. The same has been revised in Section B.1. The latest version of methodology is used in the revised PDD.</p> <p><b>Reply 3</b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD.</p> <p><b>Reply 4</b> The PDD version is revised to '5' and the same has been updated in Section A.1of the PDD.</p>	<p>The latest version of methodology is to be used.</p> <p>Please justify the methodology used in view of EB 54.</p> <p>PDD version number is not correct.</p> <p>Latest version of tools is referred and methodology AMS IF ver 1 is used in revised PDD. AMS IF ver 1 was approved in EB 54 and it is applicable for renewable electricity generation for captive and mini grid. The project activity involves wheeling of electricity to industrial units of project</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			participant for captive consumption Hence the CAR is closed.
CAR 7  Justification for category is not provided. All the applicability conditions are not mentioned with justifications.  Reference is given in Annex 3 of PDD of ACM0002 but methodology does not refer ACM0002. Please explain.	Table 1 3.l.i	<p>Each of the applicability condition is included and appropriate justification is provided in section B.2 Annex 3 is also corrected.</p> <p><b>Reply 2</b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The applicability conditions of new methodology are included in the Section B.2 of PDD. The proposed project meet the applicability condition and are satisfied by the proposed project</p> <p><b>Reply 3</b> All the applicability conditions with detailed justifications as per AMS 1.F have been included in</p>	<p>Please justify the methodology used and applicability conditions in view of EB 54.</p> <p>All the applicability conditions are not included and justification given for applicability conditions are not detailed.</p> <p>Methodology AMS IF ver 1 is used in revised PDD. AMS IF ver 1 was approved in EB 54 and it is applicable for</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		Section B.2 of the revised PDD.	renewable electricity generation for captive and mini grid. The project activity involves wheeling of electricity to industrial units of project participant for captive consumption. Applicability conditions as per AMS IF ver 1 have been included in revised PDD with correct justifications. The justifications for applicability conditions are correct. Hence the CAR is closed.
CAR 8  Project boundary is not correct. Grid and plants where electricity is wheeled are not included. Western grid is mentioned and it is not as per CEA ver 4. Formatting of figure and table is not correct.	Table 1 3.m	NEWNE is taken as project boundary and the same has been revised in Section B.3  <b><u>Reply 2:</u></b> The project boundary is revised in Section B.3	Project boundary is not correct.  Please justify the methodology used and project boundary in view of EB 54.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The project boundary has been revised in Section B.3 of the PDD as per AMS 1.F. Version 1.</p>	Methodology AMS IF ver 1 is used in revised PDD. AMS IF ver 1 was approved in EB 54 and it is applicable for renewable electricity generation for captive and mini grid. The project activity involves wheeling of electricity to industrial units of project participant for captive consumption. Project boundary is as per AMS IF ver 1. Hence the CAR is closed.
CAR 9	Table 1	Baseline is determined directly as per methodology	Sources from where



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
For systems other than using landfill gas, waste gas, wastewater treatment and agro-industries projects, generators using exclusively fuel oil and/or diesel fuel the methodology AMS-ID prescribes baseline as kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh). Version 1 of Tools to calculate emission factor for an electricity system is used whereas the latest version is 1.1. Various alternatives are given. However, alternatives are not given with respect to the two plants where electricity is wheeled. Alternatives for meeting the power requirement in absence of project activity are not provided for two plants. Baseline is not determined after analysing the alternatives for meeting the power requirements. Baseline is not as per the methodology.	3.n.i	<p>AMS ID. Version-15. Alternatives have been removed in section B.4</p> <p><b>Reply 2</b></p> <p>The details of sources of electricity consumption in the absence of the project activity have been mentioned in reply to CAR 1. The main source of electricity in plants where electricity from project is wheeled is grid. Hence, grid is taken as the baseline in lines of the methodology. The same has included in the PDD.</p> <p>Latest Version of Tools to calculate emission factor for an electricity system Version 2 is used in the PDD. The latest version of methodology is used in the revised PDD for baseline determination.</p> <p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is</p>	<p>electricity was taken in pre-project scenario (in units where electricity is wheeled) are to be considered in determining baseline.</p> <p>Please justify the methodology used and baseline boundary in view of EB 54.</p> <p>Baseline description is not as per AMS IF, version 1.</p> <p>Grid electricity data of pre-project scenario of</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The baseline has been revised in Section B.3 of the PDD as per the latest methodology.</p> <p><b>Reply 4</b>            Baseline description has been revised as per AMS 1.F Version 1. The same has been updated in Section B.4 of the PDD.</p>	units where electricity is wheeled is cross checked randomly with electricity bills. Logbook of DG sets of Gandhidham were seen during site visit and it was observed that DG sets were not in operation all the time and are used as back-up. It is observed from the electricity consumption data of pre-project scenario that the major source of electricity was grid and wheeled electricity replaces grid electricity. It can be concluded that electricity from windmills replaces grid electricity as DG sets are used as backup and coal based power plant at



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		Gandhidham continues to operate at similar levels even after the commissioning of windmills. Thus the project replaces grid electricity in units where electricity is wheeled. The baseline description has been corrected as per AMS IF ver1 in revised PDD. Methodology AMS IF ver 1 is applicable as electricity is wheeled for captive consumption. Hence the CAR is closed	
CAR 10  As per Attachment A to Appendix B, the investment barrier is given as 'A financially more viable alternative to the project activity would have led to higher emissions' whereas in PDD it is mentioned as 'A financially more viable	Table 1 3.o.i	<p>1. The statement has been revised in the section,</p> <p>2. Barriers due to prevailing practice, investment analysis and other barriers have been included in the PDD</p> <p><b><u>Reply 2:</u></b></p>	Please explain how the barriers due to prevailing practice, technological barriers and other barriers are prohibitive.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>alternative to the project activity would have led to the following barrier'</p> <p>Thus description is not correct.</p> <p>Barriers due to prevailing practice, investment analysis, technological barriers and other barriers have been used to demonstrate additionality. Please explain how they are prohibitive.</p>		<p>Barriers due to prevailing practice, technology barriers and other barriers have been removed from the PDD.</p>	<p>Barriers due to prevailing practice, technology barriers and other barriers have been removed from PDD. Hence the CAR is closed.</p>
<p>CAR 11</p> <p>Government of India policies especially with regard to various financial and fiscal incentives being given are not mentioned.</p>	Table 1 3.o.ii	<p>Financials incentives considered for the project:</p> <ol style="list-style-type: none"> <li>1. Tax rebate of 10 consecutive years is awarded by Government of India for Wind projects</li> <li>2. Accelerated IT Depreciation of 80% WDV has been considered for the project.</li> </ol> <p>The same has been included in the investment analysis in Section B.5 of the PDD</p>	<p>Details of financial incentives has been mentioned in revised PDD. Hence the CAR is closed.</p>
<p>CAR 12</p> <p>A detailed chronology table is not provided for showing awareness of CDM prior to start date of project activity and to show that benefits to CDM was a</p>	Table 1 3.o.iii	<p>A detailed chronology demonstrating that CDM was a decisive factor in the decision to proceed and to demonstrate that continuing and real actions were taken to secure the CDM status in parallel with project's implementation has been included in the</p>	<p>Details with respect to DNA approval have not been mentioned in chronology of events.</p>



