VALIDATION REPORT
BINDU VAYU URJA PRIVATE LIMITED (BVUPL)

VALIDATION OF THE
CHAKALA WIND POWER PROJECT IN MAHARASHTRA

REPORT NO.INDIA-VD/487.49/2012
REVISION NO.01

BUREAU VERITAS CERTIFICATION

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Client: Bindu Vayu Urja Private Limited (BVUPL)	Client ref.: Mr. Vikram Kailas

Summary:

Bureau Veritas Certification has conducted the validation of Chakala wind power project in Maharashtra, owned by Bindu Vayu Urja Private Limited (BVUPL), which is located in Chakala Village, Maharashtra State, 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 document and additional background documents; 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 Requests, Corrective Actions Requests, and Forward Actions Requests (CLs, CARs and FARs), 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 ACM0002 Version 13.0.0 and meets all relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests the registration of the project as a CDM project activity.

Report No.: INDIA-VD/487.49/2012	Subject Group: CDM	
Project title: Chakala wind power project in Maharashtra		
Work carried out by: Mr. V. Senthil Kumar - Team Leader Mr. Shelton Victor - Team Member Karthikayan and Jayaram Associates - Finanacial Expert		
Internal Technical Review carried out by: Mr. Sanjay Patankar Supporting Technical Reviewer Mr. Bhavesh Prajapati		
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Indexing terms

Work approved by:

Flavio Gomes

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Abbreviations

BVCH	Bureau Veritas Certification Holding SAS
BM	Build Margin
CAR	Corrective Action Request
CAPM	Capital Asset Pricing Model
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CL	Clarification Request
CM	Combined Margin
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
FAR	Forward Action Request
DISCOM	Distribution Company
GEDA	Gujarat Energy Development Agency
GETCO	Gujarat Energy Transmission Corporation Limited
GHG	Green House Gas(es)
I	Interview
IETA	International Emissions Trading Association
INR	Indian Rupees
JMR	Joint Meter Reading
MoV	Means of Verification
MP	Monitoring Plan
NGO	Non Government Organization
OM	Operating Margin
O&M	Operation and Maintenance
PCN	Project Concept Note
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Participant
PPA	Power Purchase Agreement
PO	Purchase Order
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
WTG	Wind Turbine Generator

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1. INTRODUCTION

Bindu Vayu Urja Private Limited (BVUPL) has commissioned Bureau Veritas Certification to validate its CDM project Chakala wind power project in Maharashtra (hereafter called “the Project”) at Chakala Village, Maharashtra State, 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 objective of a validation is to provide a through and independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, 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 applicable CDM requirements and the 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).

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 the requirements of paragraph 37 of the CDM M&Ps, the applicability conditions of the selected methodology and guidance issued by the Board.

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

1.3. Validation Team

The assessment team and internal technical reviewer team consist of the following personnel:

FUNCTION	NAME	TA 1.2	TASK PERFORMED*

Team Leader	Mr. V. Senthil Kumar	☒	☒DR ☐SV ☐RI ☐TR
Team Member	Mr. Shelton Victor	☒	☒DR ☒SV ☐RI ☐TR
Financial Specialist	CA G. N. Jayaram, Chartered Accountants	☐	☒DR ☐SV ☐RI ☐TR
Internal Technical Reviewer (ITR)	Mr. Sanjay Patankar	☒	☒DR ☐SV ☐RI ☒TR
Supporting Technical Reviewer (ITR)	Mr. Bhavesh Prajapati	☒	☒DR ☐SV ☐RI ☒TR
Report Approval	Flavio Gomes	☐	☒DR ☐SV ☒RI ☐TR

*DR = Document Review; SV = Site Visit; RI = Report issuance; TR = Internal Technical Review

2. METHODOLOGY

The overall validation, from Contract Review to Verification 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 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th 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 Bindu Vayu Urja Private Limited (BVUPL) and additional background documents related to the project design and baseline were reviewed.

Furthermore, cross checks were made between information provided in the PDD and information from sources other than those used, (if available) the DOE's sectoral or local expertise and, (if necessary) independent background investigations.

To address Bureau Veritas Certification corrective action and clarification requests, Bindu Vayu Urja Private Limited (BVUPL) revised the PDD and resubmitted it on 29/12/2012.

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

2.2. Follow-up Interviews

On 03/07/2012, Bureau Veritas Certification performed a site visit and interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Bindu Vayu Urja Private Limited (BVUPL) and Ernst & Young Private Ltd. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Bindu Vayu Urja Private Limited (BVUPL) (the Project Owner)	➢ Project Design and implementation ➢ Technical Equipment and operation ➢ Compliance with National Laws and regulations. ➢ CDM consideration ➢ Additionality ➢ Local stakeholder consultation and resolution of their concerns ➢ Supporting data, evidences and documentation ➢ Monitoring Plan ➢ Environmental Impacts
Local Stakeholder	➢ Views and concerns about the Project Activity ➢ Confirmation of the local stakeholder meeting conducted by Bindu Vayu Urja Private Limited

Ernst & Young Private Ltd. (the Consultant)	➢ Methodology applicability ➢ Baseline determination & Emission factor ➢ Additionality ➢ Benchmark Analysis ➢ Resolution of CAR's and CL's ➢ GHG Calculations
Suzlon Energy Limited (O&M Contractors)	➢ Operation & Maintenance Arrangements. ➢ Monitoring System at site ➢ Metering system at site

2.3. Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the validation is to resolve issues that require further elaboration, research or expansion prior to Bureau Veritas Certification's positive conclusion on the project design.

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional emission reductions;

(b) The applicable CDM requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

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

A Forward Action Request (FAR) may also be raised during validation, to identify issues related to project implementation that require review during the first verification of the project activity.

To guarantee the transparency of the validation process, the issues raised, the responses provided by the project participants, the means of validation of such responses and references to any resulting changes in the PDD or supporting annexes are documented in the Validation Protocol in ***Appendix A***.

2.4. Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs and CLs during the validation exercise, review of sample documents.

The reviewer may raise Clarification Requests to the validation team and will discuss these matters with the Team Leader.

After the agreement of the responses to the Clarification Requests from the validation team as well as the PP(s), the finalized validation report is accepted for further processing such as uploading via the UNFCCC interface.

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, Corrective and Forward 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 12 CAR(s) and 12 CL(s).

The CARs and CLs were closed out 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 corresponds to the VVM paragraph.

3.1. Approval (49-50)

The letters of approval have been received and the following support documentation has been verified by the validation team:

India is the only party involved in the project activity at this stage and is the Host Party for this project activity.

M/s. Bindu Vayu Urja Private Limited on 07/11/2012 received the Host Country Approval (HCA) (Ref/P3/) from the Ministry of Environment and Forest (MoEF), who also acts as the DNA for India. The copy of HCA (vide reference no. 4/13/2012-CCC dated 07/11/2012) was submitted to the validation team. The Validation team verified the approval letter issued by the Government of India, Ministry of Environment and Forests which serves as the Indian Designated National Authority. Validation team received this letter from the project participants and does not doubt its authenticity as the validation team verified the original copy of the Letter of approval.

Host Country Approval to 'Chakala wind power project in Maharashtra', refers to the precise proposed CDM project activity title in the PDD being submitted for registration, (Ref/P3/) however the application for Letter of Approval from the Host Party DNA has been filed by the Project Participant.

India is the only party involved in the project activity at this stage and is the Host Party for this project activity.

In accordance with para. 45 – 48/VVM, Bureau Veritas Certification considers that:

(a) Each letter confirms the Party is a Party to the Kyoto Protocol;

(b) Each letter confirms the participation is voluntary;

(c) In the case of the host Party, the letter confirms that the proposed project activity contributes to the sustainable development of the country;

(d) Each letter refers to the precise proposed project activity title in the PDD being submitted for registration.

(e) The letter(s) of approval is unconditional with respect to the items above.

(f) The letter(s) of approval has been issued by the respective Party's DNA and is valid for the proposed project activity under validation.

The letter of approval clearly states that India (host party) has ratified the Kyoto Protocol and that the approval is for voluntary participation in the proposed CDM project activity. It also, mentions that the project activity contributes to sustainable development of the host country, India.

The validation team considers the letter of approval in accordance with paragraphs 45 - 48 of the VVM.

3.2. Participation (54)

The participation for the project participant has been approved by India, which is a Party to the Kyoto Protocol, as seen from the UNFCCC website http://maindb.unfccc.int/public/country.pl?country=in India has ratified the Kyoto Protocol on 26 August 2002.

The participation is approved by DNA of India and is accepted. The participation for project participant has been approved by a Party of the Kyoto Protocol. The Host Country Approval clearly states that the participation of the project participant in proposed project activity is voluntary and will contribute in sustainable development of the host country (India). The letter of approval was accorded to the Project participant under the Project ID no 1285/05/2012. The validation team concluded this by reviewing the original Host Country Approval (HCA) with reference no. 4/13/2012-CCC dated 07/11/2012 (Ref/P3/) which describes the participation of M/s Bindu Vayu Urja Private Limited being approved by the Government of India, which is a party of the Kyoto Protocol.

The project was webhosted on the UNFCCC for global stakeholder's comments as per CDM requirements. The project was webhosted from

01/05/2012 to 30/05/2012*. There were no comments received from global stakeholder entities for the project activity.

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Refer to section 3.1 of this report. The project participant described contribution to sustainable developed as per four indicators of sustainable development stipulated by Ministry of Environment & Forests in India.

Project participant has provided the undertaking letter for the contribution towards CSR activities in response to ***CL 2*** raised by the validation team. The letter provided by the project participant was found to be satisfying the requirements set out by the host party DNA and hence ***CL 2*** was closed by validation team.

The host country legislation does not require any environmental impact assessment to be carried out for wind energy projects. Project participant has obtained approval from DNA of India (Ref/P3/) and it is confirmed by the Authority that the project contributes to sustainable development in India. The project activity is in compliance with all current applicable legislations. As the project activity does not lead to generation of liquid or gaseous effluents and it will displace fossil fuel based electricity generation, there are only benefits derived out of the project and no adverse effects are envisaged. Moreover, the location of the project activity is in remote and economically backward region and hence largely contributes to the social well being of the region.

During site visit it was noticed that the project provided employment to local people. The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party.

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*http://cdm.unfccc.int/Projects/Validation/DB/OZJ4SPXOMV7WR13YLUOZ1A7BNF6QPX/view.html

3.3. Project Design Document (57)

The Project Design Document (version 05) of the project activity titled "Chakala wind power project in Maharashtra" has been prepared using the latest PDD format as per the latest guidelines for completing the project design document, version 7.0 (Ref/B1/), which is available on the UNFCCC website http://cdm.unfccc.int/reference/guidclarif/pdd/pdd_guid04.pdf.

The validation team hereby confirms that the PDD complies with the latestforms of the guidance documents for completion of PDD. The PDD is as per Guidelines for completing the Project Design Document, Version 07.0, EB 41 (CDM- (Ref/B1/). The Project Activity's PDD was webhosted on 30/04/2012 for Global Stakeholder Comments Period (GSCP) and was available to the public view on 01/05/2012 (Ref/B13/) as per the notification email communication available from CDM Validation notifier. The same is meeting the timeline requirements of "Implementation Plan for the Clean Development Mechanism Project Standard, Validation and Verification Standard and Project Cycle Procedure", Version 02.0, Annex 33, EB 68 (Ref/B14/).

3.4. Changes in the Project Activity

The technical details and the capacity of the plant are in line with the description provided in the PDD. The same was evidenced during the validation site visit and document review.

During the course of validation, the PDD did undergo certain changes. The final PDD version 05 (Ref/P2/) has the following change as compared to the PDD version 01 (Ref/P1/), which was webhosted for the Global Stakeholders' Comment.

1. The CER estimates have been revised.
2. Additionality has been demonstrated as per latest tool for demonstration of additionality, version 6.0
3. Project boundary has been revised as per actual monitoring at site.
4. IRR calculations have been revised in order to comply with the latest EB guidelines.
5. The common practice analysis has been updated in conformance with Paragraphs 6, 8 and 47 of "Tool for the demonstration and assessment of additionality" Annex 21, EB65

6. Data management procedures, data uncertainty procedures and Emergency Preparedness Plan have been updated by the Project Participant.

The validation team hereby confirms that the PDD complies with the latest PDD format (Ref/B2/) and PDD Completeness Guidelines for completion of PDD (Ref/B1/) .

3.5. Project Description (64)

The project activity involves the installation of 26 WTGs (Wind Turbine Generators) at the Chakala village, Nandurbar District, Maharastra State, India. There have been no WTGs installations earlier belonging to project participant. The WTGs are of Suzlon make S82 model and each WTG is of 1500 kW capacity. The total installed capacity of the project activity will be 39.0 MW.

The proposed CDM project activity is expected to generate approximately 77996.41 MWh of electricity per year. The power generated from the WTGs is expected to be exported to the Maharashtra State Electricity Distribution Company Limited (MSEDCL), which forms a part of the NEWNE Regional Grid (National Grid) of India.

The project activity generates electricity using wind energy, which does not result in any greenhouse gas (GHG) emissions. In the absence of the proposed CDM project activity, the electricity exported by the project activity would have been supplied by the NEWNE Grid of India, which is dominated by fossil fuels based thermal power plants (as referred in the database of Central Electricity Authority of India) (Ref/P4/) and would have led to higher GHG emissions. Thus, this project activity will lead to a reduction in GHG emissions approximately to the tune of 74,307 tonnes of CO_2e per annum from the expected 77996.41 MWh of annual gross generation of electricity.

Validation team has confirmed the accuracy of the project description through a combination of steps consisting of review of supply agreement (Ref/P5/) related to the project activity, physical site visit and interview of the project participant and their representatives. The validation team conducted a visit to the site on 03/07/2012. The validation team noted that the installation of wind turbine generators have spread across Chakala village of Nandurbar District, Maharashtra State. During the site

visit, it was observed all the machines have been commissioned. Further, the validation team interviewed some of the local stakeholders to understand the project's contribution towards the sustainable development of the area nearby to the project activity. After their interview, it was noted that the due to start of the project activity, there is a generation of the employment for unskilled labors due to requirement of manpower during the commissioning work of the project activity. The requirement of manpower is partially fulfilled by the employment of local people. Thus, it is contributing towards the economical development of area apart from the infrastructure development of nearby area due to installation of the project which is being developed on barren land.