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
decisive factor in the decision to proceede and to demonstrate that continuing and real actions were taken to secure CDM status in parallel with its implementation.		<p>section B.5 of the PDD.</p> <p><b><u>Reply 2</u></b></p> <p>Details of date of presentation and date of approval from DNA have been included in the PDD</p>	<p>Detailed chronology table has been provided. The minutes of the Board meeting record that expected revenue from carbon trading would contribute towards sustainability of the operation and maintenance of the wind power project. The extract of minutes of board meeting was cross-checked with the original register. Thus CDM was a decisive factor in decision to proceed with the project activity and PP was aware of CDM prior to project start date. The time gap between documented evidence is less than two years,</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			there has been real action to secure CDM status in parallel to the implementation of the project activity as per EB 49, Annex 22. Hence the CAR is closed.
CAR 13  EF data are taken from CEA database which is an official source of information. Information on EFbm, EFbm and EFcm are given, however values are not given upto 4 places of decimal.	Table 1  3.q.i	<p>The same has been corrected in Section B.6 of the PDD</p> <p><b>Reply 2</b></p> <p>The EF has been corrected in Section B.6 of the PDD.</p> <p>The EF is calculated as per the latest Version of CEA CO<sub>2</sub> database Version 4 and the figures are given upto 4 decimal places.</p> <p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD.</p> <p>Paragraph 14 of AMS 1F refers to AMS 1.D. for calculation of emission factor. AMS 1.D. in turn refers to 'Tool to calculate the emission factor for an electricity system' for calculating grid emission</p>	<p>Latest version of CEA database is not used.</p> <p>Please justify the methodology used and emission factor in view of EB 54.</p> <p>AMS IF ver 1 is used in revised PDD and it is applicable to project as electricity is wheeled for captive consumption.</p> <p>AMS IF ver 1 refers to</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>factor. Central Electricity Authority in User Guide Version 4.0 December 2008 is being used for estimation of emission factor, which is based on 'Tool to calculate the emission factor for an electricity system'. Hence, emission factor is in accordance with AMS 1F.</p>	<p>AMS ID for calculation of emission factor ad AMS ID refers to Tools to calculation of emission factor for electricity system. EF has been revised and it is based on data of CEA database available at the time of giving the PDD to DOE for validation which is as per tools to calculate emission factor for an electricity system. Hence the CAR is closed</p>
CAR 14  Value of EFom, EF bm, EF cm applied are given however values are not given upto 4 places of decimal. Version 4 of CEA database is referred however grid definitions in various sections of PDD is not as per version 4.	Table 1 3.q.ii	<p>The same has been corrected in Section B.6 of the PDD</p> <p><b><u>Reply 2</u></b> Grid definitions are corrected in the PDD. Latest version of CEA database has been used.</p> <p><b><u>Reply 3</u></b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has</p>	<p>Latest version of CEA database is not used. Grid definitions are not as per latest version of CEA database.</p> <p>Please justify the methodology used and emission factor in view</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>been updated in the revised PDD. Paragraph 14 of AMS 1F refers to AMS 1.D. for calculation of emission factor. AMS 1.D. in turn refers to 'Tool to calculate the emission factor for an electricity system' for calculating grid emission factor. Central Electricity Authority in User Guide Version 4.0 December 2008 is being used for estimation of emission factor, which is based on 'Tool to calculate the emission factor for an electricity system'. Hence, emission factor is in accordance with AMS 1F.</p>	<p>of EB 54.</p> <p>AMS IF ver 1 is used in revised PDD and it is applicable to project as electricity is wheeled for captive consumption. AMS IF ver 1 refers to AMS ID for calculation of emission factor ad AMS ID refers to Tools to calculation of emission factor for electricity system. EF has been revised and it is based on data of CEA database available at the time of giving the PDD to DOE for validation which is as per tools to calculate emission factor for an electricity system. Grid definitions have been revised as per CEA</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			database ver 4 which is the latest version at the time of submitting PDD to DOE for validation. Hence the CAR is closed.
CAR 15  The windmills are located at two different locations with different PLFs, however calculations are shown combined for both the locations. The locations are nearby so variation in PLF may be explained and it is not evident if it is conservative compared to GERC tariff order. Detail calculations are not shown as to how the figure of total electricity generation is estimated. The electricity generation after deducting for line losses and wheeling charges is not considered in calculation of emission reductions. Detailed calculations indicating line losses, wheeling charges with references are not provided. Excel sheet for CER	Table 1 3.r.i	<p>The plf of the Wind mills have been considered using proposal from Suzlon.</p> <p>As per the proposal:</p> <p>Plf of first two WTG: 25.57%</p> <p>Plf of other two WTG: 26.48%</p> <p>At the time decision to implement the project was taken by Gokul's Board only first plf was available with the board. Also, actual cumulative plf achieved from 4 WTG for the year 2006-07 is around 18%, much lower than both the figures.</p> <p>Hence, plf of first set of WTG is used for financial analysis.</p> <p>Detailed calculations indicating Wheeling charges, transmission losses have been included in the CER</p>	PLF should be as per EB 48 Annex 11. It is not clear as to why reference of power generated in 2006-07 is provided. CER calculations are not correct.



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>calculations does not contain detailed calculation.</p> <p>It is mentioned in PDD that power generated during 2006-07 is taken as reference for deciding quantum of power to be generated from four WTG. This is not acceptable as there can be year to year fluctuations. The calculations are not correct.</p>		<p>excel sheet</p> <p>Plf provided by Suzlon is considered for calculating power generated by WTG. Reference to power generated in 2006-07 is given to show actual power generated by WTG.</p> <p><b><u>Reply 2</u></b></p> <p>As per Paras 3(a) of Annex 11 of EB 48: Guidelines for the reporting and validation of plant load factor Version 1, the plant load factor provided to banks while applying the project activity for project financing, is considered in doing the financial analysis of the project.</p> <p>As per the loan application submitted to state bank of Travancore, amount of electricity generated per Wind turbine: 28 Lac units/annum</p> <p>The same has been corrected in CER sheet and PDD.</p> <p>The statement that power generated during 2006-07 is taken as reference for deciding quantum of power to be generated from four WTG has been removed from the PDD.</p>	<p>Please justify the methodology used and emission reduction calculations in view of EB 54.</p> <p>Details provided on explanation of</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p><b>Reply 3</b>            In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD.            Paragraph 14 of AMS 1F refers to AMS 1.D. for calculation of emission factor. AMS 1.D. in turn refers to 'Tool to calculate the emission factor for an electricity system' for calculating grid emission factor. Central Electricity Authority in User Guide Version 4.0 December 2008 is being used for estimation of emission factor, which is based on 'Tool to calculate the emission factor for an electricity system'. Hence, emission factor is in accordance with AMS 1F.</p> <p><b>Reply 4</b>            The methodology choices explanation have been provided in Section B.6.2 of the PDD.</p>	methodological choices are not as per AMS IF ver 1.  PLF has been taken from the bank application for loan which is in line with EB 48 Annex11. CER calculations have been corrected. The revised CER calculations have been checked and found to be correct. AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. Methodological choices in B6.2 have been corrected as per AMS IF ver 1. Hence the CAR is closed.
CAR 16	Table 1	The project activity essentially involves generation	Monitoring plan and



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>It is mentioned that cumulative quantum of electricity supplied from the wind turbine to the grid will be monitored. As per methodology, Monitoring shall consist of metering the electricity generated by the renewable technology However, monitoring of import and export is not mentioned.</p>	3.t.i	<p>of electricity utilising wind energy. Hence, the monitoring plan involves measurement of electricity generated from the wind turbine based electricity generation unit.</p> <p>Measurement methodology (Joint Meter reading):</p> <p>The measurement process of net electricity generated by the wind based turbine is as follows.</p> <p>First measurement is done after the 33KV transformer through a dedicated meter for the WTG.</p> <p>The electricity transmitted to the substation through a common feeder line is measured after the final step up transformer located in the substation. This electricity is the total electricity generated from the wind farm.</p> <p>Now, to account for electricity generated from the individual unit that has been sent at the voltage required by GETCO for long distance transmission is calculated by keeping percentage of line loss constant. The formula used is as follows:</p> $EGy = EGgross * (EGfarm / \Sigma EGgross, l)$ <p>Where:</p> <p>EGy refers to net electricity generated at the voltage desired by GETCO for long distance transmission.</p> <p>EGgross refers to the gross electricity generated by WTG and measured after 33KV transformer</p> <p>EGfarm refers to the total electricity generated by</p>	<p>parameters should be as per the monitoring being carried out at site.</p> <p>Please justify the methodology used and monitoring in view of EB 54.</p> <p>All the parameters</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>the wind farm and measured after the GETCO transformer EGGross, I refers to the gross electricity generated by WTG I and measured after 33KV transformer.</p> <p><b>Reply 2</b> The monitoring plan and parameters is revised as per monitoring being carried out site and is included in Section B.7 of the PDD</p> <p><b>Reply 3</b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan and monitoring parameters have been revised and updated in the Section B.7 of the PDD using methodology AMS 1.F. Version 1.</p> <p><b>Reply 4</b> As per AMS 1.F Version 1, electricity displaced and grid emission factor need to be monitored. As per AMS 1.F. grid emission factor needs to be monitored. Para-14 of AMS 1.F refers to methodology AMS 1.D for procedures for calculating grid emission factor. AMS 1.D. in-turn refers to 'Tool to calculate the emission factor for an</p>	<p>mentioned in AMS IF ver 1 are not detailed. Details in Annex 4 are not complete.</p> <p>AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. Methodological. Monitoring plan has been revised and it is as per monitoring being carried out at site. The parameters to be monitored are also revised. AMS IF ver 1 states regarding monitoring of Emission factor also for which it refers to AMS ID. AMS ID refers to Tools to</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>electricity system' for calculation of grid emission factor. Hence, using this 'Tool to calculate the emission factor for an electricity system (Version: 2)' ex-ante value for grid emission factor is considered for calculating grid emission factor.</p> <p>Electricity displaced will be monitored and is included in Section B.7 and Annex 4 of the PDD.</p> <p>The same has been included in Section B.7 of the PDD.</p> <p>Annex 4 of the PDD has also been revised in the PDD.</p>	<p>calculate emission factor for an electricity system. The tools to calculate emission factor for an electricity system allows ex-ante determination of emission factor. Hence the project participant has provided ex-ante determination of emission factor. Details on monitoring have been corrected and they are in line with the methodology. Hence the CAR is closed.</p>
CAR 17  Details of various sharing certificates, sub	Table 1 3.t.ii a	Calculations of CER has been included in Section B.6.3 of the PDD	Details of monitoring plan and various reports etc should be as per the



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
station generation report, monthly generation report, accounting for losses etc are not included. Details regarding how CER will be calculated are not mentioned.		<p><b>Reply 2</b> Monitoring plan and reports are revised as per monitoring carried out the site and is included in Section B.7 of the PDD</p> <p><b>Reply 3</b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan has been revised and updated in the Section B.7 of the PDD using methodology AMS 1.F. Version 1.</p>	monitoring being carried out at site.  Please justify the methodology used and monitoring in view of EB 54.  AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. Monitoring plan has been corrected in revised PDD and it is as per the methodology. Hence the CAR is closed.
CAR 18  Complete details are not mentioned on measurement methods and procedures including QA/QC plan, a specification which accepted industry standards or	Table 1 3.t.ii.b	The same has been updated in Annex 4.	Monitoring plan including other details like calibration etc should be as per monitoring being carried out at site.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method		<p><b>Reply 2</b></p> <p>The monitoring plan including details of calibration etc has been revised as per monitoring carried out the site and is included in Section B.7 of the PDD</p> <p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan has been revised and updated in the Section B.7 of the PDD using methodology AMS 1.F. Version 1.</p>	<p>Please justify the methodology used and monitoring in view of EB 54.</p> <p>AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. Monitoring plan including detail on calibration etc has been corrected and it is as per methodology. Hence the CAR is closed.</p>
CAR 19 Responsibilities, institutional	Table 1 3.t.iii.b	<p>The same has been updated in Section B.7.2</p> <p><b>Reply 2</b></p> <p>The monitoring plan describing the role and</p>	Roles and responsibilities etc needs to be mentioned



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
arrangements and details for data capture, data storage and period for which data needs to be stored are not mentioned in details in PDD.		<p>responsibilities of monitoring along with the parameters to be monitored are included in Section B.7 of the PDD</p> <p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan has been revised and updated in the Section B.7 of the PDD using methodology AMS 1.F. Version 1.</p>	<p>in detail.</p> <p>Please justify the methodology used and monitoring in view of EB 54.</p> <p>AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. Roles and responsibilities have been detailed in line with Guidelines for completing PDD and corrections have been made in revised PDD. Hence the CAR is</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion
			closed.
CAR 20  Monitoring plan mentions about responsibility, CDM team to monitor however the monitoring plan is not transparent on sub station generation report, monthly generation report and sharing certificate etc. The monitoring plan does not contain details procedures that are actually being followed at site including day of month when reading is taken, procedures to be adopted in case of mal functioning of meters at substation etc, means of accounting for CERs if starting date of first verification is in middle of month.	Table 1 3.t.iii.c	<p>The same has been updated in Section B.7.2  <b>Reply 2</b>  The monitoring plan as per monitoring carried out on site is included in Section B.7 of the PDD</p> <p><b>Reply 3</b>  In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan has been revised and updated in the Section B.7 of the PDD using methodology AMS 1.F. Version 1.</p> <p>Monitoring plan should be as per the monitoring being carried out at site.  Please justify the methodology used and monitoring in view of EB 54.  AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption.  Monitoring plan has been corrected in revised PDD as per monitoring being carried out at site. The monitoring plan is as per</p>	