The project capacity was verified with the PPA (Ref/P6/), commissioning certificates (Ref /P7/) and hence validation team concludes that the project activity is of 39.0 MW.

The validation team hereby confirms that the project description in revised PDD (Ref/P2/) 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 (Ref/P1/).

3.6. Baseline and Monitoring Methodology

3.6.1. General Requirement (76-77)

The proposed project activity "Chakala wind power project in Maharashtra" uses the approved consolidated baseline and monitoring methodology ACM0002 Version 13.0.0 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Ref/B3/).

Assessment of applicability conditions of methodology is as follows:

Applicability condition: *The methodology is applicable to grid connected renewable power generation project activity under the following conditions:*

- *The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;*

Validation Justification:

The proposed CDM project activity involves the installation of the 26 WTGs, each of 1500 kW capacity. The validation team reviewed the supply agreement & PPA (Ref/P5//P6/) for WTGs placed by the project participant on WTG supplier and power purchase agreement with Maharashtra State Electricity Distribution Co. Ltd. The electricity generated from the project activity will be exported to NEWNE Grid (Regional Grid of India). The validation team also verified the grid connections during site visit by visiting the substations where the WTGs of the project activity will be connected to the grid. As per CEA database Version 7 (Ref /P4/), Maharashtra state falls under the NEWNE Regional grid of India, the geographic and system boundaries of which are clearly identified and information on the characteristics of the grid is available. Based on the above assessment, the validation team confirms that the proposed CDM project activity is a Green Field grid connected renewable power generation project based on wind energy. Hence, this applicability condition is fulfilled.

Applicability condition: *In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;*

Validation Justification: From the supply agreement (Ref/P5/), commissioning certificates (Ref/P7/) and the physical Verification at the site it is confirmed that the project activity is not a retrofit or replacement of older wind turbine generators with new wind turbine generators. Based on physical site visit, and documentary evidence, the validation team is able to confirm that the project activity is a Greenfield project and not a capacity addition. Hence, this applicability condition is not relevant to proposed CDM project activity.

Applicability condition: *In case of hydro power plants: At least one of the following conditions must apply:*

- *The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or*

- *The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m2 after the implementation of the project activity; or*

- *The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m2 after the implementation of the project activity.*

Validation Justification: This applicability condition does not apply since the project activity is wind energy based power project.

Applicability condition: *In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m2 after the implementation of the project activity all of the following conditions must apply:*

- *The power density calculated for the entire project activity using equation 5 is greater than 4 W/m2;*

- *All reservoirs and hydro power plants are located at the same river and were designed together to function as an integrated project that collectively constitutes the generation capacity of the combined power plant;*

- *The water flow between the multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;*

- *The total installed capacity of the power units, which are driven using water from the reservoirs with a power density lower than 4 W/m2, is lower than 15 MW;*

- *The total installed capacity of the power units, which are driven using water from reservoirs with a power density lower than 4 W/m2, is less than 10% of the total installed capacity of the project activity from multiple reservoirs.*

Validation Justification: This applicability condition does not apply since the project activity is wind energy based power project.

Applicability condition: *The methodology is not applicable to the following:*

- *Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;*

- *Biomass fired power plants;*
- *A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the reservoir is less than 4 W/m2*

Validation Justification: As described in the above applicability conditions, the proposed project activity is wind based power project and hence this conditions is not relevant to the proposed CDM project activity.

Physical verification at the site confirmed that the project activity is not an add up of a renewable and non-renewable component and only wind turbine generators are involved in the project activity having capacity total of 39.0 MW, which classifies as a large scale project activity (> 15 MW). The project activity does not involve switching from fossil fuels to renewable energy sources at the project activity site nor is a biomass fired power plant, but is only a wind energy based electricity generation project.

All the applicability condition of the applied methodology ACM 0002 Version 13.0.0 has not been provided in section B.2 of the webhosted PDD and this was raised as ***CAR 5*** by the validation team. The Project Participant has provided all the applicability condition of the methodology and hence ***CAR 5*** was closed by the validation team.

In addition to the applicability conditions of the applied baseline and monitoring methodology, the methodology also refers to the applicability of the tools referred in the applied methodology /B6/. The assessment of the applicability of the tools applied by the project activity as referred by the applied baseline and monitoring methodology, ACM0002, version 13.0.0 (Ref/B3/) is as per followings:

Tool to Calculate the Emission Factor for an Electricity System, EB 65, Annex 19, version 02.2.1 refers to the following:

The tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid.

The proposed CDM project activity involves installation of new wind energy generators and supply of electricity to the grid (southern regional grid of India). The methodology prescribes the grid as the baseline and

the baseline emissions are calculated for the substitution of the electricity which would have been otherwise produced by the power plants in an electricity system / grid.

The project participant has applied to latest tool for calculating emission reductions and has derived values for the same from the CO_2 Baseline Database of Central Electricity Authority (CEA). The CEA CO_2 Baseline Database has calculated the Operating Margin (OM) & Build Margin (BM) and the Combined Margin (CM) emission factor for the NEWNE regional grid determined by Central Electricity Authority (CEA), India.

The Project Participant has applied the weighted average CM method where by the two emission factors pertaining of the electricity system/ system viz., OM and BM for determining the CM. The default value of weights for W_{OM} = 0.75 and W_{BM} = 0.25 (wind & solar projects) has been applied to derive the CM for the NEWNE regional grid.

The validation team, based on the above described assessment, is able to conclude that the tool selected, which is prescribed by the approved applied baseline and monitoring methodology is applied correctly and appropriate to the proposed CDM project activity.

The selected baseline and monitoring methodology, ACM 0002, Version 13.0.0 (Ref/B3/) is previously approved by the CDM Executive Board. The validation team hereby confirms the applicability of the applied baseline and monitoring methodology to the proposed CDM project activity.

Bureau Veritas Certification hereby confirms that the selected baseline and monitoring methodology, tool and other methodology component is previously approved by the CDM Executive Board, and is applicable to the Project, which, complies with all the applicability conditions therein.

3.6.2. Project Boundary (80)

The spatial extent of the project boundary as illustrated in the PDD covers the Wind Turbine Generators of the project activity, substations and the NEWNE Regional Grid.

The project boundary was validated in the following manner:

a) The spatial extent of the project boundary is assessed based on the description provided in the PDD and as per the official data available from the Central Electricity Authority (CEA) about the regional grids in India. The electricity generated by the proposed CDM project activity

would be exported to the state grid, which is a part of the NEWNE regional electricity grid of India. The project activity boundary therefore includes the project power plant (Wind Turbine Generator) and all other power plants connected physically to the NEWNE Regional grid.

b) The validation team from the site visit was able to confirm that the proposed CDM project activity is located at Chakala village of Nandurbar district of Maharashtra State and comprises of the same elements described in the project boundary diagram in section B.3 of the PDD. At site, the wind energy generators utilize the available wind energy to produce electricity. The produced electricity is transmitted through Grid substation which is the part of NEWNE grid of India. Same were cross checked with commissioning certificates issued by MSDECL and power purchase agreement between BVUPL & MSDECL, from this assessment the validation team was able to conclude that the activity is connected to the NEWNE Regional Grid of India. All these elements together form parts of project boundary and hence geographical boundary of the project activity therefore encompasses these elements and is also correctly described in the project boundary diagram included in section B.3 of the PDD.

The baseline for this project activity is the continued generation of power in fossil fuel fired power plants connected to the NEWNE Regional grid. As the primary emission from such plants is CO_2, the consideration of only CO_2 gas for the baseline emissions is justified.

The project activity will also import power from the grid, whenever required. The electricity imported by the project activity is accounted while calculating the net electricity supplied ($EG_{PJ,y}$) by the proposed CDM project activity. There are no other sources of project emissions. Hence, in line with the applied methodology, the project participant has considered project emissions as zero for renewable projects. Further, it was confirmed through the supply agreement (Ref/P5/) and commissioning certificates (Ref /P7/) that the WTGs of the project activity are new and no transfer of equipments from or to the project activity is involved; thus there is no leakage accountable to the project activity and also the Project Activity is environmentally safe during the operational life time of WTG's. This was also confirmed based on the review and closure of ***CAR 4***.

The validation team hereby confirms that the project design is sound and the geographical (Chakala Village of Nandurbar District, Maharashtra State, India) and temporal (20 years) boundaries of the project are clearly

defined. The webhosted PDD had stated the equipment lifetime to be 20 years. The project participant provided the supply agreement by the technology supplier (Ref/P5/), noted that the technology supplier who is also the manufacturer and responsible for the operation & maintenance of the WTGs. Based on the review of the supply agreements (Ref/P5/) confirmed that the entire project WTGs are new. The validation team also checked the Annex 15 of EB 50 "Tool to determine the remaining lifetime of equipment" (Ref /B6/) which has prescribed 20 years as the default technical lifetime for Wind Turbine Generators.

CAR 6 was raised since flow diagram of the project boundary physically delineating the project is not as per the actual site condition which was evidenced during the validation site visit and the same was revised as per site conditions, hence ***CAR 6*** was closed satisfactorily.

The validation team also confirms that the only greenhouse gas relevant to the project activity is CO_2. This gas is addressed by the applied methodology baseline and monitoring methodology.

The validation team hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity. The validation team did not identify any emission sources that will be affected by the implementation of the proposed project activity and which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and are not addressed by the selected approved methodology.

3.6.3. Baseline Identification (87-88)

The steps taken to assess the requirement given in paragraph 88 of the VVM are described below:

Validation team assessed the baseline identification by the project participant using the provisions of the applied methodology. As per the applied methodology ACM 0002, version 13.0.0 (Ref/B3/), the baseline scenario for a new grid connected renewable power plant/unit (Greenfield project) is defined as

Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

As per paragraph 6 of the applied methodology, the baseline emissions is the product of electrical energy generated by the project activity ($EG_{PJ,y}$) multiplied by the Grid Emission Factor

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

BE_y	=	Baseline emissions in year y (tCO_2),
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{grid,CM,y}$	=	Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the Tool to calculate the emission factor for an electricity system. (tCO_2/MWh)

The validation team agrees to the value of emission factor as it is based on the official background data published by Central Electricity Authority (CEA) and is an official publication of the Government of India and can be regarded as a reliable and authentic source of data for the determination of CDM baselines.

The validation team further noted that the emission factor is not provided by DNA but by the competent authority. The provisions of paragraph 64 of EB 43 in this regard therefore are not applicable.

It is noted that the selected baseline scenario is in accordance with the selected approved baseline and monitoring methodology ACM 0002, version 13.0.0 (Ref/B3/). Validation team therefore confirms that the selected baseline scenario reasonably represents what would happen in the absence of the proposed CDM project activity.

Based on the above assessment, the DOE 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 investment in wind power projects in India is not a mandatory obligation on any project owner. The validation team confirms this on referring the Electricity Act 2003 (http://www.cercind.gov.in/08022007/Act-with-amendment.pdf) and National Electricity Policy 2005 (http://www.powermin.nic.in/whats_new/national_electricity_policy.htm) which do not restrict or empower any authority to restrict the fuel choice for power generation.

(e) The approved baseline methodology has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM 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 96 the VVM are described below:

Baseline Methodology Procedure of the applied baseline methodology ACM 0002, version 13.0.0 (Ref/B3/), if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the 'Tool to calculate the emission factor for an electricity system'".

The proposed CDM project activity involves new wind (renewable) energy based grid connected power plants. Hence, the project participant has calculated the baseline emissions by multiplication of the net electricity supplied by the project activity to the grid and the combined margin emission factor for the grid. The detailed algorithms are transparently described under sections B.6.1 and applied in section B.6.3 of the revised PDD (Ref/P2/), version 05, to calculate the baseline emissions

As required under ACM 0002 Version 13.0.0, equation 6 the baseline emissions are calculated by the algorithm:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

BE_y = Baseline emissions in year y (tCO_2),
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the Tool to calculate the emission factor for an electricity system. (tCO_2/MWh)

The project activity being a green field grid connected renewable power project, as per equation 7 of applied baseline and monitoring methodology ACM 0002 Version 13.0.0, $EG_{PJ,y} = EG_{facility,y}$ (where the $EG_{facility,y}$ is Quantity of net electricity generation supplied by the project plant/unit to the grid in year y). The algorithm to calculate the emission reductions from the project activity is described as;

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y is Emission reductions in year y (t CO_2/y)
BE_y is Baseline Emissions in year y (t CO_2/y)
PE_y is Project Emissions in year y (t CO_2/y)
LE_y is Leakage Emissions in year y (t CO_2/y)

The project participant has considered the project emission emissions to be zero in the proposed CDM project activity. The validation team has found this to be in accordance with the applied baseline and monitoring methodology ACM0002, version 13.0.0. The applied methodology clearly states that for the most of the renewable power generation project activity, $PE_y = 0$. Some of the project activities that may involve the project emission are Hydro power plant and geothermal power plant along with projects, which involve consumption of fossil fuel. The proposed CDM project activity is neither hydro power plant nor geothermal power plant. Further, the operation of the proposed CDM project activity does not require use of any fossil fuel as the project activity is wind energy based power generation. Hence, it is correct and appropriate to consider the project emissions as zero. Leakage emissions are considered to be zero in accordance with applied baseline methodology ACM 0002, version 13.0.0.

Hence $ER_y = BE_y$

i.e, $ER_y = EG_{facility,y} * EF_{grid,CM,y}$

Thus the algorithms used for the calculations of the baseline emissions and hence emission reductions are found to be correct and in accordance with the applied baseline and monitoring methodology ACM 0002, version 13.0.0 (Ref/B3/), which is also appropriate to the type of the proposed CDM project activity.

Validation team assessed the calculations of estimated emission reductions as provided by project participant in a MS Excel spreadsheet (Ref /P8/) in such a way that it can be easily reproduced by the reader.

The assumptions in this spreadsheet are validated as follows –

Parameter, Value	Source of information	Validation justification
Project Capacity, 39.0 MW	Offer letter (Ref/P9/), Supply agreement (Ref/P5/)	The project capacity is as per the documents verified.
Number of WTGs, 26 Individual Capacity of WTG, 1.5 MW	Offer letter (Ref/P9/), commission certificare (Ref/P7/), Supply agreement (Ref/P5/)	The number of WTGs is as per the documents verified.
PLF of the project, 22.83%	Third party Wind Assessment report (Ref /P10/)	The PLF value has been sourced from the third party wind assessment conducted by M/s. Garrad Hassan. The third party assessment study has been done for all the probable micrositing locations of 26 installation locations in Chakala. This is in accordance with Annex 11 of EB 48 and hence accepted by the validation team (Ref/B7/).
Net Generation of the project activity, 78.00	Calculated Value	The value is calculated as based on PLF value sourced from Wind energy assessment study. The value works to 78.00 Million KWh. This is in accordance with Annex 11 of EB 48 and

Million kWh		hence accepted by the validation team (Ref/B7/).
Baseline Emission Factor for NEWNE regional grid, 0.9527 tCO_2e/MWh	CEA database Version 07 (Ref/P4/)	CEA database is an official source of data and Version 7 was the version available at the start of the validation viz; webhosting of the PDD for global stakeholder comments. This is also in accordance with applied baseline methodology and "Tool to calculate the emission factor for an electricity system" (Ref/B4/) and hence accepted by the validation team.

The estimation of emission reductions in the PDD in section B.6.4 is based on net electricity exported to the grid. The estimated annual average of emission reductions of approximately 74,307 tCO_2e over the 10 year crediting period, the calculation represents a reasonable estimation using the assumptions considered by the project participant in the revised PDD. All the assumptions for this estimate are derived from the relevant assumptions used for investment analysis and grid emission factor as taken from data provided by the CEA website. 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/P8/) for calculations of emission reductions.

Based on the above assessment, the DOE hereby confirms that:

(f) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;

(g) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;

(h) All values used in the PDD are considered reasonable in the context of the proposed project activity;

(i) The baseline methodology and corresponding tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;

(j) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

3.7. Additionality (97)

The steps taken by the validation team to assess the additionality of the Project Activity include review of documents indicated in the assumptions in the revised IRR spread sheet (Ref/P11/). 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)

It has been demonstrated by the timeline of events of the Project that the CDM revenues were seriously considered in the decision to proceed with the Project prior to start date of the Project activity and, the continuing and real action were taken to secure CDM status for the Project in parallel with its implementation:

The timeline of the Project has been validated as in Table 2 below:

Table 2 Timeline of the Project

Date	Events	Reference
04/07/2011	Quotation from the technology supplier i.e Suzlon Energy Limited for the project activity	Proposal from technology supplier (Ref/P9/)
22/07/2011	Decision by the Board of Directors for the implementation of the project activity with CDM revenues	Board decision for the proposed CDM project activity dated 22/07/2011 (Ref/P12/)
03/08/2011	Agreement between the technology supplier and Project Participant for the supply of the WTGs (Start Date)	Purchase orders dated 03/08/2011 (Ref/P5/)
07/11/2011	Prior consideration of CDM – Intimation of the project activity sent to UNFCCC and MoEF	Prior consideration form, mail copies sent to UNFCCC and MoEF (Ref/P13/)
20/10/2011	Stakeholders consultation for the project activity	Stakeholders meeting invitation, stakeholders minutes of meeting (Ref/P14/)

From the table above, the validation team is able to verify that the project activity start date determined as 03/08/2011 in the PDD is appropriate and is the earliest of the dates at which either the implementation or construction or real action of the Project began. This is the date when project participant has issued Purchase Order to WTG supplier viz;

Suzlon Energy Limited to start with the implementation of the project activity. As per the CDM glossary of terms, the start date is defined as "*the earliest date at which either the implementation or construction or real action of a project activity begins*". The proposed CDM project activity is a Greenfield wind energy based power plant at a site where no previous facility existed.

As per paragraph 2 of the EB 62 Annex 13 (Ref/B8/), if the PDD is published for Global Stakeholder consultation (01/05/2012 - 30/05/2012) after the start date (03/08/2011) of the project activity, the intimation to UNFCCC and Host Country DNA is necessary. Thus the project participant has intimated both UNFCCC and Indian DNA about their intention to seek CDM status for the proposed project activity and is presented in the following table:

Starting date of project activity	**Justification of and evidences (references) on the starting date of project**	**Justification on the prior consideration of the CDM**
03/08/2011	Date of Purchase order for the supply of WTGs with the Suzlon Energy Limited by the project participant. It is the earliest date at which real action of the project activity has begun. Hence the validation Team concludes that the start date is in accordance with the definition in "Glossary of CDM terms"(Ref/B9/) and in accordance with Annex 13 of EB-62 (Ref /B8/).	Date of Intimation to UNFCCC and Indian DNA by Project participant was done on: 07/11/2011 which is within 6 months from the start date of the proposed CDM project activity. The validation team verified from UNFCCC website under Prior Consideration section and found the intimation to UNFCCC on 07/11/2011 which is within 180 days from the start date.

The project activity is with a start date after 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation. The validation team reviewed the extracts of the Board resolution (Ref/P12/) and noted that the investment decision for the project activity was taken on 22/07/201. The review of the Board resolutions indicate the discussion of investing in the wind power projects

across Chakala Village in Maharashtra State, India and further discusses the financial non-viability of the project activity without CDM revenues. The board minutes further discusses about CDM benefits and criticality of CER revenues in ensuring financial viability of the project activity.

The validation team verified the originals of all the documents as mentioned in the chronology of events in Section B.5 of the PDD and observed them to be correct.

From the assessment it is established that the project participant has intimated the UNFCCC and NCDMA within six months from the start date of the project activity. Hence the validation team concluded that is in accordance with paragraphs 2 & 4 of "Guidelines on the demonstration and assessment of the prior consideration of CDM" [Annex 13 of EB 62] (Ref/B8/), CDM was seriously considered while making the investment decision for the project activity.

Based on the above assessment, the Validation team hereby confirms that the CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity. Thus the proposed CDM project activity complies with the requirements of the latest version of the Guidance on prior consideration of CDM.

3.7.1.1 Historical information on project timeline:

There is no historical information on the project activity timeline since all the activities have begun after the start date of the CDM project activity.

3.7.2. Identification of Alternatives (114)

The approved baseline and monitoring methodology ACM 0002, version 13.0.0 prescribes the baseline for new grid connected renewable power plant/unit as, "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

Hence as per paragraph 115 of VVM version 1.2 (Ref/B5/) which, states that in case the approved methodology that is selected by the proposed CDM project activity prescribes the baseline scenario, then no further

analysis of alternatives is required. Since the applied methodology, ACM 0002, version 13.0.0 (Ref/B3/) itself prescribes a pre-defined baseline scenario; no further analysis on identification of alternatives is required.

3.7.3. Investment Analysis (116)

Analysis method

The project participant has demonstrated the additionality of the project activity using the 'Step II – Investment Analysis' of the Demonstration and Assessment of Additionality Version 6.0.0 (Ref /B10/). The proposed CDM project activity generates revenues by the sale of electricity generated. CDM revenue therefore is not the only source of revenue for the project activity; hence simple cost analysis cannot be used. The project participant has selected Post-tax Equity IRR as financial indicator for investment analysis and benchmark analysis to demonstrate the additionality of the proposed CDM project activity.

The high investment by the project participant is necessary to commensurate return for the project participant, hence the validation team concluded that the financial indicator selected is appropriate for the project type and decision making context and it is in conformity with the guidelines on the Assessment of Investment Analysis (EB 62, Annex 5) (Ref/B11/)

In accordance with paragraph 19 of EB 62 Annex 5 (Ref/B11/) and paragraph 120 (a) of VVM Version 1.2 (Ref/B5/) Benchmark analysis selected by the project participant is an appropriate method to demonstrate additionality.

Benchmark (112)

The PP has chosen benchmark analysis to demonstrate additionality of the project and for this purpose, has selected Equity IRR as the financial indicator. As per Annex 5 of EB 62 "In cases where benchmark approach is used, the applied benchmark shall be appropriate to the type of IRR calculated". The cash flow in the IRR is computed based on 30% equity investment. Therefore the selection of benchmark of Return on Equity (ROE) is appropriate to financial indicator of Equity IRR chosen and is also in conformity with the Para 121 (a) of VVM 1.2 and EB guidance provided.

The project participant has derived the Return on Equity (ROE) on the basis of the default ROE values enlisted by UNFCCC (EB 62, Annex 5,

page 9) for India. As the project activity belongs to Group 1-Energy Industries, the value of 11.75% was used. Further, the Default ROE value is based on the real term values which is calculated as return on equity for a country and for any group of industry is equal to real rate of return on US treasury long term bonds + Equity Risk Premium + discount/premium for the group of industry + Additional risk of investing in an emerging economy. To convert this real term value to nominal term value, the inflation rate forecast of 5.50% (Ref/P15/) given by Central Bank of India i.e., Reserve Bank of India (RBI) was added to the default ROE value of 11.75%. Thus the Return on Equity for the project activity was deduced to be 17.90%. The inflation rate forecast data that was available to Project Participant at the time of the investment decision was used. The validation team, along-with the financial expert engaged, also verified the correctness and authenticity of the data used for the benchmark calculation and found them to be correct and publicly available and appropriate to the type of project activity and decision making context. This is also in line with the guidelines for benchmark selection stipulated in the Guidance on the Assessment of Investment Analysis, EB 62 Annex 5.

Further, for the ***CL 11*** raised, the validation team found that the Project Participant has adopted the same approach for the following project activities:

- Kaladonger wind power project in Rajasthan
- Sinner wind power project in Maharashtra
- Jamanwada wind power project in Gujarat

The validation team on reviewing of the documents for the projects listed above, Project Participant have adopted the same approach (benchmark) as that of the validated project, hence ***CL 11*** was closed.

Thus, the validation team was able to conclude that the benchmark (Cost of Equity) used by the Project Participant in the context of decision making and type of investment.

Thus, the benchmark calculated for the project activity was found in line with VVM version 1.2 paragraph 121 and paragraph 123 (b). The validation team therefore concluded that the benchmark adopted by the Project participant to establish the additionality is 17.90% and consequently the project's additionality is correct and valid.

Data source and Input value

Before reviewing the post tax equity IRR calculations (Ref/P11/), the validation team has validated the basic input parameters listed in the web hosted PDD and spread sheet of Investment Analysis in accordance with Para 123 (a) of VVM (Ref/B5/).

The validation team reviewed all the sources and documents with respect to input values and assumptions, the validation team concluded that the input values considered in calculation of equity IRR are appropriate to the type of project activity and meet the requirement of paragraph 6 of EB 62, Annex 5, Guidance on the assessment of Investment Analysis (Ref/B11/).

The approach adopted by the validation team for verifying the assumptions and their references are as follows:

- Appropriateness of the sources of reference & assumptions and their relevance to the period in which the decision was made;
- Whether access to the references and information is provided;
- Whether the references and information are publicly available;
- Authenticity & credibility of the sources of information.

The detailed assessment of input parameters and assumptions along with the means of validation is provided below table in accordance with paragraph 118 of VVM version 1.2 and in line with Guidance on Assessment of Investment Analysis (EB 62, Annex 5).

Parameter	Value used	Source of value	Validation justification
Project capacity in MW	39.0	Offer letter from M/s Suzlon Energy Limited (Ref/P9/)	The validation team has verified the project capacity by reviewing the original offer letter submitted by WTG (technology) supplier dated 04/07/201. The proposal was available at the time of

			investment decision i.e., 22/07/2011 and hence appropriate. The capacity of the project activity was also cross checked with the supply agreement (Ref/P5/), commissioning certificate (Ref/P7/), and found to be correct, Hence, accepted by the validation team.
Number of WTGs	25	Offer letter from M/s Suzlon Energy Limited (Ref/P9/)	The validation team has verified the project capacity by reviewing the original offer letter submitted by WTG (technology) supplier dated 04/07/201. The proposal was available at the time of investment decision i.e., 22/07/2011 and hence appropriate. The capacity of the project activity was also cross checked with the supply agreement (Ref/P5/), commissioning certificate (Ref/P7/), and found to be correct, Hence, accepted by the validation team.
Total project cost (Million INR)	2535.00	Offer letter from M/s Suzlon Energy Limited (Ref/P9/)	The validation team has verified the project capacity by reviewing the original proposal submitted by WTG (technology) supplier dated 04/07/2011. The proposal was available at the time of investment decision i.e. 22/07/2011. This is as per paragraph 6

			of guideline on the Assessment of Investment Analysis (EB 62, Annex 5) and hence appropriate. In order to cross verify the value further, the validation team verified the actual cost of the WTGs based on supply agreement placed by the project participant to the WTG supplier (Ref/P5/). This is the document which mentions the negotiated final price of the WTGs and hence found credible. The validation team noted that the actual project cost is INR 2200.72 million which is lesser than the value in offer letter. However, even with these lesser values, the project is still additional. This is explained in detail in sensitivity analysis.
Plant Load factor (PLF), %	22.83%	Third party Wind Assessment report (Ref /P10/)	The PLF value has been sourced from the third party wind assessment conducted by M/s. Garrad Hassan. The third party assessment study has been done for all the probable micrositing locations of 26 installation locations in Chakala. This is in accordance with Annex 11 of EB 48 and hence accepted by the validation team (Ref/B7/). The validation team noted

			that M/s. Garrad Hassan is a third party to the project participant and they offer consultancy services on Wind Energy projects. Hence the source of the value is considered to be credible. Since the PLF value is determined in line with the requirements specified in paragraph 3(b), EB 48, Annex 11, the validation team accepted the same. The validation team further reviewed the MERC Notification 29/04/2011 (Ref/P16/), which was applicable at the time of investment decision and noted that the PLF indicated for WTGs located in Maharashtra is 23.5%. It is observed that the PLF assumed by project participant for investment analysis is 22.83% which is more or less equal. The Project Participant has further subjected the PLF to a sensitivity analysis of + 10%.
Generation Based Incentive (GBI)	INR 0.50/Kwh	Operational Guidelines for Implementation of Generation Based Incentives for Grid Connected Wind Power	Operational Guidelines for Implementation of Generation Based Incentives for Grid Connected Wind Power Projects" of Ministry of New and Renewable Energy (MNRE)

		Projects”	Generation Based Incentive (GBI): The project activity is eligible for generation-based incentive of Rs.0.50 per unit (kWh) for a period of ten years. But this incentive is not available to Project Participants who will avail the accelerated/enhanced depreciation benefits under the Income Tax Act, 1961. The PP has mentioned the same in the B.5 section of PDD under the financial assumptions. The PP has categorized GBI under the ‘E- policy’ and hence the incentive of Rs. 0.50 per unit had not been applied in the financial analysis. The validation team noted from the information available it is noted that the GBI scheme came into effect on 17/12/2009 and the projects with installed capacity of more than 5 MW which are grid connected are eligible for the GBI scheme. The project participant will not be eligible to claim Accelerated Depreciation benefits if GBI is availed. The Project Participant will be availing GBI Benefits.