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			methodology. Hence the CAR is closed.
CAR 21  Further information on monitoring plan is provided in Annex 4.  Annex-4 it is mentioned that copy of certificate from GEDA is attached at Annex-5 but there is no annex-5. Please clarify.	Table 1 3.t.iii.d	The scanned copies of Certification are included in Annex 5 of the PDD  <b><u>Reply 2</u></b>  Corrections have been made and the copies of commissioning certificates have been provided to DOEs.	Project participant has provided commissioning certificates. Hence the CAR is closed.
CAR 22  The project activity start date is given as 06/09/2006 which is date at which first set of WTGs was commissioned. This is not matching with the commissioning date as given in commissioning certificate. The date as per commissioning certificate is 18/7/2006. Also, as per EB 33, para 76, start date of a CDM project activity is the earliest of the dates at which the implementation or construction or real action of the project	Table 1 3.v.i	As per EB 33, para 76 the project start is considered as a date on which some real action was made by project proponent towards the project. Date of placing of purchase order to Suzlon by Gokul is taken as the project start date. Purchase order for first set of WTG was placed on 15 <sup>th</sup> of April, 2006 and the same has been taken as a project start date. The same has been updated in Section C.1.1 of the PDD	Start date has been taken as date of purchase order which is acceptable. The start date is as per Glossary of CDM terms. Hence the CAR is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
activity begins. The start date is not correct.			
CAR 23  EIA is not required for wind projects in India. Please explain the following statements in D1  Pollution is inevitable generation of waste stream from production of secondary form of energy through use of primary fossil fuel.  Nor will the operation of the project activity will harm the maintenance and natural evolution of genetic diversity of flora and fauna.  Text mentioned above needs to be explained.  Method of disposal of solid waste and hazardous oily waste from windmills is	Table 1 3.ee	<p>Both the statements have been removed from the Section D1</p> <p>In accordance with the notification Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii) Ministry Of Environment And Forests with the objectives of National Environment Policy as approved by the Union Cabinet on 14<sup>th</sup> of September 2006, no mention is made for wind energy projects in any of the categories of the schedule to the above mentioned notification. The same has been included in the PDD. Solid and oily waste disposal is being carried out by Operation and Maintenance contractor as per applicable requirements.</p>	<p>The statements have been removed from PDD. Disposal of solid and oily waste has been stated in revised PDD. Hence the CAR is closed.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
not detailed in PDD.			
CAR 24  Copy of advertisement in Kutch Mitra dated 1 <sup>st</sup> April 2008 has been provided. Please clarify whether notices were also placed in other newspapers.  It is also mentioned in PDD that consultation was held with local villagers prior to start of project activity. Please provide details.	Table 1 3.ff.i	Notices were not placed in any other newspaper.  Consultation prior to start of project activity was an informal one. The same has been removed from the PDD	Project participant has made corrections in the stakeholder consultation details in PDD. It has been clarified that notices were not placed in any other newspaper except the newspaper as mentioned in PDD. Hence the CAR is closed.
CAR 25  As per PDD, Stakeholder meeting was held on 3 <sup>rd</sup> April 2008 and DOE contract was signed on 6 <sup>th</sup> Nov 2008.  As per PDD, the stakeholder meeting was held on 3 <sup>rd</sup> April 2008 whereas as per letter of Gokul Refoils and Solvents dated 31/3/08, the stakeholder meeting was held on 10 <sup>th</sup> April 2008. Please clarify.	Table 1 3.ff.iii	This is a typing error. Actual date of stakeholders' meeting was 10 <sup>th</sup> April 2008. Necessary corrections are made in section E.1	Corrections have been made in revised PDD. Stakeholder meeting date has been checked with minutes of meeting. Hence the CAR is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
CAR 26  Complete identification of stakeholders that have made comments is not provided in PDD.	Table 1 3.gg.i	<p>Queries and responses from the proponent and the stakeholders</p> <p>1. Mr. Haresh Maheshwari asked: What are the benefits to the stakeholders?  Wind Power Projects helps in creating employment opportunities, reducing the shortage of electricity supply and also helps in earning good amount by selling the Uncultivable Land. Wind farms helps in Economic Well being of the Society through Various Job Opportunities i.e. Civil Construction, Drivers, Security Personnel, Technicians, Casual Labours etc.</p> <p>2. Mr. Ghanubha Chandubha asked: Does the project affect the grazing of cattle? It does not affect the cattle Grazing as, wind farms are located which is far away from Village.</p>	Stakeholders that made comments have been identified in revised PDD. The information as per Guidelines for completing PDD has been provided. Hence the CAR is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>3. Mr. Bhikhubha Jadeja asked: Has the project affected the Ground water level?            No, wind project does not affect either Ground water Level or Drinking water quality of nearby area of the project.</p> <p>4. Mr. Manubha Khetubha asked: Has Electricity Supply Improved, since Installation of the project?            Power supply has resulted in to well being of the villagers.</p> <p>5. Mr. Vanrajsinh Khetubha asked: What is the life-span of these machines?            The estimated life-span is 20 to 22 years</p> <p>6. Mr. Sumra Ali Mamad asked: How does the turbine generate electricity &amp; how is it pollution free ?            The Suzlon employees explained that Wind creates pressure on the rotor blades forcing them to rotate and the rotor is connected to a generator which produces electricity &amp; as there</p>	



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>is no consumption of fuel which emits gases so the energy produced is pollution free.</p> <p>The same has been updated in Section E.2 of the PDD.</p>	
CAR 27  The project description is provided in PDD.  The WTG numbers and other identification details are not included in PDD in project description	Table 1 4.a	<p>Details and other identification is now included in section A.2</p>	Details on WTGs have been added in revised PDD. It is as per commissioning certificates. Hence the CAR is closed.
CAR 28  Reference is given to cost of electricity generation from coal based power shows much larger variability than mentioned in PDD which is not correct. Calculations on cost for rejecting various alternatives such as coal based power generation are not included.  The references for natural gas shortage does not mention anything specific regarding non availability of natural gas in	Table 1 5.d.i	<p>Alternatives are removed now in section B.4</p>	The alternatives have been removed from PDD. The validation team agrees with this as methodology prescribes baseline and as per para 105 of VVM ver 1.2, no identification of alternatives is required. Hence the CAR is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
Gujarat.			
CAR 29  Relevant electric system as per CEA version 4 is not identified. Explanation and justification for using combined margin are not provided. Complete details are not mentioned for justifying selection of simple OM as per tools.	Table 1  5.e.a	<p>The required explanations have been provided in section B.6.1.</p> <p><b>Reply 2</b> Latest version of CEA database Version 4 is used in the PDD</p> <p><b>Reply 3</b> In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. Paragraph 14 of AMS 1F refers to AMS 1.D. for calculation of emission factor. AMS 1.D. in turn refers to 'Tool to calculate the emission factor for an electricity system' for calculating grid emission factor. Central Electricity Authority in User Guide Version 4.0 December 2008 is being used for estimation of emission factor, which is based on 'Tool to calculate the emission factor for an electricity system'. Hence, emission factor is in accordance with AMS 1F.</p>	<p>Latest version of CEA database is to be used.</p> <p>Please justify the methodology used and emission factor in view of EB 54.</p> <p>AMS IF ver 1 is applicable to project activity as it involves wheeling of electricity for captive consumption. AMS IF ver 1 refers to AMS ID for calculation of emission factor ad AMS ID refers to Tools to calculation of emission factor for electricity</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			system. EF has been revised and it is based on data of CEA database available at the time of giving the PDD to DOE for validation which is as per tools to calculate emission factor for an electricity system. Details on emission factor calculation have been added in PDD and found to be correct. Hence the CAR is closed.
CAR 30  A detailed chronology of events is not provided  Techno feasibility report needs to be provided. Board resolution mentions referring to proposal from Suzlon and	Table 1 6.a.b	Proposal for only 2.5 MW was given by Suzlon prior to Gokul's Board meeting. However, on studying the proposal Gokul realised that 2.5 MW was not sufficient to meet Gokul's power demands.  Also, Gokul board was told that capital expenditure and electricity generation for another set of WTG of 2.5 MW will not vary much from the existing proposal. Hence, board decided to implement 5 MW	Please provide reply to all the issues that have been raised.