			The validation team referred the guidelines available with respect to E- policy and following were noted: Annex 3 of EB 22 "Clarifications on the Consideration of National and or sectoral policies and circumstances in Baseline Scenarios", Paragraphs 6.b and 7. B. Based on the above assessment the validation is able to conclude that GBI can be termed as E-policy since the Generation Based Incentive was announced by Ministry for New and Renewable Energy (MNRE), Government of India on 17/12/2009, which is after the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001). The PP's argument not to include GBI into cash inflow in the financial analysis is agreeable to the validation team.
Operation and maintenance cost from 3rd year onwards (Million	1.65 with annual escalation of 5% from 4th	Offer letter from M/s Suzlon Energy Limited (Ref/P9/)	Based on the proposal received from technology supplier dated 04/07/2011 the operation & maintenance charges have

INR/WTG) excluding service tax of 12.36%	year onwards		been taken as 1.649 Million INR per WTG from 3rd year onwards with an annual escalation of 5% from 4th year. The O&M for the first 2 years is indicated to be free of cost. The value reflects the O&M cost applicable at the time of investment decision. This is as per paragraph 6 of Guidelines on the Assessment of Investment Analysis (EB 62 Annex 5) (Ref/B11/) and hence accepted by the validation team. The validation team reviewed the O&M agreement signed between the Project Participant and the O&M contractor and found the O&M charges is 1.53 Million INR/WTG for the project activity (Ref/P5/). The O&M cost as per agreement is 7.2% lesser than the proposal cost but the IRR value has not crossed the benchmark value. Further the Project Participant has subjected the parameter of O&M cost to a sensitivity analysis of ± 10% variation to check the robustness of the parameter. Please refer discussion on sensitivity analysis below.
Power Tariff (INR/kWh)	4.67	MERC	The tariff has been derived

		Notification 29/04/2011 (Ref/P16/),	from the MERC tariff order which was available to the project participant at the time of decision making. It indicates the Wind power tariff to be INR4.67 /kWh for projects located at wind zone II in Maharashtra. The validation team cross verified the PPA agreement signed between the Project Participant and Maharashtra State Electricity Distribution Company Ltd. and found that the tariff rate is 4.67 INR/kWh. However, the project participant has subjected tariff to ± 10% variation under sensitivity analysis to cover the uncertainty in tariff and the results are detailed in section below of sensitivity below.
Debt Equity ratio	70:30	Assumed	The debt equity ratio for the project activity has been assumed by the project participant. The same was cross verified with MERC order 29/04/2011. This was available at the time of investment decision and further this is the typical debt equity ratio for similar type of projects in the region. The validation team accepts the value to

			be in line with Para 17, Annex 5 of EB 62 (Ref/B11/).
Interest on term loan, %	12.85%	PLR published by RBI dated 28/05/2010 (Ref/P17/)	The interest rate for the project activity has been sourced from the Prime lending rate published by Reserve Bank of India on 28/05/2010, which was available at the time of investment decision. Hence the validation team accepts the value of interest rate to be in line with Para 6, Annex 5 of EB 62 (Ref/B11/)
Debt repayment period, Years	10	MERC Notification 29/04/2011 (Ref/P16/)	The project participant has sourced the debt repayment period from the MERC order dated 29/04/201. This was available at the time of investment decision and hence the same is accepted by the validation team.
Income tax Depreciation Rate			
Income Tax depreciation rate	15%	Income tax Act	15% of IT depreciation has been sourced from the Income Tax Act (Ref/P18/). The validation team accepted this value as it was available at the time of investment decision and the same is in accordance with the accounting principles of the Host Country and Guidelines for the assessment of investment analysis.

			(Ref/B11/)
Book depreciation rate (Straight Line Method)			
Book depreciation rate on plant and machinery	5.28%	As per Schedule XIV of the Companies Act, 1956	The rate of depreciation is as per the Schedule XIV of companies act, 1956 (Ref/P19/). The rate of depreciation is in accordance with accounting principle of host party. Hence, on affirmation from financial expert of BVCH, the validation team concludes that rate of depreciation considered for income tax calculation is appropriate and in accordance with Guidelines for assessment of Investment Analysis. (Ref/B11/)
Income tax rates			
Income tax rate	32.45%	Indian IT rate applicable under Income Tax Act 1961 (Ref/P18/)	The Income Tax rate is taken on the basis of the prevalent rates published by Ministry of Finance for every financial year and is publicly available and is found to be correctly applied.
Minimum Alternate Tax (MAT)	20.0%	Indian IT rate applicable under Income Tax Act 1961(Ref/P18/)	The Minimum Alternate Tax rate is taken on the basis of the prevalent rates published by Ministry of Finance for every financial year and is publicly available and is found to be correctly applied.

The validation team hereby confirms that project participant has applied all the statutory levies, deferred tax benefits under section 80IA under Income Tax Act 1961 and taxes as per the valid tax rules of India.

Indicator calculation

The arithmetical accuracy in computation of Equity IRR was found to be correct. The Equity IRR calculations have been provided in a spreadsheet (Ref/P11/). The computations are transparently presented in the spreadsheet and were verified by the validation team. All the cells of the spreadsheets can be accessed and the data and formulae in the cells can be viewed, as the cells are unprotected.

Equity IRR was computed for a period of 20 years, which reflects the period of expected operation of the underlying project activity (technical lifetime) and hence was found to be appropriate.

As required by Annex 5 of EB 62 the expected profit on the sale of assets at the end of the operating life has been taken as salvage value in the terminal year. The project developer has taken into account profit after tax, depreciation, and salvage value (in the terminal year) in the computation of IRR. The principle adopted in making projections and computing IRR conforms to the accepted and standard accounting and taxation principles. The financial expert has verified the IRR calculations and observed them to be in order.

With the above background, the validation team concludes that underlying assumptions are appropriate, accounting principles adopted in calculations, the calculations presented are correct and the guidance vide paragraph 120 (a) and (c) of the VVM (Ref/B5/) has been taken care of. Based on the above, the post tax Equity IRR was worked out to be 9.21%.

The validation team validated the assumptions as above and observed that they are correct and are consistently presented in PDD Version 05 (Ref/P2/) as well as financial spreadsheet (Ref/P11/). The financial expert engaged by BVCH also verified the IRR calculations for the Project participant and observed it to be correct.

Sensitivity Analysis ((111)(e))

In order to demonstrate the robustness of the conclusion arrived at above, viz., that the project is additional; and as per the guidelines on the assessment of investment analysis (section VI of EB 62, Annex 05 guidelines), the sensitivity of the investment analysis to all parameters

constituting more than 20% of either total project costs or total project revenues has been determined by the project participant.

Paragraph 20 of the EB 62 Annex 05 Guidelines on the assessment of Investment analysis specifies which input parameters need to be varied for the purpose of the sensitivity analysis.

Accordingly, 4 input parameters in the investment analysis were subjected to a variation of +/- 10% to check the effect it would have on the overall financial analysis. The following 4 parameters were subjected to variation:

- Plant Load Factor
- Power sale tariff
- O&M charges
- Capital Cost

The range of variation (+/- 10%) for the above stated parameters could be considered as reasonable in the context of the project activity, for the following reasons:

Plant Load Factor:

The PLF is deduced from the third party Wind Energy assessment Report as 22.8% (Ref/P10/). Net generation has been subjected to +10% and -10%. The results obtained in the two scenarios demonstrate that even with 10% increase in PLF the IRR does not cross the benchmark; the result is similar with 10% decrease in PLF.

Further, the validation team also reviewed the MERC notification of 2011 (Ref/P16/), which was the applicable at the time of investment decision and was noted that the PLF indicated for Maharashtra wherein the proposed project activity is located is 23.5%. It is observed that it is more or less equal to the PLF value of 22.8% considered by the project participant in the demonstrating additionality. Project participant has subjected the PLF up to 33.9% variation over the assumed value and the resultant Equity IRR equals to the benchmark, indicating that the analysis is sufficiently robust with large variations of the PLF. The results obtained in the above scenarios are demonstrated in the table below:

Parameter	Variations in the sensitivity	Benchmark

Plant Load factor	-10%	Base-Case	10%	17.90%
Equity IRR	6.71%	9.21%	11.69%	

Thus, the validation team found the approach adopted by the Project participant to be satisfactory.

Power sale tariff:

The power tariff in Gujarat is fixed for the entire life of the project activity at INR 4.67/kWh based on MERC tariff Notification of 2011 (Ref/P16/) which was available to the project participant at the time of investment decision. However considering the uncertainty in the tariff structure undergoing any revision in future, the Project participant has subjected the parameter of tariff to a sensitivity analysis of + 10%. The Equity IRR with +10% on tariff work out to be 12.35% without CDM revenue which is below the benchmark. Further, project participant has subjected sensitivity up till 28.1% at which the Equity IRR is above the Benchmark of 17.90%. Thus it indicates that the analysis is sufficiently robust for large variations of tariff.

Operation and Maintenance Cost:

The Project Participant has also conducted a sensitivity analysis on the parameter of Operation and Maintenance cost in line with Investment Guidance Version 5, EB 62, Annex 5 paragraph 21, subjecting a sensitivity analysis of - 10%, and found that Equity IRR was 9.53% much below the benchmark of 17.90%.

Total Project cost:

The capital cost was subjected to two variations of +10% (increase) and -10% (decrease). At the start of validation, the purchase orders for the supply of equipments were issued by project participant to the equipment supplier. The validation team reviewed the supply contract and service order and found that the actual cost of the project activity based was lower than the cost indicated in the initial offer by the WTG supplier. The project cost per Wind Turbine Generator indicated in the initial offer by M/s Suzlon Energy Limited [which was available at the time of decision making] was INR 97.50 million per MW whereas the actual project cost [based on supply agreement] worked out to be INR 84.64 million only per

MW. Hence the sensitivity analysis was concluded at the rate of -10% and the equity IRR was observed to be 11.91% which is lower than the benchmark. The capital cost being 10% higher than the estimated cost is irrelevant since the purchase orders have already been placed on the equipment supplier during course of validation and the Project participant is obliged to pay the agreed on cost. The post tax equity IRR in both the scenarios (+10) remains below the benchmark value of 17.90%.

The validation team agrees with the approach followed in the selection of parameters for the sensitivity analysis, as the criteria employed in the same meets the EB 62 Annex 05 guidelines for Investment analysis.

The summary of all the parameters that were subjected to the sensitivity analysis are presented below:

Parameters	Variation in equity IRR			Benchmark
	-10%	0%	10%	
PLF	6.71	9.21	11.69	17.90%
Tariff rate	5.89	9.21	12.35	
O&M cost	9.53	9.21	8.88	
Project cost	11.91	9.21	7.04	

The results of the sensitivity analysis indicate that even in situations favoring higher net electricity export, decrease in project cost and increase in power tariff, the post tax equity IRR for the investment would not cross the benchmark of 17.90%.

The sensitivity analysis is included by the project participant as a part of the spreadsheet for investment analysis. The results of the sensitivity analysis can be checked by inserting the range of variation (i.e. +/ - 10%) in the worksheet named “sensitivity analysis” in the investment analysis spreadsheet. The financial expert in the validation team also validated the accuracy of computations of the sensitivity analysis and confirmed that the same are correct.

The validation team therefore confirms that the Equity IRR for the project activity without CDM revenues is 9.21% and even with sensitivity analysis carried out as per the guidelines on assessment of investment analysis (EB 62 Annex 5) (Ref/B11/), the values of Post Tax Equity IRR does not cross the benchmark adopted. Based on assessment as per the

requirements of paragraph 120 (e) of VVM 1.2 (Ref/B5/), the validation team therefore concurs with the project participant that the project activity is additional since it is not financially viable without the benefits from CDM.

Conclusion:

The validation team has confirmed that all data used to arrive at the benchmark were derived from the UNFCCC guidelines and from sources available to the project participant at the time of the investment decision and hence the validation team accepted the same.

The post tax equity IRR for the investment of the project works out to be 9.21%. The Post Tax Equity IRR value is lower than the benchmark of 17.90%. The validation team noted that with CDM revenues, the IRR improves. The validation team therefore confirms that the financial returns from the proposed CDM project activity would not be sufficient to justify the required investment as the Post Tax Equity IRR does not meet a minimum rate of return that could be expected by an investor.

3.7.4. Barrier Analysis (118)

The Project participant has not attempted to prove additionality through barrier analysis.

3.7.5. Common Practice Analysis (121)

The common practice analysis for the project activity has been conducted as per the requirements of Guidance on Common practice, version 02.0, EB 69. Project participant has provided the source and common practice analysis sheet has been provided to the validation team during the course of validation in response to CAR 11. Validation team reviewed the source and excel sheet and found satisfactory and hence CAR 11 was closed.

The following set of measures has been listed in paragraph 2 of the Common practice tool (Ref/B12/):

(a) Fuel and feedstock switch (example: switch from naphtha to natural gas for energy generation, or switch from limestone to gypsum in cement clinker production);

(b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable

energies (example: energy efficiency improvements, power generation based on renewable energy);

(c) Methane destruction (example: landfill gas flaring);

(d) Methane formation avoidance (example: use of biomass that would have been left to decay in a solid waste disposal site resulting in the formation and emission of methane, for energy generation).

The project activity falls under measure (b) above since in theory the project essentially switches from a potential fossil fuel based power plant (with a EF equal to combined margin) to a renewable energy based plant and hence the common practice analysis of the project activity should be demonstrated using Stepwise approach for common practice of the guidance on common practice

Step 1: *Calculate applicable output range as +/-50% of the design output or capacity of the proposed project activity.*

All the power plant with +/-50% of the capacity of the proposed project activity 39.0 MW has been selected for analysis. The applicable output range of capacity for analysis is **19.5** MW to **58.5** MW;

Step 2: *Identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:*

(a) The projects are located in the applicable geographical area;
(b) The projects apply the same measure as the proposed project activity;
(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

The applicable geographical area selected by the Project participant for common practice analysis is the entire host country viz. India. The same

is in accordance with paragraph 5 of the additionality tool according to which the applicable geographical area should cover the entire host country as a default.

The details of wind energy projects that deliver same output or capacity viz. power generation and within the applicable output range of **19.5** MW to **58.5** are provided in PDD. The total project activity identified within this applicability criterion is 13.

Step 3: *Within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number* N_{all}.

Hence, the total numbers of projects identified after Step 2 that deliver same output or capacity viz. power generation and within the applicable output range of **26.25 MW – 58.5 MW** are identified to be 13 in number and all the projects are either registered or submitted for registration or the projects under validation. Hence N_{all} = 1

Step 4: *Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number* N_{diff}.

Wind energy projects are sourced from Wind Power directory 2011[†] and there are 13 projects in the capacity range for analysis. Project participant has analyzed these all 13 projects for CDM status. It was observed that all the 13 projects have availed/applied for availing CDM benefits and hence N_{diff} = 0

Step 5: *Calculate factor* $F=1-N_{diff}/N_{all}$ *representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.*

From the information in Step 2 and Step 3 –

N_{all}	1
N_{diff}	0
N_{all} - N_{diff}	0
F = 1- N_{diff}/N_{all}	**1**

[†] Source : Indian Wind Power Directory

As per para 10 of the guidance *the proposed project activity is a common practice within a sector in the applicable geographical area if:*

(a) the factor F is greater than 0.2, and

(b) N_{all}-N_{diff} is greater than 3.

N_{all}-N_{diff} is not greater than 3 and the Factor F is less than 0.2. Since both the above condition has not been satisfied and thus validation team concludes that the project activity is not a common practice in India.

The project participant has presented the tabular column for the common practice analysis in the revised PDD (Ref/P2/) with the details of the project activities considered up to 22/07/2011 (investment decision date).

The validation team based on the above assessment is able to confirm that the proposed CDM project activity is not a common practice in the host country, India.

3.8. Monitoring Plan (124)

The Project uses the approved consolidated monitoring methodology ACM0002 Version 13.0.0.

Applicability of this methodology is justified in PDD section B.2. Referring to the discussions on the applicability of the methodology in section 3.6.1 above, the validation team considers that the selected monitoring methodology is applicable to the Project.

Data and Parameters Monitored and Implementation of Monitoring Plan

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below. The validation team considers the project activity complying with the requirements of the applied baseline and monitoring methodology for the following reasons:

1. According to the methodology, there is only one variable that a windmill project needs to monitor, i.e., $EG_{PJ,y}$, the net electricity supplied to the grid by the proposed Project Activity.
2. The project activity comprises of four parameters which are needed to be monitored for computing the net electricity supplied to the grid in a year, which are $EG_{PJ,y}$, $EG_{imp,y}$ $EG_{exp,y}$, $EG_{imp,y}$ and $E_{WTG,i,y}$. The Project Participant has included 2 additional parameters EG_{exp} & EG_{imp}, which

monitors the gross electricity export and gross electricity import of the project activity WTG's by the individual / cluster meters located at the project site itself. Based on these measured and recorded values, the net electricity supplied value is calculated as EG_{exp} - EG_{imp}. These monthly readings, which are recorded and maintained by the Project Participant representatives [viz; the O&M contractors]. would be compared with the monthly net electricity supplied readings indicated in the MSEDCL Share Certificate and a conservative approach would be would be considered for emission reduction calculations.

3. $EF_{grid,CM,y}$, the emission factor is fixed ex-ante based on CEA database, Version 7. This is in line with the EF tool as required by the methodology.
4. Project participant has provided provision for monitoring these parameters and for electronic as well as hard copy archiving of the monitored data. This is stated in Section B.7.1 of the revised PDD.
5. Project participant has provided for archiving the data for 2 years beyond the end of the crediting period.
6. The monitoring plan includes requirements for calibration of the energy meters, used for monitoring the project activity variable, $EG_{PJ,y,}$ $EG_{imp,y}$ $EG_{exp,y,}$ and $EG_{imp,y}$ annually. The calibration is conducted by the State Electricity utility every year. In case during the calibration, the meter(s) is found to be outside the permissible limits of error, then the meter(s) would be replaced immediately by the Electricity Utility. The error identified in the energy meter during the calibration would be applied to all the monitored data since the date of the last calibration, in case the meter has been used in the preparation of the monthly Joint Meter reading.
7. The monitoring frequency for $EG_{PJ,y}$ matches with that of the applied methodology, viz. continuous measurement and monthly recording. The cross checking will be carried out with the invoices raised by the Project Participant on the State Electricity Utility for payments, for the net electricity delivered by the Project Activity to the grid.
8. The Project Participant has included 1 additional parameters $E_{WTG,i,\ y}$, which monitors the quantity of electricity generated by each WTG.
9. Under Annex 4 and section B.7.2 of the revised PDD, project participant has provided the detailed metering system, measurement procedure, procedures to deal with data uncertainty, procedure for apportioning of the measured data, organizational structure etc.

The validation team verified the monitoring system at site as follows;

a. Energy generated from the wind farm shall be recorded at the metering point at the HT end of the respective Pooling station which shall be considered as the energy for billing. The station may be having more than one metering point depending on the No of feeders connected by No. of Wind farms. This entire meter will be termed as Feeder meter/s. The total energy recorded in the feeder meter/s shall be considered as the energy for billing.

b. The option for considering the meter reading shall be Main meter in normal practice. In case of fault in the Main meter check Meter reading will be considered. The meter reading shall be taken jointly by MSETCL (representative of state grid)/ MSEDCL and the company/ its representative every month.

c. The Main meter reading will be jointly certified by the above entity

d. Using the above meter reading MSEDCL will provide the credit note on generation through letter. The energy referred in the credit note shall be considered for raising invoice accordingly payment will be received from MSEDCL.

e. The meters to be employed to be of accuracy class of 0.2%.

The validation team physically verified the metering system installed at the site of the project activity. Monitoring plan was not correctly described in the webhosted PDD and hence ***CAR 8*** was raised. Monitoring plan was not correctly described in the webhosted PDD and hence ***CAR 8*** was raised. Project participant revised the monitoring plan in the PDD and has now described the data collection and archiving, procedure for checking data discrepancy and emergency preparedness under QA/QC procedures.

The validation team also interacted with the team of the O&M service provider; M/s. Suzlon Energy Limited, who is the windmill supplier itself. The agency is experienced in the monitoring system and is managing O&M of numerous other wind farm CDM projects.

Based on appropriate response and corrections CAR 8 was satisfactorily resolved as stated in Appendix A of this report.

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)

The DNA of India has confirmed the contribution of the project activity to the sustainable development of the host Party. The validation team has confirmed that the host country approval granted by the DNA of India can be treated as valid. A description of the same is provided in section 3.1 of this report.

The PDD describes the project activity's contribution to sustainable development in terms of the four indicators stipulated by Ministry of Environment & Forests in India. The host country legislation does not require any environmental impact assessment to be carried out for wind power projects of the scale of the project activity.

Project participant has obtained approval (Ref /P3/) from DNA of India. The letter of approval from the DNA confirms that the project activity contributes to sustainable development in India. The project activity is in compliance with all currently applicable legislations. As the project activity does not lead to generation of liquid or gaseous effluents and will partly displace fossil fuel based electricity generation, there are only benefits derived out of the project and no adverse effects are envisaged. The project activity contributes to the social well being of the region. During the site visit it was noticed that the project activity provided employment to local people.

3.10. Local Stakeholder Consultation (130)

The project participants have completed a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project activity.

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

Local stakeholder consultation meeting was held on 20/10/2011 at wind farm site office in Chakala village to discuss stakeholder concerns on the project activity. The method of invitation to the local stakeholders was by sending personal invitation letters on 08/10/2011 (Ref/P14/).

In the opinion of the validation team, the notice period provided (about 12 days) to the local stakeholders for providing comments on the project activity is regarded as sufficient.

The attendance list of participants, invitation to the local stake holders, and minutes of the stakeholder meeting proceedings, maintained by the project participants (Ref/P14/) were verified by the validation team. The stakeholders viewed this project as contributing to local environmental benefits and socio-economy. Overall, there was agreement that the project activity was a beneficial project from the local sustainable development.

During the site visit, the validation team also interviewed some of the local stakeholders who had also attended the meeting. The local stakeholders confirmed that the project participant had conducted meetings on the above mentioned date and had provided an opportunity to them to voice their opinions on the proposed CDM project activity. Queries raised by the stakeholders had also been responded to by the project participant in a satisfactory manner.

The villagers expressed satisfaction over the Wind project activity in the region and confirmed that due to the project, there is no adverse effect or damage to land, vegetation etc. It was expressed that the project activity gives employment opportunity for the local public and thus contributes to the economical growth of the region. The validation team also observed that the local people have been provided employment as security guards and helpers in the site office.

Project participant provided the date on which the invitations were sent to the identified stakeholders for ***CAR 12*** raised. Validation team reviewed the same and found satisfactory and hence ***CAR 12*** was closed.

On the basis of the justification provided by the PP in the PDD, together with documentary evidence provided as well as the team's personal interaction with the stakeholders, the DOE confirms that the process of local stakeholder consultation was adequately conducted.

The Validation team hereby confirms that comments that are relevant for the proposed project activity have been invited from local stakeholders, the summary of the comments received as provided in the PDD is complete, the project participants have taken due account of all comments received and have described this process in the PDD.

3.11. Environmental Impacts (133)

A notification pertaining to Environment Impact Assessment (EIA) was published on DNA of India's (i.e. Ministry of Environment & Forests) (Ref /P20/). The Schedule list, section 1 of this EIA notification dated 01/12/2009; EIA is not regulatory requirement for wind energy projects. Thus the project activity does not involve any negative environmental impacts, as the WTGs are installed for generation of power using wind which is a clean source of energy.

Project participant has obtained HCA approval (Ref/P3/) from DNA of India and it is confirmed by the Authority that the project contributes to sustainable development in India. The project activity is in compliance with all current applicable legislations.

4. COMMENTS BY PARTIES, STAKEHOLDERS AND NGOs

The PDD using methodology ACM 0002, Version 13.0.0 was webhosted on the UNFCCC for global stakeholder's comments as per CDM requirements. The project was webhosted from 01/05/2012 to 30/05/2012.

There were no comments received

5. VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Chakala wind power project in Maharashtra, which is located in Chakala Village, Maharashtra State, India. The validation was performed on the basis of UNFCCC criteria for the CDM, and host country criteria, as well as 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/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis of

investment, technological and other barriers to determine that the project activity itself is not the baseline scenario.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment barrier 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 74, 307 tCO2e emission reductions per annum.

The review of the project design documentation (version 07) 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 “Chakala wind power project in Maharashtra” as a CDM project activity.

6. REFERENCES

Category 1 Documents:

Documents provided by project participants that relate directly to the GHG components of the project.

/P1/	Webhosted PDD
/P2/	Final revised PDD
/P3/	Host Country Approval
/P4/	CEA database, Version 7.0
/P5/	Supply agreement / Purchase Order
/P6/	Power Purchase Agreement
/P7/	Commissioning Certificates
/P8/	Emission reduction spread sheet
/P9/	Offer letter from Suzlon Energy Ltd dated 04/07/2011
/P10/	PLF report by M/s. Garrad Hassan
/P11/	IRR spread sheet
/P12/	Board resolution CDM project activity
/P13/	Prior consideration of CDM
/P14/	Stakeholders consultation for the project activity related documents
/P15/	RBI data [http://rbi.org.in/scripts/PublicationsView.aspx?id=13360]
/P16/	MERC Notification 29/04/2011
/P17/	Interest on term loan [http://www.rbi.org.in/scripts/WSSView.aspx?Id=14850]
/P18/	Income Tax Act 1961, Government of India
/P19/	Companies Act 1956, Government of India
/P20/	Environment impact assessment [http://moef.nic.in/downloads/rules-and-regulations/3067.pdf]

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents used for cross-check.