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>installation of 5 MW whereas on scrutiny of Suzlon documents submitted prior to Board resolution it refers to only 2.5 MW.</p> <p>Revised chronology submitted during the site visit is not complete. A detailed chronology of events is not provided detailing all the evidences that have been submitted. The sign of witness is not there in the agreement with first consultant. Covering letter for agreement with first consultant, letter of acceptance from first consultant and response to notice of cancellation are to be provided.</p>		<p>of WTG to increase its captive power generation capabilities.</p> <p>Revised chronology for the project has been included in Section B.5. of the PDD</p> <p><b><u>Reply 2</u></b></p> <ol style="list-style-type: none"> <li>1. Required documents have been submitted to DOE.</li> <li>2. As per company norms, sign of witnesses is required only when the contract is printed on the stamp paper. Since, the contract was not on stamp paper; hence witness sign were not required. As per company norms, covering letter is not required for the agreement. Since a contract was signed between Gokul and Sanguine with signatures of both concerned parties hence an acceptance letter is not required, there was no response to notice of cancellation from the consultant.</li> <li>3. A techno economic report for a 2.5 MW Wind project was prepared by Gokul on the basis of 2.5 MW Suzlon proposal. On the basis of this report and Suzlon proposal, project proponent</li> </ol>	<p>Chronology of events is not complete. Source documents mentioned needs to be clarified.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>decided to establish a 5 MW Wind project. A copy of this report is provided to DOE.</p> <p><b>Reply 3</b></p> <p>The PDD was re-web hosted on UNFCCC site for global stakeholder's comments from 13<sup>th</sup> of June 2010 till 12<sup>th</sup> of July 2010 because of revision of methodology from AMS 1.D to AMS 1.F. The same has been included in chronology in Section B.5 of the PDD.</p> <p>Corrections have been in the Source documents mentioned in the chronology of events.</p>	<p>Detailed chronology of events has been provided in revised PDD. Re-webhosting of PDD is mentioned in revised chronology. Correction has been made in source documents. Details regarding appointment of consultant etc have been mentioned and detailed. Hence the CAR is closed.</p>
CAR 31  Board resolution has been provided. A detailed chronology of events is not provided for showing awareness of CDM prior to project activity start date and also it is not shown that CDM was a decisive factor in the decision to proceed with the project.  A detailed chronology table is not	Table 1 6.a.h.ii	Gokul Refoils and Solvent Limited were introduced to CDM by Fuel Solutions on 6 <sup>th</sup> of March 2006. Subsequently, Gokul team requested Suzlon Energy Limited for a proposal on Wind Power project. On the basis of the proposal sent by Suzlon and in view of associated CDM benefits project proponent decided to establish 5 MW Wind Farm to meet its captive electricity requirement in its board meeting held on 30th of March, 2006. Gokul signed a MoU with Fuel Solutions regarding sale of CERs accrued from its project. Also, as mentioned in the	DNA approval has not been mentioned in chronology of events.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
provided.		<p>Gokul's board note Gokul proceeded with the project only because of its associated CDM benefits and CDM was a decisive factor in the decision to proceed with the project.</p> <p>A detailed chronology for the event is included in the Section B.5. of the PDD</p> <p><b>Reply 2</b>        Details of DNA approval have been included in the PDD.        As per the board resolution revenues from carbon trading would contribute to sustainability of operation and maintenance of the project activity. Hence, CDM was a decisive factor in the decision to proceed with the project.</p> <p><b>Reply 3</b>        The PDD was re-web hosted on UNFCCC site for global stakeholder's comments from 13<sup>th</sup> of June 2010 till 12<sup>th</sup> of July 2010 because of revision of methodology from AMS 1.D to AMS 1.F. The same has been included in chronology in Section B.5 of the PDD.        Corrections have been in the Source documents mentioned in the chronology of events.</p>	<p>Chronology of events is not complete. Source documents mentioned needs to be clarified.</p> <p>Detailed chronology of events have been provided in revised PDD. Re-webhosting of PDD is mentioned in revised chronology. Correction has been made in source documents The minutes of the Board meeting record that expected revenue from carbon trading would contribute towards</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			sustainability of the operation and maintenance of the wind power project. The extract of minutes of board meeting was cross-checked with the original register. Thus CDM was a decisive factor in decision to proceed with the project activity and PP was aware of CDM prior to project start date which is in line with the requirements of EB 49 Annex 22. Hence the CAR is closed
CAR 32  A detailed chronology of events is not provided to show real actions were taken	Table 1 6.a.h.iii	Board decision to implement the project was taken by Gokul refoils on 30 <sup>th</sup> of March, 06. The project was a very big project for Gokul and required a huge quantum of investment. This preoccupied	Details regarding application for DNA approval etc are not mentioned in chronology



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>to secure CDM status for the project in parallel with its implementation. Appointment of CDM consultant has taken place after commissioning of first windmill and also after six months from the date of board resolution.</p>		<p>Gokul Management for a while. Discussions with CDM consultant were initiated within couple of months of board decision in August,'06. After negotiations over the fee, CDM consultant was appointed on 2<sup>nd</sup> of September,'06.</p> <p><b><u>Reply 2</u></b> Details of DNA approval have been included in the PDD.</p> <p><b><u>Reply 3</u></b> The PDD was re-web hosted on UNFCCC site for global stakeholder's comments from 13<sup>th</sup> of June 2010 till 12<sup>th</sup> of July 2010 because of revision of methodology from AMS 1.D to AMS 1.F. The same has been included in chronology in Section B.5 of the PDD. Source documents mentioned in the chronology have been clarified.</p>	<p>of events.</p> <p>Chronology of events is not complete. Source documents mentioned needs to be clarified.</p> <p>Detailed chronology of events has been provided in revised PDD. Re-webhosting of PDD is mentioned in revised chronology. Correction has been made in source documents. The time gap between documented evidence is less than two years, there has been real action to secure CDM status in parallel to the</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
			implementation of the project activity as per EB 49, Annex 22. Hence the CAR is closed
CAR 33  No references or sources are given for the assumptions made in IRR calculations either in PDD or in the IRR sheet. It is not clear from the PDD and IRR sheet whether input values were applicable at the time of decision making.	Table 1 6.c.m	<p>The sources for the parameters used in PDD and IRR sheet have been included in the respective sheets.</p> <p>The input values are based on proposal provided by Suzlon which was available to Gokul's board at the time of taking a decision on the project.</p> <p><b>Reply 2:</b> As per Paragraph 11 of Annex 58 of EB 51, 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. In such situations interest should be calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project</p>	<p>Debt equity ratio and interest rate are not as per EB 51 annex 58.</p> <p>Please explain the sources for wheeling charges and working capital.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years.</p> <p>Gokul has undertaken only one new project, within 3 years prior to starting date of project activity. The new project was on plant expansion. The Total cost of the project was 37.50 Crore, with a debt: equity ratio of 60:40. Debt was raised at a floating interest linked to prime lending rate, which was 11% at the time of taking loan. Whereas, for the proposed project, debt: equity ratio was 70:30 with a rate of interest of 10%. Hence, for conservative basis a debt: equity ratio of 70: 30 is considered with a rate of interest of 11%.</p> <p>The same has been included in the PDD.</p> <p><b>Reply 3</b></p> <p>The wheeling charges are based on the proposal provided by Suzlon in March 2006, which was the basis on which decision to implement the project was taken by project proponent. The actual wheeling charges as per wheeling agreement are equal to charges provided by Suzlon proposal.</p> <p>Normative value of working capital requirement is</p>	Sources of various parameters have been provided in the IRR excel spreadsheet. Input values of project cost, O&M cost, escalation in O&M cost are as per proposal of Suzlon Energy Ltd which is applicable at the time of decision making. This is in line with para 6 of EB 51 Annex 58. Wheeling charges are 4% based on Suzlon proposal applicable at the time of decision making. The actual wheeling charges are also 4%. Normative values have been taken for working capital. The sources are applicable at



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>considered.</p> <p>The sources for Wheeling charges, working capital and depreciation have been included in section B.5 of the PDD.</p>	<p>the time of decision making. Interest rate is taken as per previous debt acquired by project participant which is in line with EB 51, Annex 58. Hence the CAR is closed.</p>
<p>CAR 34</p> <p>Evidence is not provided for all the input values taken for financial analysis.</p> <p>Evidence is not provided for following</p> <ul style="list-style-type: none"> <li>(i) Cost of WTG- 496 lacs / WTG</li> <li>(ii) Evidence for govt bond rate and market risk premium – Govt bond rate from RBI during September 2005 as provided in the link is 7.4381, whereas the value taken is 7.3 in PDD</li> <li>(iii) Substation charges</li> <li>(iv) Processing charges</li> <li>(v) O &amp; M agreement (showing charges with escalation)-. However the O&amp;M agreement is not yet signed with Suzlon</li> </ul>	<p>Table 1 6.c.rr</p>	<p>1. Cost of WTGs and Operation and Maintenance costs have been considered as on the basis of proposal provided by Suzlon and was available to Board while taking a decision on implementing the project.</p> <p>2. Government board rate is taken as average of return on State and Central Government securities over a period of five years prior to project activity. Reserve bank of India is used as a source (<a href="http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/80303.pdf">http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/80303.pdf</a>). The value of 7.9% is considered and the same has been updated on the PDD. Market Risk premium is calculated using IIM A report on Indian market risk premium over a period of last 25</p>	<p>PLF is not as per EB 48 Annex 11. Reply to all the issues that have been raised has not been provided.</p> <p>Please clarify whether equity IRR or project IRR is calculated.</p> <p>Please clarify whether additional depreciation of 20% as per section 32 of IT Act has been availed. Debt equity ratio and interest rate are not as per EB 51 Annex 58.</p>