/B1/	Guidelines for completing the Project Design Document, Version 07.0, EB 41
/B2/	PDD form, F-CDM-PDD, version 04.1
/B3/	ACM 0002, version 13.0.0 - “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

/B4/	Emission factor tool – Tool to calculate the emission factor for an electricity system, version 2.2.1, EB 63
/B5/	Validation and Verification Manual, version 2.0, EB 65
/B6/	Tool to determine the remaining lifetime of equipment, Annex 15, EB 50
/B7/	Guidelines for the reporting & validation of Plant Load Factors, Annex11, EB 48
/B8/	Guidelines on the demonstration & assessment of prior consideration, Annex 13, EB 62
/B9/	Glossary of CDM terms
/B10/	Tool for the demonstration and assessment of additionality, Version 6.0.0, EB 65 annex 21
/B11/	Guidelines on the Assessment of Investment Analysis, EB 62, Annex 5
/B12/	Guidance on Common practice, version 02.0, Annex 8, EB 69
/B13/	Confirmation email from CDM Validation notifier, dated 30/04/2012 at 08.39 AM.
/B14/	"Implementation Plan for the Clean Development Mechanism Project Standard, Validation and Verification Standard and Project Cycle Procedure", Version 02.0, Annex 33, EB 68

Persons interviewed:

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

	Bindu Vayu Urja Private Limited (BVUPL)
/1/	K. Sreenivas – GM, Power Marketing
/2/	Tanmay Pramanik – Manager, Power Marketing
	Local Stakeholder
/3/	Dipak Sonwada – Farmer and Local Resident
/4/	Raju Patil – Farmer and Local Resident
/5/	Ramesh Thakar – Farmer and Local Resident
/6/	Sanjay R Powar – Local Resident

7. CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Mr. V. Senthil Kumar	Bureau Veritas Certification, India	**Team Leader, Climate Change Lead Verifier,** He is a Environmental Engineer with over 5 years of experience in the fields of Consultancy related to Training and Implementation of Management Systems (ISO : 9000, 14000 & 18000) for various organizations. For the last 4 years, he was involved in offering Climate Change and Sustainability Advisory services to different types of Clean Development Mechanism Projects. He has also experience in offering project management services to various renewable energy projects. Has undergone training related to Clean Development Mechanism and is currently involved in validation and verification of CDM project activities.

Mr. Shelton Victor	Bureau Veritas Certification, India	**Team Member, Climate Change Verifier.** He holds a Bachelors Degree in Mechanical engineering with a Masters Degree in Energy Engineering and also holds a Post Graduate Diploma in Business Management, he is a Certified Energy Auditor from Bureau of Energy Efficiency (BEE) and has a total work experience of 7.5 years, specialising in offering consultancy services in renewable energy and energy auditing verticals. He has undergone intensive training on Clean Development Mechanism (CDM) and completed CDM Verifier/Lead Verifier training course. He also has experience in preparation of DPR, TEVR and Energy Audit reports.

Mr. Sanjay Patankar	Bureau Veritas Certification, India	**Technical Reviewer, Climate Change, Lead Verifier.** He has over 20 years of experience in engineering manufacturing industry covering various functions like enterprise management, product design, engineering, tool & die design, improvements in the production shop, quality assurance & control and systems planning and implementation, including ISO 9001 based quality management systems. Working for the last 2 years in Bureau Veritas Certification (India) Private Ltd. as Lead Auditor for ISO 9001, 14001 and OHSAS 18001 standards/specifications. Has undergone training related to Clean Development Mechanism and is currently involved in validation and verification of CDM project activities.

Mr. Bhavesh Prajapati	Bureau Veritas Certification, India	**Supporting Technical Reviewer, Climate Change, Lead Verifier.** He is Graduate in the field of Chemical Engineering and post graduate in finance (MBA - Finance). He has more than total of 9 years of Industrial work experience in the fields of environment audits, consultancy of HVAC (pharmaceutical industry as well as commercial air conditioning) and utility services and project management of various Greenfield as well as gray field projects. He has undergone lead verifier's training on Clean Development Mechanism. He is involved in the Validation/verification projects of CDM and VCS

Karthikayan and Jayaram	Jayaram & Karthikeyan Associates, Financial Expert	**Financial Expert** Services from Jayaram & Karthikeyan Associates was delivered by Mr. Jayaram, who is a Chartered Accountant. He possesses in depth understanding and experience in Assurance services relating to financial appraisals & analyses, those specially related to CDM projects. He is empanelled with other DOE's for scrutinizing the financial additionality aspects of the CDM projects handled by them and expressing opinions on the financials of the project participant. Has appraised over 50 CDM projects for financial additionality on behalf of CDM validators of repute.

APPENDIX A LARGE SCALE PROJECT ACTIVITIES VALIDATION PROTOCOL

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology ACM0002 (Version 12.3.0) – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A (India)*	*COUNTRY B*		
a. Have all Parties involved approved the project activity?	VVM	44	Letter of Approval from the Host DNA needs to be submitted by the PP	Not Applicable	CL 1	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 participatn or directly from the DNA)	VVM	45	Please refer CL 1 above	Not Applicable	(CL 1)	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
ii. confirm that participation is voluntary?	VVM	45.b	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	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	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK

iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	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	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
2. Participation			*PP1 (*Bindu Vayu Urja Private Limited*)*	*PP2*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	1. The Project Participant name is mentioned as " Bindu Vayu Urja Private Limited (BVUPL)".	Not Applicable	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	The PP needs to submit the LoA for this project activity.	Not Applicable	(CL 1)	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes, the project participant is listed in tabular form in section A.3 of the PDD.	Not Applicable	OK	OK

d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes, the information provided in section A.3 is consistent with the contact details provided in annex 1 of the PDD.	Not Applicable	OK	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 document for each of the project participants)	VVM	52	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	Not applicable.		OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
h. Is there doubt with respect to (g) above?	VVM	53	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed CDM project participant?	VVM	53	The Letter of Approval needs to be submitted by the PP.	Not Applicable	(CL 1)	OK
3. Project design document						
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	The PDD has been prepared in accordance with the latest template (Version 03) and the latest guidance.		OK	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes, the PDD is in accordance with the applicable CDM requirements of for completing the PDD		OK	OK

			(Version 05).		
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12			
i. Title of project	EB 41	Ann 12	Yes, the title of project is stated as "**Chakala wind power project in Maharashtra** "	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	The current version number is given as 01.0 and the date of document is mentioned as 05/04/2012.	OK	OK
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12			
i. A brief description ot the project activity covering purpose which includes the scenario existing prior to the start or project, present scenario and baseline scenario	EB 41	Ann 12	Brief description of the project activity has been provided. However the pre project and baseline scenario has not been clearly described in the webhosted PDD.	CAR 1	OK
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Explanation on how the GHG emission reductions are effected by the project activity are provided in the A.2 section of the PDD.	OK	OK
iii. The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	The PP's views on the contribution of project activity to sustainable development are provided. Under the technological well being section the PP has stated that 2% of CDM revenues would be contributed towards the sustainable development as part it's commitment to Host Party DNA. The formal undertaking for the same to be provided by the PP.	CL 2	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	Please refer CAR 1	(CAR 1)	OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12			

i. List of project participants and parties	EB 41	Ann 12	Yes, the list of PP and Party are provided.	OK	Ok
ii. Identification of Host Party			Government of India, has been identified as the host party.	OK	OK
iii. Indication whether the Party wishes to be considered as project participant	EB 41	Ann 12	Yes, the information has been provided.	OK	OK
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12			
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Yes the same has been provided	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	The physical location Wind Energy Generators are provided however the approaches to the site (railway station, airport) are not presented in the web hosted PDD. The proof for Latitude & Longitude of Individual WEGs has been provided. PP to confirm whether the Geographical Co-ordinates presented in the PDD are the same as per actual site conditions..	CAR 2 CL 3	OK OK
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12			
g. In CDM-PDD section A.4.2 is the list of categoreis of project activities provided?	EB 41	Ann 12	The project type and category has not been provided.	CAR 3	OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12			
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	Description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies) has been provided, but how the technology is environmentally safe during the operational lifetime of WTG is not presented and the same is not in line with Guidelines for	CAR 4	OK

			Completing the PDD.		
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario.	EB 41	Ann 12			
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved.	EB 41	Ann 12	The list and arrangement of the main manufacturing / production technologies, systems and equipments involved has been provided in web hosted PDD.. Project Participant has stated that technical lifetime of equipments as 20 years, the same to be supported with evidence.	CL 4	OK
iv. The emissions sources and GHGs involved	EB 41	Ann 12	There are no emission sources and GHG emissions involved in this project activity.	OK	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12			
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	The estimation of emission reductions is provided in tabular format.	OK	OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Information is provided.	OK	OK
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12			
i. The approved methodology and version number	EB 41	Ann 12	Approved methodology ACM0002 with Version 12.3.0 – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” has been used by the PP	OK	OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version noumber	EB 41	Ann 12	The following tools applicable to this project with their version are provided in the PDD:	OK	OK

			Tool to calculate the emission factor for an electricity system – Version 02.2.1 (EB 63 annex 19) Tool for the demonstration and assessment of additionality – Version 6.0.0 (EB 65 annex 21)		
l. In CDM-PDD section B.2 are following provided?	EB 41	Ann 12			
i. Justification ot the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	First applicability criteria of the section B.2 i.e. justification of choice of the methodology is not in accordance with the applied baseline and monitoring methodology.	CAR 5	OK
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	The documentation references have been provided.	OK	OK
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12			
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	The information has been provided.	OK	OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	Flow diagram of the project boundary physically delineating the project activity has been provided. But the same is not as per the actual site condition which is evidenced during the validation site visit.	CAR 6	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Not Applicable	OK	OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12			
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	The approved methodology ACM 0002 version 12.3.0 prescribes the baseline as “Electricity delivered to the grid by the project activity would	OK	OK

			have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources".		
ii. Justification of key assumptions and rationales	EB 41	Ann 12	The justification of key assumptions and rationales are provided in the B.4 section of the PDD.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	The data used for determining the baseline emissions have been transparently illustrated in the B.4 section and Annex 3 of the PDD.		
iv. A transparent and detailed 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 project activity	EB 41	Ann 12	The description has been provided in the PDD which is inline with the approved methodology.	OK	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	Please refer CAR 6 above	(CAR 6)	OK
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12			
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	B.5 section provides the explanation of how and why the project activity is additional.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	The justification of key assumptions and rationales are provided in the PDD.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	National Policies and Circumstances with respect to the baseline scenario are not presented in the B.5 section of webhosted PDD.	CAR 7	OK
iv. 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	EB 41	Ann 12	The detailed discussion has been presented in the B.5 section of the PDD. The detailed discussions on how the CDM was considered are provided in the B.5 section.	OK	OK

validation			Board's decision to go ahead with Investment and CDM to be made available by the Project Participant.	CL 5	OK
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12			
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	Explanation has been provided in the B.6.1 section.	OK	OK
ii. Equations used in calculating emission redutions.	EB 41	Ann 12	The equations have been correctly quoted and applied.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	Yes provided	OK	OK
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12			
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	The operating margin, build margin and combined margin emission factor have been fixed ex-ante for the ten year (fixed) crediting period.	OK	OK
ii. The actual value period	EB 41	Ann 12	10 years	OK	OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	The data is sourced from Central Electricity Authority (CEA), the justification for the same has is provided in the PDD.	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	References for the source of data have been provided.	OK	OK

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 41	Ann 12	Not applicable	OK	Ok
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12			
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 41	Ann 12	Paragraph 11 of ACM 0002, version 12.3.0 has the following equation: ERy = BEy- PEy, the same equation has been used in the PDD.	OK	OK
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Yes provided.	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	Background information is provided in the B.6.1 section of the PDD	OK	OK
s. In CDM-PDD section B.6.4 are the results of the *ex ante* estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes, the ex-ante estimation of emission reductions is provided in a tabular format for the 10 years (renewable) crediting period.	OK	OK
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the	EB 41	Ann 12	The information on the data monitoring and collection has been explained in the PDD. However in the subsequent section of this	OK	OK

	project activity			validation report the issues with respect to the monitoring have been discussed in detail.		
ii.	For each parameter the following below information, using the table provided:	EB 41	Ann 12			
	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 justify which data sources should be preferred.	EB 41	Ann 12	The source of data is stated in the PDD. i) From the site visit and the office discussions it is noted that the net electricity would be a measured value and the both export & import would be measured by the energy meters. However the parameters to be monitored under section B.7.1 of the webhosted PDD states only one parameter. PP to clarify the same. "Value of the data" is not mentioned in section B.7.1 of the web hosted PDD.	CAR 8	OK
	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	EB 41	Ann 12	Please refer CAR 8 above. ii) Type of Energy Meter used is not stated in the webhosted PDD.	CAR 8	OK

any relevant further background documentation in Annex 4.					
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12			
i. A detailed description of the monitoring plan	EB 41	Ann 12	The detailed description of the monitoring plan is provided in the B.7.2 section of the PDD.	OK	OK
ii. 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 41	Ann 12	The operational and management structure for monitoring the parameters pertaining to emission reductions are stated in the B.7.2 section.	OK	OK
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	The responsibilities and arrangements for data collection and archiving has been illustrated in the PDD	OK	OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	The monitoring plan covers the parameters required by the approved monitoring plan.	OK	OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	The information has been presented in the B.7.2 and further information is provided in the Annex 4 of the PDD.	OK	OK
v. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12			
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	The date of completion of the application of the methodology to the project activity study is provided in DD/MM/YYYY format.	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 41	Ann 12	The same has been provided.	OK	OK
iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Yes, the entity is also the project participant listed in the Annex 1 of the document.	OK	OK
w. In CDM-PDD section C.1.1 are following	EB	Ann			

provided?	41	12			
i. The starting date of a CDM project activity, which 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 41	Ann 12	The date of purchase order placed on the WEG supplier is taken as the starting date of this CDM project activity.	OK	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 41	Ann 12	The date of purchase order placed on WEG supplier, the description of the same has been provided in the PDD.	OK	OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	The starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation. The description how seriously CDM related benefits were considered has been illustrated in the B.5 section the PDD.	OK	OK
x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	The expected operational lifetime is indicated as 20 years and 0 months. However, the operational lifetime of WEG is not substantiated with objective evidence.	(CL 4)	OK
y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12	The PP has opted for the fixed crediting period, the same has been stated in the PDD.	OK	OK
z. In CDM-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 41	Ann 12	Not Applicable, since the PP has opted for fixed crediting period.	OK	OK

aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	Not Applicable, since the PP has opted for fixed crediting period.	OK	OK
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	Not Applicable, since the PP has opted for fixed crediting period.	OK	OK
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	Yes, the PP has chosen fixed crediting period of ten years.	OK	OK
dd. In CDM-PDD section C.2.2.1are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	The registration date has been mentioned as 02/01/2013 which is in DD/MM/YYYY format.	OK	OK
ee. In CDM-PDD section C.2.2.2 is te length of the crediting period in years and months Provided?	EB 41	Ann 12	Not Applicable.		
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	The host party does not mandate Environmental Impact Assessment study to be conducted for wind power projects.	OK	OK
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			
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 facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	Project Participant has invited the local stakeholders by sending invitations. The invitations sent to the stakeholders are not submitted to the validation team (only one letter sent to the stakeholder has been submitted).	CL 5	OK
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into	EB 41	Ann 12	the webhosted PDD states that the description of the project activity was provided to the local stakeholders, which enabled the stakeholders to	OK	OK

account confidentiality provisions of the CDM modalities and procedures.			understand the objective and purpose of the project activity.		
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes, the local stakeholder process was completed before the PDD was submitted to the validation team.	OK	OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12			
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	Yes provided.	OK	OK
ii. A summary of this comments.	EB 41	Ann 12	Summary of comments has been provided.	OK	OK
ii. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	From description provided in the web hosted PDD it is clear how the comments were received from the local stakeholder and how it was recorded.	OK	OK
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12			
i. Contact information of project participants	EB 41	Ann 12	Yes, the contact information of project participant is provided.	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	The project activity has only one PP and information of this PP has been provided as per the requirements.	OK	OK
kk. In CDM-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 41	Ann 12	Provided, there is no public funding involved in this Project Activity.	OK	OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline	EB 41	Ann 12	Cross reference to B.6.1 is provided.	OK	OK

methodology provided?					
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	Cross reference to B.7 is provided.	OK	OK
4. Project description					
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 description of the project activity is provided in a manner where the reader can understand the precise nature and technical aspects of its implementation.	OK	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	Yes, the PDD covers all the relevant elements.	OK	OK
ii. acurate?	VVM	59	There are few points which need to be addressed, the same has been raised as CARs and CLs in the previous and succeeding sections of this validation report.	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	The description of the project activity is provided in a manner where the reader can understand the nature CDM project activity.	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59			
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	The project activity is a Greenfield project.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	Yes the project is large scale project.	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	Not Applicable	OK	OK
iii. Bundled small scale projects, each with	VVM	60	Not Applicable	OK	OK

	emission reductions not exceeding 15,000 tonnes?					
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	The physical site inspection was conducted by the validation team on 04/07/2012 & 05/07/2012.	OK	OK
f.	If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	Not Applicable	OK	OK
g.	If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	Not Applicable	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	Not Applicable	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	Not Applicable	OK	OK
j.	If no, was it appropriately justified?	VVM	62	Not Applicable	OK	OK
k.	Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	The project activity is a Greenfield project.	OK	OK
l.	If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	Not Applicable.	OK	OK
5.	***Baseline and monitoring methodology***					
	a. General requirement					
a.	Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies	VVM	65	Yes, the baseline and monitoring methodology selected by the project participant is ACM 0002, version 12.3.0 which is approved by the CDM	OK	OK

	previously approved by the CDM Executive Board?			Executive Board.		
b.	Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-
c.	Had the PP correctly applied the selected methodology?	VVM	66	Refer to (5.b.d) 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			
i.	Has the additionality of the project activity been demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the Board, which is available on the UNFCCC website?	ACM	0002 v.12. 3. 0	Yes, the additionlaity of the project activity has been demonstrated and assessed using the "Tool for the demonstration and assessment of additionality", the latest version 6.0.0.2 available on the UNFCCC website has been used.	OK	OK
h.	Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Refer to (7.g), (7.h), (7.i), (7.j) and (7.k) sections below.	OK	OK
	b. Applicability of the selected methodology to the project activity					
a.	Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity? Is the used version valid?	VVM	68	The selected methodology ACM 0002, version 12.3.0 is approved by the CDM executive board. The project activity being new installation of new wind turbine generators and with the objective of selling the generated electricity to the grid, which	OK	OK

			is applicable under this methodology. The version of used methodology is valid from 17/09/2010 onwards.		
i. This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	ACM	0002 v.12.3.0	The project activity involves the installation of a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity. This methodology is applicable to grid connected renewable power generation project activity.	OK	OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	Yes	OK	OK
c. Is the methodology correctly quoted?	VVM	70	Yes the methodology has been correctly quoted.	OK	OK
d. Are the applicability conditions of the methodology met?	VVM	71			
i. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit	ACM	0002 v.12.3.0	The project activity is the new installation of wind based power plant.	OK	OK
ii. In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the	ACM	0002 v.12.3.0	Not applicable	OK	OK

	parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.					
iii.	In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or - The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; or - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.	ACM	0002 v.12.3.0	Not applicable. The project activity is an wind power project.	OK	OK
iv.	The methodology is not applicable to the following conditions. Please confirm - Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity - Biomass fired power plants;	ACM	0002 v.12.3.0	Not Applicable, the project activity is a wind energy based power project.	OK	OK

	- Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.					
v.	In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	ACM	0002 v.12. 3.0	Not Applicable. The project is a Greenfield project.	OK	OK
e.	Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No.	OK	OK
f.	Is the choice of the methodology justified?	VVM	71	Yes the choice of the methodology has been justified.	OK	OK
g.	Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to (5.b.d) 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	Yes	OK	OK
i.	Are each of the applicability conditions of the "Tool to calculate the emission factor for an electricity system" met?	EB 50	Ann 40	The applicability conditions of the Tool to Calculate the Emission Factor have been met.	OK	OK
ii.	Are each of the applicability conditions of the "Tool for the demonstration and assessment	EB 39	Ann 10	The applicability conditions of the – Tool for the demonstration and assessment of additionality are	OK	OK

	of additionality" met?			met.		
iii.	Are each of the applicability conditions of the "Combined tool to identify the baseline scenario and demonstrate additionality" met?	EB 28	Ann 14	Not Applicable.	OK	OK
iv.	Are each of the applicability conditions of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" met?	EB 41	Ann 11	Not Applicable	OK	OK
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	Yes, the information sourced is from reliable and credible sources.	OK	OK
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	The information gathered during the site visit was the primary comparable source of information used to compare the PDD against.	OK	OK
k.	Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes	OK	OK
l.	If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	Not applicable	OK	OK
m.	If answer to (5.b.d) 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	OK	OK
n.	If yes to (5.b.l) and (5.b.m) above, a request for registration was submited before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	Not applicable	OK	OK
	c. Project boundary					

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 proposed CDM project activity?	VVM	78			
i. Does the extent of the project boundary, as described in the PDD, includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	ACM	0002 v12.3.0	The PDD provides the description project boundary includes the physical delineation of the proposed CDM project activity.. But the same is not as per the actual site condition which is evidenced during the validation site visit.	(CAR 6)	OK
ii. Are the greenhouse gases and emission sources that are included in or excluded from the project boundary shown in a table format as per applicable methodology?	ACM	0002 v 12.3.0	Table showing sources and gases included in project boundary is as per the applied baseline and monitoring methodology.	OK	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	Yes the delineation has been provided in the PDD.	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes, it meets requirements of the selected baseline.	OK	OK
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	To be assessed upon the submission of the revised PDD by the PP.	OK	OK
e. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	Yes included.	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	Not Applicable	OK	OK
g. If yes, have the project participants justified that choice?	VVM	79	Not Applicable	OK	OK
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	Not Applicable	OK	OK
d. Baseline identification					
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	The methodology prescribes grid as the baseline which is applicable to the project activity.	OK	OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82			
i. If the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario identified appropriately in accordance with the ACM0002 ver.12.3.0?	ACM	0002 v12. 3.0	The project activity involves the installation of new grid connected wind energy based power plant.	OK	OK
ii. If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002 ver. 12.3.0? And is the point of time at which the generation facility would likely be replaced or retrofitted (DATE Baseline Retrofit) reasonably defined?	ACM	0002 v12. 3.0	Not Applicable	OK	OK

iii. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following the step-wise procedure in accordance with the ACM0002 ver.11?	ACM	0002 v12. 3.0	Not Applicable	OK	OK
iv. Are the realistic and credible alternative baseline scenarios for power generation appropriately identified following the Step 1 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 1)	ACM	0002 v12. 3.0	Not Applicable	OK	OK
v. Are the realistic and credible alternative baseline scenarios i.e. P1, P2 and P3 appropriately applied ***Barrier analysis*** following the Step 2 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 2)	ACM	0002 v12. 3.0	Not Applicable, as the methodology prescribes the baseline.	OK	OK
vi. If more than one alternative is remaining after Step 2, is ***Investment analysis*** appropriately applied (apply an Investment Comparison as per step 3 of the "Combined tool to identify the baseline scenario and demonstrate additionality" or a Benchmark Analysis as per step 2b of the "Tool for the demonstration and assessment of additionality")? (Step 3)	ACM	0002 v12. 3.0	Not Applicable	OK	OK
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 and demonstrate additionality") to establish the	VVM	82	Yes, the PP has applied - Tool for the demonstration and assessment of additionality.	OK	OK

	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	Yes	OK	OK
e.	Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	The methodology prescribes grid as the baseline, hence identification of several alternative scenarios is not required.	OK	OK
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	Not Applicable	OK	OK
g.	Has any reasonable alternative scenario been excluded?	VVM	83	Not Applicable	OK	OK
h.	Is the baseline scenario identified reasonably supported by:	VVM	84	Not Applicable	OK	OK
	i. Assumptions?	VVM	84			
	ii. Calculations?	VVM	84			
	iii. Rationales?	VVM	84			
i.	Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Yes the references and sources are correctly quoted in the PDD.	OK	OK
j.	Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (idendify the sources)	VVM	84	The information has been derived from the Central Electricity Authority (CEA), which is a credible source. The information provided in PDD was cross checked on the CEA public domain.	OK	OK
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 methodology prescribes the baseline and the PP has taken into account the conditions prescribed in the methodology for applying grid as the baseline.	OK	OK
l.	Have all relevant policies and circumstances been identified and correctly considered in the	VVM	85	Yes	OK	OK

PDD, in accordance with the guidance by the CDM Executive Board?					
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	Yes the same has been provided.	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
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	The steps taken and equations applied to calculate baseline, project emissions and leakage are provided.	OK	OK
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	Paragraph 11 of ACM 0002, version 12.3.0 has the following equation: ERy = BEy- PEy, The same equation is used in the webhosted PDD to determine the Emission Reductions.	OK	OK
i. Are the Project emissions appropriately calculated?	ACM	0002 v12. 3.0	There are no project emissions involved in this project activity.	OK	OK
ii. Are the Baseline emissions appropriately calculated specifically for (a)greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002 v12. 3.0	Baseline emissions have been calculated with respect to the Greenfield plant by the PP, which meets the requirement of applied methodology ACM 0002.	OK	OK
iii. Are the Leakage appropriately calculated?	ACM	0002 v12. 3.0	The project activity does not involve any leakage.	OK	OK
iv. Are the Emission reductions appropriately	ACM	0002	Yes the calculation of emission reduction is as per	OK	OK

calculated?		v12.3.0	approved methodology and appropriate.		
c. Have project participants prepared as part of the CDM-PDD an estimate of likely emission reductions for the proposed crediting period? This estimate should, in principle, employ the same methodology as selected for the calculation of emission reductions. Where the grid emission factor (EFCM,grid,y) is determined ex post during monitoring, project participants may use models or other tools to estimate the emission reductions prior to validation.	ACM	0002 v12.3.0	Yes the PP has prepared the estimations of the likely emission reductions for the proposed crediting period.	OK	OK
d. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Yes the methodology provides options for different equations.	OK	OK
e. 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	Yes, the adequate justification is provided.	OK	OK
f. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-
g. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	The parameters that would not be monitored through out the crediting period.	OK	OK
h. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	The parameters are fixed ex-ante for the 10 year fixed crediting period.		
i. Appropriate and correct?	VVM	91	Yes	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	91	Yes it is applicable to the proposed project activity.	OK	OK

iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Yes	OK	OK
i. Will data and parameters to be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Yes	OK	OK
j. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Yes the estimates and data used are reasonable.	OK	OK
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM projet activity is additional?	VVM	94	Description of the project activity being additional is provided in the B.5 section. Details how the project is additional is provided in the subsequent sections of this report.	OK	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	ACM	0002 v12. 3.0	Yes the PP has used the latest version 5.2 available on the UNFCCC website.	OK	OK
c. 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	Yes, the identification of alternative is as per the applied methodology.	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	Investment analysis is approach applied by the PP to determine that the proposed project activity is whether financially attractive or not without the revenue from sale of certified emission reductions (CERs).	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	The PP has not applied Barrier Analysis to demonstrate additionality.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Yes, the PP has used common practice analysis to demonstrate additionality.	OK	OK
d. 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	The most plausible baseline scenarios identified for the project activity are: (a) The Project is undertaken without registering it as a CDM activity. (b) Equivalent amount of electricity being generated through operation of grid-connected power plants and addition of new generation sources.	OK	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Yes, the step 1b has been followed.	OK	OK
e. 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	Yes the same has been included while defining the alternatives.	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	Not Applicable	OK	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	The same has demonstrated in the PDD.	OK	OK
f. 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	EB 39	Ann 10	Not Applicable.	OK	OK

	relevant country/region?					
g.	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	Yes, the outcome of the Step 1a is in line with the "Tool to calculate the emission factor for an electricity system". The Continuation of present scenario of grid-supplied power would be a conservative approach to baseline establishment.	OK	OK
h.	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	The PP in the PDD has stated that the alternatives are in compliance with mandatory legislation and regulations taking into account the enforcement in the region. However the PDD is silent on the applicable regulation or policies that prevent the alternatives from occurring.	(CAR 7)	OK
i.	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	Not Applicable	OK	OK
j.	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	Please refer CAR 7above.	OK	OK
k.	Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	The PP has selected Step 2 (Investment) only.	OK	OK

l. 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	Yes, the PP has followed the appropriate analysis method.	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	The project activity generates financial income from sale of power to the grid, the PP as the has ruled out Option I of Applying simple cost analysis.	OK	OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	The PP has chosen to use the Option III: Applying Benchmark Analysis.	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	The PP has chosen to use the sub-step 2b: Option III and has applied Benchmark Analysis.	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	The calculation and comparison of financial indicators have been presented in the B.5 section of the PDD.	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes, sensitivity analysis has been performed and presented in the PDD.	OK	OK
m. In sub-step 2a has the determination of appropraite 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	Not Applicable, The project activity generates financial income from sale of power to the grid, the PP has ruled out the Option I of Applying simple cost analysis.	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	Option III : Benchmark analysis has been used by the PP and justification of the same is provided in the PDD.	OK	OK
n. 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	EB 39	Ann 10	Not applicable.	OK	OK

demonstrate that there is at least one alternative which is less costly than the project activity.					
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? 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	EB 39	Ann 10	Not Applicable	OK	OK
p. 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	Post tax Equity IRR has been selected as the financial indicator for the project activity.	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	Based on the documents and financial analysis spreadsheet it is noted that the parameters that are standard in the market and relevant to the project activity.	OK	OK
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	EB 39	Ann 10	Not Applicable	OK	OK

available financial data; (b) Estimates of the cost of financing and required return on capital (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.					
q. 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	Post-tax Equity IRR is selected as the financial indicator for the proposed project activity. Project Participant to justify the appropriateness of the financial indicator used.	CL 6	OK