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
(vi) land arrangement charges (vii) insurance charges  Salvage value is not accounted in the IRR calculations  Tarrif considered is Rs. 3.62, which is not transparent if it is the tarrif for export to grid or the adjusted tarrif considering wheeling  In depreciation, claim is more than 95%. Depreciation rate for land is not relevant.  CEA data base referred in the calculations  It needs to be clarified as how there are two different PLFs in the same region.  As per discussions held during site visit, The financial calculations are to be revised in view of PLF, benchmark, depreciation, tax calculations		<p>years.</p> <ul style="list-style-type: none"> <li>3. Sub station charges are removed from the capital costs.</li> <li>4. Processing charges are removed from the capital costs.</li> <li>5. Operation and Maintenance costs have been considered as on the basis of proposal provided by Suzlon and was available to Board while taking a decision on implementing the project.</li> <li>• Salvage value is included in the Financials.</li> <li>• Since, electricity generated from project will be wheeled for captive consumption, the electricity tariff of Rs. 3.75/unit is considered.</li> <li>• Depreciation for only plant and machinery is considered. The same is updated in the PDD.</li> <li>• CEA CO<sub>2</sub> database version 4 is used.</li> <li>• Plf values are as provided by Suzlon, equipment supplier. Plf depends on Wind characteristics which could vary even within</li> </ul>	.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
<p>The PDD is not transparent on the financial incentives and fiscal incentives for wind projects given by Govt of India.</p> <p>Proposal from Suzlon is referred. The proposal mentions IRR of 34.21% and payback period of 5.04 years. The data do not match with the calculations in PDD. Please clarify</p> <p>Board resolution considers 100% equity sharing which is inconsistent with assumptions in the IRR submitted. Please explain the statement in Board that investment is considering 100% equity sharing and remaining through loan.</p>		<p>the same region,</p> <p><b><u>Reply 2</u></b></p> <p>As per Paras 3(a) of Annex 11 of EB 48: Guidelines for the reporting and validation of plant load factor Version 1, the plant load factor provided to banks while applying the project activity for project financing, is considered in doing the financial analysis of the project.</p> <p>As per the loan application submitted to state bank of Travancore, amount of electricity generated per Wind turbine: 28 Lac units/annum</p> <p>The Suzlon proposal mentions sub station charges and processing charges which are to be paid by the PP hence they are included in the IRR calculations.</p> <p>The IRR calculated is equity IRR.</p> <p>Depreciation of 80% WDV as per IT Act, is availed by the PP. Additional depreciation of 20% is also considered in the IRR analysis.</p> <p>There was typographical error in Board resolution regarding the debt: equity ratio of the project. A letter by company secretary of project proponent</p>	<p>Tax benefit on account of accelerated depreciation is not considered in cash flows.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>clarified debt: equity ratio of the project as 70:30</p> <p>As per Paragraph 11 of Annex 58 of EB 51, 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. In such situations interest should be calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years.</p> <p>Gokul has undertaken only one new project, within 3 years prior to starting date of project activity. The new project was on plant expansion. The Total cost of the project was 37.50 Crore, with a debt: equity ratio of 60:40. Debt was raised at a floating interest linked to prime lending rate, which was 13% at the time of taking loan. Whereas, for the proposed project, debt: equity ratio was 70:30 with a rate of interest of 10%. Hence, for conservative basis a debt: equity ratio of 70: 30 is considered with a rate of interest of 13%.</p>	<p>Please explain the sources for wheeling charges and working capital and details mentioned regarding IT depreciation.</p> <p>PLF has been taken from application made to bank for applying for loan which is in line with EB 48, Annex 11.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>The same has been included in the PDD.</p> <p><b>Reply 3</b> Equity IRR has been calculated. Suzlon proposal gives the cost exclusive of applicable taxes. Hence, Service tax is added in the Erection and commissioning costs and Service tax and VAT is added in Operation and maintenance costs. Suzlon proposal also indicates Annual Land lease rental and substation certification charge of 1 lakh and the same is considered for calculating IRR. Both of these costs are as per Suzlon proposal dated 28<sup>th</sup> of March, 2006 which was available with the board at the time of taking the decision.</p> <p><b>Reply 4</b> The wheeling charges are based on the proposal provided by Suzlon in March 2006, which was the basis on which decision to implement the project was taken by project proponent. The actual wheeling charges as per wheeling agreement are equal to charges provided by Suzlon proposal. Normative value of working capital requirement is considered. As per IT ACT, wind projects need to consider IT</p>	<p>Accelerated depreciation benefits of 80% has been considered and additional 20% depreciation as per Section 32 of IT Act has been considered. Equity IRR has been calculated. Interest rate has been taken as per recent debt taken by project participant which is in line with EB 51 Annex 58. Cost, operation and maintenance cost, insurance etc have been taken from Suzlon offer which is applicable at the time of decision making. Wheeling charges are 4% based on Suzlon proposal applicable at the time of decision making. The actual</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>depreciation of 80% of WDV basis. An additional depreciation of 20% WDV can be included as per section 32 of IT ACT.</p> <p>The sources for Wheeling charges, working capital and IT depreciation have been included in section B.5 of the PDD.</p>	wheeling charges are also 4%. Normative values have been taken for working capital. IRR calculations have been checked by financial expert and found to be correct. The input values are applicable at the time of decision making which is as per para 6 of EB 51 Annex 58. Hence the CAR is closed.
CAR 35  It is mentioned in EB 41 Annex 45, (Guidance on the Assessment of Investment Analysis) that 'As a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and -10%'  However in PDD, The PDD contains variations of +- 7.5% in power	Table 1 6.c.vv	<p>According to paragraph 16 of Annex 45 of EB 41: Guidance on Investment Analysis, sensitivity analysis of</p> <ul style="list-style-type: none"> <li>➤ Variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation</li> <li>➤ Variations in the sensitivity analysis should at least cover a range of +10% and -10%</li> </ul> <p>Gokul refoils carried out sensitivity analysis of the</p>	Sensitivity analysis is not as per Guidelines on assessment of investment analysis.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
generation. It may be clarified whether it is the PLF that is varied. Please explain.		<p>project for till it breached the investment benchmark for the project :</p> <ul style="list-style-type: none"> <li>• Plf of Electricity generation capacity : till +16%</li> <li>• Increasing electricity tariff: till +16%</li> <li>• Decreasing Capital costs: till -16%</li> </ul> <p>The same has been updated in Section B.5 of the PDD.</p> <p><b><u>Reply 2</u></b></p> <p>The sensitivity analysis has been revised in the PDD and justification of parameters has also been included in the PDD.</p> <p>Sensitivity analysis has been carried out of the following parameters:</p> <ol style="list-style-type: none"> <li>1. Plf</li> <li>2. Operation and maintenance costs</li> <li>3. Electricity tariff</li> <li>4. Capital costs</li> </ol>	Sensitivity analysis has been corrected in revised PDD. Sensitivity has been carried out on PLF, O&M cost, tariff and capital cost. This is as per para 17 of EB 51 Annex 58. Sensitivity analysis has been checked and found to be correct. Hence the CAR is closed.
CAR 36	Table 1	Benchmark has been revised. Please refer to the	Benchmark needs to be justified as per



## VALIDATION REPORT

	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
Justification is not mentioned in PDD regarding suitability of benchmark.	6.c.ww	<p>section B.5-Investment analysis.</p> <p><b><u>Reply 2</u></b> According to paragraph 12 of Annex 58 of EB 51: Guidance on Investment Analysis, Weighted Average Capital Cost (WACC) is appropriate benchmark for project IRR. Hence, WACC has been taken as a benchmark for the project activity. WACC has been revised and revised calculations are included in the PDD and excel spreadsheet.</p> <p><b><u>Reply 3</u></b> The project uses equity IRR. As per the paragraph 12 of Guidance on the assessment of investment analysis Required /expected returns on equity are appropriate benchmarks for an equity IRR. Hence, expected return on equity is calculated using Capital asset pricing model (CAPM). Thus CAPM is used for determining benchmark for the project.</p>	<p>Guidelines on assessment of investment analysis</p> <p>IRR used is equity IRR. Please justify benchmark.</p> <p>Return on equity is used as a benchmark which is appropriate benchmark or equity IRR as per EB 51 Annex 58, Benchmark calculations have been checked and found to be correct. It is calculated as per CAPM model Hence the CAR is closed.</p>
CAR 37  Market risk premium is taken from <a href="http://cercind.gov.in/rep1304.pdf">http://cercind.gov.in/rep1304.pdf</a> . This is a report from Crisil Advisory Services and it is mentioned in this report that ' This	Table 1 6.c.xx	<p>It is removed. Benchmark has been revised. Please refer to the section B.5-Investment analysis.</p> <p><b><u>Reply 2</u></b> According to paragraph 12 of Annex 58 of EB 51: Guidance on Investment Analysis, Weighted</p>	Benchmark needs to be justified as per Guidelines on assessment of investment analysis.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
report is meant for discussion purpose only'. Also the report is not relevant at the time of decision making and is not specific to the project type and hence not in line with the requirement of the additionality tool.		<p>Average Capital Cost (WACC) is appropriate benchmark for project IRR. Hence, WACC has been taken as a benchmark for the project activity. WACC has been revised and revised calculations are included in the PDD and excel spreadsheet.</p> <p><b>Reply 3</b>        The project uses equity IRR. As per the paragraph 12 of Guidance on the assessment of investment analysis Required /expected returns on equity are appropriate benchmarks for an equity IRR. Hence, expected return on equity is calculated using Capital asset pricing model (CAPM). Thus CAPM is used for determining benchmark for the project.</p>	<p>IRR used is equity IRR. Please justify benchmark.</p> <p>Return on equity is used as a benchmark which is appropriate benchmark or equity IRR as per EB 51 Annex 58, Benchmark calculations have been checked and found to be correct. It is calculated as per CAPM model Hence the CAR is closed.</p>
CAR 38  The barriers discussed under prevailing practice are not acceptable as they are not prohibitive. The justification is not there for considering them as a barrier.	Table 1 6.d.b	<p>The proposed project activity falls in western region of the country. As per CEA report† Fossil fuel based power plants contribute more than 72% of total electricity generated in the region. The report shows that electricity from renewable energy sources including Small Hydro, Biomass gas, Biomass power, Urban and Industrial waste power and Wind power contributes less than 10%. This suggests Wind power is not a prevailing practice and hence is</p>	<p>Please explain how barriers due to prevailing practice are prohibitive.</p> <p>Barrier due to prevailing practice has been</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p>a prohibitive barrier.</p> <p><b>Reply 2</b></p> <p>The main prohibitive barrier for the proposed project activity is investment barrier. Barrier due to prevailing practice has been removed from the PDD.</p> <p>Same has been updated in Section B.5 of the PDD</p>	removed from revised PDD. Hence the CAR is closed.
CAR 39  It is not shown that barriers do not prevent implementation of alternatives.	Table 1 6.d.b.i	<p>The main prohibitive barrier for the proposed project activity is investment barrier. In the baseline scenario: taking electricity from the grid, there was no need of this capital investment. Hence, there was no investment barrier for the project proponent.</p> <p>The same has been updated in Section B.5 of the PDD.</p> <p><b>Reply 2</b></p> <p>The barrier due to prevailing practice, technological barriers and other barrier are removed from Section B.5 of the PDD.</p>	<p>Please explain how barriers due to prevailing practice, technological barriers and other barriers are prohibitive</p> <p>Barriers due to prevailing practice, technological barriers and other barriers have been removed from PDD. Hence the CAR is closed.</p>
CAR 40  It is not justified as to why low wind	Table 1 6.d.d.ii	Financial and fiscal incentives awarded by project towards the project include accelerated depreciation benefits and a tax rebate of 10 years. Despite these	Please explain how low wind generation capacity



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
generation capacity is a barrier despite Govt. giving financial and fiscal incentives.		<p>incentives, as shown due to low plf of wind turbines, the projects are not financially attractive (refer: Financial excel sheet).Hence, low wind generation capacity is a barrier.</p> <p><b><u>Reply 2</u></b></p> <p>Other barriers have been removed from the PDD</p>	<p>is a prohibitive barrier.</p> <p>Other barriers have been removed from PDD. Hence the CAR is closed.</p>
<p>CAR 41</p> <p>In other barriers, please explain following</p> <p>Lack of experience in the field is not a barrier for wind power project as it is not prohibitive.</p> <p>'The job above from the additional investment requirement has to cover up hurdles of bureaucratic bottle necks in laying transmission lines'.</p> <p>Explain how pre-mature termination of contract is a barrier and also non-availability of grid</p> <p>Incurring expenditure on a sub-station is</p>	Table 1 6.d.d.iii	<p>Lack of experience as a barrier is removed from PDD.</p> <p>'The job above from the additional investment requirement has to cover up hurdles of bureaucratic bottle necks in laying transmission lines'. A lot of bureaucratic hurdles are faced during the implementation of the project. The barrier has been removed.</p> <p>The transmission company may terminate the contract for evacuating and wheeling of power by giving three months notice from the day of issue of the same. This can emerge as a threat for the project proponent that at any point of time if the grid disagrees for continuation of such facility the whole project investment would turn futile. The barrier has been removed from PDD</p> <p>Expenditure on sub station adds to capital costs of the project as compared to baseline of electricity</p>	<p>The statements have been removed from PDD. Other barriers have been removed from PDD. Hence the CAR is closed.</p>



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
not a barrier		from grid. However, the other barriers have been removed from the PDD.	
CL 1  Name in A3 of PDD is Gokul Refoils & Solvent Limited whereas the name of PP in Annex I is Gokul Refoils & Solvents Limited. Please clarify.	Table 1 2.d	Name of PP has been corrected in Annex-1.	Corrections have been made in PDD in name of project participant. Hence the CL is closed.
CL 2  Brief description is mentioned on reduction of greenhouse gases but complete details are not mentioned. Please clarify the same.	Table 1 3.d.ii	Further details for the reduction in GHGs are added in section A.2.	Details have been added in revised PDD on reduction of GHGs. Hence the CL is closed.
CL 3  It is not mentioned whether there is technology transfer in the project activity. Please clarify.	Table 1 3.g.ii	It is already mentioned. Please refer to the last line of the section A.4.2	It is mentioned in PDD that there is no technology transfer. Hence the CL is closed.
CL 4  It is mentioned that the total installed capacity of the wind power generator is 5 MW which is lower than the threshold capacity of 15 MW justifies the consideration of the project activity under	Table 1 3.l.ii	In the revised PDD, it is mentioned that it will remain under the limits of Small scale during each year of crediting period. Please refer to section B.2	It is mentioned that the project will remain under the limit of small scale project activity. Hence the CL is closed.



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
Type I of small scale project activity. It is not mentioned that it will remain under limits of small scale during each year of crediting period. Please clarify.			
CL 5 The results are provided in a tabular format. The units needs to be clarified.	Table 1 3.s	In the revised PDD, units are written as tons CO2e. Please refer to section B.6.4	Units have been corrected in revised PDD and they are correct. Hence the CL is closed.
CL 6  Summary of comments are given in E2. However complete details are not mentioned. Please clarify the same. Minutes of meeting are to be provided.	Table 1 3.gg.ii	Comments have been further detailed and clarified, Please refer to the section E.2. Minutes of meeting have been provided to DOE.	Comments made by stakeholder have been included in detail in revised PDD. Hence the CL is closed.
CL 7  The details on monitoring methodology is provided in Annex 4. However a QA/QC plan needs to be incorporated. Serial no. of commissioning certificate mentioned in Annex-4 Is not matching with the copy of commissioning certificate provided during site visit. Please clarify.	Table 1 3.II	A QA/QC plan is incorporated. The Commissioning certificate's serial number has been removed from Annex 4 and in turn scanned copies of commissioning certificates are added in Annex 5  <b>Reply 2</b>  Commissioning certificates have been provided to DOE. Monitoring plan including calibration details as carried out on the site is included in the revised PDD.	Details are to be included as per the monitoring including calibration etc being carried at site.  Please justify the methodology used and monitoring in view of EB



## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
		<p><b>Reply 3</b></p> <p>In line with EB 54, the methodology used is changed to AMS 1.F Version 1 and the same has been updated in the revised PDD. The monitoring plan has been revised in section B.7 of the PDD as per AMS 1. F version 1.</p>	<p>54.</p> <p>AMS IF ver 1 is applicable to project as the project involves wheeling of electricity for captive consumption. Monitoring has been revised as per AMS IF ver1. Monitoring plan including calibration details have been revised in PDD and it is as per methodology. Hence the CL is closed.</p>
CL 8  Proposed project activity is a new activity. However it needs to be clarified that there is no equipment transfer.	Table 1 4.c	There hasn't been any equipment transfer due to project activity	It is mentioned in PDD that there is no equipment transfer. Hence the CL is closed.



BUREAU  
VERITAS

## VALIDATION REPORT

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in Table 1 and Table 2	Summary of project owner response	Validation conclusion team
CL 9  Please clarify whether there are any documents on emission reduction purchase agreement or documentation regarding sale of potential CERs.	Table 1 6.a.h.iii.b	The MoU was signed between Fuel Solutions and Gokul for sale of CERs accrued from Gokul's wind project. The copies of same and the renewed MoU are provided to DOE.	Copy of MoU signed between project participant and fuel solutions has been provided. Hence the CL is closed.
CL 10  There is no double-checking of data mentioned in PDD. Please clarify.	Table 1 7.g.i	Cross checking of the data has been included in the PDD	Cross checking of data has been mentioned in revised PDD with electricity bills. Hence the CL is closed.
CL 11  Project participant has not defined the procedures for internal review. Please clarify.	Table 1 7.g.ii	Review of data has been mentioned in the PDD	Details are added in revised PDD on review of data. Hence the CL is closed.

**APPENDIX B: EXPLANATION OF HOW DUE ACCOUNT OF COMMENTS WAS TAKEN BY THE VALIDATION TEAM****COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

According to the modalities for the Validation of CDM projects, the DOE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available.

BUREAU VERITAS CERTIFICATION published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 13/06/2010 and invited comments within 12/07/2010 by Parties, stakeholders and non-governmental organizations. The table below describes how due account of the comments received for the CDM project “5 MW Wind Power Project by Gokul Refoils and Solvent Limited ” was taken by Bureau Veritas Certification.

## VALIDATION REPORT

Sr. No .	Details of the commenter	Date of Comment	Comment [unedited]	Response by project participant	Explanation on how account is taken by DOE
1.	From Hiral Mehta/Mahesh Pandya Environmental Engineers Paryavaran mitra 502, Raj Avenue, Bhaikakanagar road Thaltej, Ahmedabad - 380059 Telefax - 079- 26851321/1801 Submitted by: paryavaranmitra , <a href="mailto:paryavaranmitra@yahoo.com"><u>paryavaranmitra @yahoo.com</u></a>	08/07/2010	<p>1. How many skilled/unskilled people from surrounding area were employed at this project during commissioning and operation?</p> <p>2. Environment Impact Assessment for such projects is not required as per legal requirements. But what would be impact of negative environmental conditions on project? Whether assessment of environmental conditions on project has been carried out?</p>	<p>1. The installation of WTG has resulted in employment for local villagers. Local villagers were employed during commissioning phase of WTG and also are employed for operation and maintenance of the WTG. A total of 2 skilled and 5 unskilled people from surrounding area were hired during commissioning phase and 1 skilled and 2 unskilled are hired for carrying out operation and maintenance operation of the WTGs. A letter from Suzlon certifying the same has been provided to DOE for the same. It may also be noted that these wind mills are part of wind farm, and local employment numbers given are of people employed for these wind mills only</p> <p>2. The project activity is a renewable Wind project. Wind based power generation is one of clean source of energy generation. There is no significant impact due to the project. There are no trans-boundary impacts. Solid and oily waste disposal is being carried out by Operation and Maintenance contractor as per applicable requirements. EIA notification was published in the Gazette of India, Extraordinary, Part-II, and Section 3,</p>	<p>1. The project participant has provided a letter from Suzlon which states that during commissioning phase 2 skilled and 5 unskilled people were employed from surrounding area. Also, during operation and maintenance of project 1 skilled and 2 unskilled people are employed from surrounding area. Thus the information on how many unskilled/skilled people are employed from surrounding area has been provided.</p> <p>2. As per schedule of EIA notification of Ministry of Environment &amp; Forests, Govt of India,</p>



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			3. Stake holder consultation did not include local self government representation, district or state government authority from	<p>Sub-section (ii) Ministry Of Environment And Forests dated 14th of September, 2006‡. It is mentioned in the notification that the Central Government hereby directs that on and from the date of its publication the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the prior environmental clearance from the Central Government or as the case may be, by the State Level Environment Impact Assessment Authority, duly constituted by the Central Government. Wind energy projects are not mentioned in any of the categories of the schedule to the above mentioned notification.</p> <p>Thus, no environment assessment was carried out by project proponent as there is no significant impact due to project activity on environment.</p> <p>3. All the stakeholders likely to be affected, by the proposed CDM project activity or actions leading to its implementation, which are local villagers were present during the stakeholder meeting conducted by project</p>	<p>EIA is not required for wind projects in India. Accordingly no EIA or assessment was carried out by project participant. Wind energy generation is a clean form of energy generation. The disposal of solid and oily waste will be carried out as per applicable requirements. The validation team agrees with the response of project participant that EIA is not required and no assessment has been carried out as it is a clean form of energy generation.</p> <p>3. The project participant had provided copies of letter sent to various stakeholders including</p>



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			<p>environment department / pollution control board.</p> <p>4. Whether local villagers would be beneficiary of CDM revenue earned by company? Any plan has</p>	<p>proponent.</p> <p>But at the same Project participant took necessary measures to include local self government representation. Invitation for stakeholder meet were sent by project proponent: to following government representatives</p> <ol style="list-style-type: none"> <li>1. Representative from the local community</li> <li>2. Representative from CDM Cell, Ministry of Environment &amp; Forest, Government of India.</li> <li>3. Representative from CDM Cell, Ministry of Environment &amp; Forest, Government of Gujarat.</li> <li>4. Representative from Ministry of New &amp; Renewable energy, Government of India.</li> <li>5. Representative from Gujarat Energy Development Agency.</li> <li>6. Representative from Gujarat Urja Vikas Nigam Limited.</li> </ol> <p>Also, a public advertisement was published in local newspaper for inviting people for stakeholder meeting.</p> <p>4. Project contributes towards sustainable development of local area as mentioned in</p>	<p>officials of government. The validation team agrees with the response of project participant that stakeholders affected or likely to be affected by project activity are local villagers who attended the meeting, although the project participant had sent letters to government officials inviting them for the meeting.</p> <p>4. As per Ministry of Environment &amp; Forests, DNA of India, 2% of the CER revenues will be shared for large scale projects. There is no requirement for sharing of CER revenues for small scale projects so project participant has not earmarked any CER revenues to be</p>



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			been develop to earmark certain fund from CDM revenue for community welfare to improve social well being of local people?	the PDD. As per Designated National Authority (DNA), Ministry of Environment and Forest, Government of India 2% of CDM revenues are to be earmarked for sustainable development activities by large scale project only. There is no regulatory requirement by DNA for sharing any CER revenues for small scale projects. The proposed project activity is a small scale project and hence does not require any sharing of CDM revenues. Hence, there are no plans to share CER revenues with local villagers	shared with local villagers. Since it is not a requirement, the project participant has not earmarked any funds.  Thus the validation team is of the opinion that the comments have been appropriately addressed.