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	The sources and documentary evidence (corporate tax, income tax act, companies act) for the information presented in the B.5 section and financial spreadsheet to be provided by the PP.	CAR 9	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Please refer CAR 8 above	OK	OK
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 CAR 8 above	OK	OK
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 CAR 8 above	OK	OK
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 CAR 8 above		
r. 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	The sensitivity analysis has been performed and the presented in the web hosted PDD. Plant Load Factor, Project Cost, operation & maintenance and Power Tariff are selected as the parameters for the analysis.	OK	OK
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10			

t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	Not Applicable, since the PP has not applied the barrier analysis for demonstrating the additionality.	OK	OK
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Not applicable.	OK	OK
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	Not applicable.	OK	OK
u. 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	Not applicable. Please refer 6.t above.	OK	OK
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	Not applicable. Please refer 6.t above.	OK	OK
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and	EB 39	Ann 10	Not applicable. Please refer 6.t above.	OK	OK

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	Not Applicable, since the PP has not applied the barrier analysis for demonstrating the additionality.	OK	OK
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Not Applicable	OK	OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Not Applicable, since the PP has not applied the barrier analysis for demonstrating the additionality.	OK	OK
w. 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	Not Applicable, since the PP has not applied the barrier analysis for demonstrating the additionality.	OK	OK
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM 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	EB 39	Ann 10			

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			
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			
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Not Applicable, since the PP has not applied the barrier analysis for demonstrating the additionality.	OK	OK
y. 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	Not Applicable as the project has demonstrated as per Paragraph 6, 8 and 47 of Tool to Demonstrate Additionality .	OK	OK
ii. Sub-step 4b: Discuss any similar Options that	EB	Ann	Not Applicable as the project has demonstrated as	OK	OK

are occurring.	39	10	per Paragraph 6		
z. 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	Not Applicable as the project has demonstrated as per Paragraph 6	OK	OK
aa. 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 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	EB 39	Ann 10	Not Applicable as the project has demonstrated as per Paragraph 6	OK	OK

data/information.					
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Not Applicable.	OK	OK
cc. Has it been proved that the project is additional?	EB 39	Ann 10	Please refer CARs and CLs in above sections.	OK	OK
a. Prior consideration of the clean development mechanism					
a. Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	Yes, the project activity's start date is prior to the date of publication of the PDD for Global Stakeholder Comments.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	The PP has informed the UNFCCC and Host DNA about the intention of seeking CDM status for the proposed project activity. The proof for serious CDM consideration has been submitted by the PP.	OK	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 which either the implementation or construction or real action of a project activity begins."?	VVM	99	The purchase order placed on the equipment supplier has been taken as the start date of the project activity.	OK	OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	Yes the project activity requires construction	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	The purchase order placed on the equipment supplier is considered as the start date of project activity.	OK	OK

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 project activity is a new project with a start date after 02/08/2008.	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 PPs informed the host Party DNA and 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 UNFCCC secretariat).	VVM	101	The information provided in the PDD states that the PP has informed the host party DNA and the UNFCCC in writing about the commencement of the project activity and their intention to seek CDM status. The intimiated sent to UNFCCC and Host Party DNA has been submitted by the PP. .	OK	OK
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	Board's decision to go ahead with Investment and CDM to be made available by the Project Participant.	OK	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	Please refer CL 11 above.	OK	OK
iii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project	VVM	102	Board's decision to go ahead with Investment and CDM to be made available by the Project Participant.	(CL 5)	OK

	in parallel with its implementation, including, inter alia:					
	a. contract with consultants for CDM/PDD/methodology services?	VVM	102	Not Applicable	OK	OK
	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	Not Applicable	OK	OK
	c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	Not Applicable	OK	OK
	d. submission of a new methodology to the CDM Executive Board?	VVM	102	Not Applicable	OK	OK
	e. publication in newspaper?	VVM	102	Not Applicable	OK	OK
	f. interviews with DNA?	VVM	102	Not Applicable	OK	OK
	g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	Not Applicable	OK	OK
	h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	The chronology of events is presented in the B.5 section of the PDD	OK	OK
	b. Identification of alternatives					
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	The approved methodology prescribes the grid as baseline and following is stated in the methodology: "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM)	OK	OK

			calculations."		
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	Not Applicable	OK	OK
c. Does the list of alternatives given in the PDD esure that:	VVM	106	The approved methodology prescribes the grid as baseline. Hence the following is not applicable.	OK	OK
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	Not Applicable	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	Not Applicable	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	Not Applicable	OK	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Yes, Investment analysis has been used by the PP 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	Not applicable	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	Yes, it is demosntrated that the proposed CDM project activity would not be economically or financially feasible, without the revenue from the	OK	OK

			sale of certified emission reductions (CERs).		
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 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.	VVM	109	Not Applicable. The Project Activity has reveneue from the sale of electricity to the grid.	OK	OK
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	OK	OK
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	The PP has used this apporach to demonstrate the additionality.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	The period of assement is for the entire lifetime of the equipment (20 years).	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	Post Tax Equity IRR has been chosen, the period of assement is for the entire lifetime of the equipment (20 years).	OK	OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these	EB 51	Ann 58	PP to clarify why the cost of major maintenance	CL 7	OK

are expected to be incurred during the period of assessment?			and or rehabilitation has not been included in the financial analysis.		
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 51	Ann 58	Yes the PP has justified the same. Eventhough the PP have chosen the fixed crediting period, the assessment is conducted for entire operational life time of the WEGs .	OK	OK
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	From the calculations it is not clear whether the fair value is included in the cash flow or not in the calculations..	CL 8	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	From the calculations it is not clear whether the fair value is included in the cash flow or not in the calculations.	CL 8	OK
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	Please CL 8 above	OK	OK

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	To be assessed.	OK	OK
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	Yes the taxation has been included.	OK	OK
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	To be assessed.	OK	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	The initial offer received from equipment supplier – has beenbe submitted by the PP. However the offer letter is in the name of Caparo Energy (India) Limited. PP to clarify the same.	CL 9	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	The input values have been conistently applied in all the calculations.	OK	OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recomence the project in the case of project activities for which implementation ceases	EB 51	Ann 58	Not Applicable.	OK	OK

	after the commencement and where implementation is recommenced due to consideration of the CDM?					
q.	Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	The spreadsheet versions of all the investment analysis is submitted by the PP	OK	OK
r.	Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	Yes, all the cells are viewbale 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 Applicbale	OK	OK
t.	In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not Applicbale	OK	OK
u.	Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	Not Applicable, PP has used Equity IRR.	OK	OK
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	The PP has opted for Equity IRR. In the cashflow sheet of the financial analysis.	OK	OK
w.	Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcualtion of equity IRR? (this is not allowed)	EB 51	Ann 58	Not Applicbale. The project is developed by 100% equity and no debt..	OK	OK
x.	Was a pre-tax benchmark be applied?	EB 51	Ann 58	Not Applicable, post-tax benchmark has been	OK	OK

			applied by the Project Participant.		
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	Not Applicable as the approach used by the project participant to calculate benchmark does not apply interest rate.	OK	OK
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	Not Applicable	OK	OK
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	Post-tax Equity IRR is selected as the financial indicator for the proposed project activity. Project Participant to justify the appropriateness of the financial indicator used.	(CL 6)	OK

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	Not Applicable.	OK	OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Yes the. required/expected returns on equity selected as appropriate benchmark.	OK	OK
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	Not Applicable	OK	OK
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	Yes, the benchmark is applied based on the publicy available data sources which can be validated.	OK	OK
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	The benhcmark used by the PP is not the internal benchmark.	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	Not applicbale	OK	OK
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders	EB 51	Ann 58	The resolution of the company's board to be	OK	OK

	been provided to the effect as above?			provided.		
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 conducted?	EB 51	Ann 58	The WCC calculations used in the project activity is for the first time. This is the first project activity of the PP.	OK	OK
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	Yes, it is eatablsihed according to the national accounting principles.	OK	OK
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	The PP has used the benchmark analysis. Hence this is not applicbale.	OK	OK
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	Yes, the parameters such as PLF, Project Cost, Operation & Maintenance cost and Tariff have been subjected to the Sensitivity.	OK	OK

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	Not Applicable.	OK	OK
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Yes, the range of variaition seletced is reasonble in the project context.	OK	OK
oo. Dos 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	Yes, the range covers a range of +10% and -10%	OK	OK
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	Project Participant to provide workings for scenarios where the IRR would be crossing the benchmark and probabilities of occurrence of this sceanrios.	CAR 10	OK
qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 48	Ann 11			
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to	EB 48	Ann 11	Not Applicable	OK	OK

	the government while applying the project activity for implementation approval?				
ii.	The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 48	Ann 11	The PLF determined by a third party " Garrad Hassan and Partners Ltd" has been submitted by the PP.	OK	OK
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 using the available evidence and expertise in relevant accounting practices conducted?	VVM	111	The thorough assessment of all the parmaters was perfomed by the financail expert.	OK	OK
ss.	Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	111	The initial offer received from equipment supplier has been submitted by the PP. However the offer letter is in the name of Caparo Energy (India) Limited. PP to clarify the same.	(CL 9)	OK

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.		
uu. Was the correctnes of computations carried out and documented by the project participants assessed?	VVM	111	Yes the same were assessed.	OK	OK
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	Yes, the sensitity analysis was performed and under what conditions variations in the result would occur, and the likelihood of these conditions were assessed.	OK	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	The Project Participant has calculated the benchmark based on Deafult Values for Cost of Equity prescribed by UNFCCC. The appropriateness of the benchmark with respect to the type of finanical indicator used to demonstarte additonality to be justified by the Project Participant. .	CL 10	OK

xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Not Applicable.	OK	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			
i. assessing previous investment decisions by the project participants involved?	VVM	112	The Project Participant to clairfy whether the same benchmark has applied across for other projects (implemented projects & proposed projects) for making the investment decision.	CL 11	OK
ii. determining whether the same benchmark has been applied?	VVM	112	The Project Participant to clairfy whether the same benchmark has applied across for other projects (implemented projects & proposed projects) for making the investment decision.	(CL 11)	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Not Applicable	OK	OK
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	Not Applicable	OK	OK

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	OK	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Not Applicable	OK	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	Not Applicable.	OK	OK
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	OK	OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	Not applicable, the PP has not chosen the barrier analysis to demonstrate the additionality.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	Not applicable, the PP has not chosen the barrier analysis to demonstrate the additionality.	OK	OK
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115			

ii. do not prevent the implementation of at least one of the alternatives?	VVM	115			
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	Not applicable, the PP has not chosen the barrier analysis to demonstrate the additionality.	OK	OK
d. Were the barriers determined as real by:	VVM	117	Not applicable, the PP has not chosen the barrier analysis to demonstrate the additionality.	OK	OK
i. asssing 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			
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117			
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			
e. Were the barriers determined as preventing the implementation of the project activity but not the	VVM	117	Not applicable, the PP has not chosen the barrier analysis to demonstrate the additionality.	OK	OK

	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 *at least one of* the possible alternatives, in particular the identified baseline scenario?					
	e. Common practice analysis					
a.	Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	The project activity is a large scale project activity.	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	The common practice analysis has been carried out by the PP.,	OK	OK
c.	Was it assessed whether the geograpphical 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 technologis the relevant region for assessment will be local and for others it may be transnational/global.	VVM	120	The assessment for common practice has been performed. PP to confirm how the assessment is meeting the requirements of Paragraphs 6, 8 and 47 of "Tool for the demonstration and assessment of additionality" Annex 21, EB65.	CAR 11	OK
d.	Was a region other than the entire host country chosen?	VVM	120	No, the PP has chosen the state in the host country for the assessment.	OK	OK
e.	If yes, was the explanation why this region is more appropriate assessed?	VVM	120	The PDD provides the justification for selecting the region.	OK	OK
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	VVM	120	PP to provide the complete details of the comparative analysis and list of projects in the region to be submitted by the PP.	CL 12	OK

	project activities, have been undertaken in the defined region?					
g.	Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	The projects similar to this have been implemented in the defined region.	OK	OK
h.	If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	The assessment and justification has been provided in the B.5 section PDD.	OK	OK
7.	***Monotoring plan***					
a.	Does the PDD include a monitoring plan?	VVM	122	Yes the PDD includes the monitoring plan.	OK	OK
b.	Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	The monitoring plan of the CDM project activity is based approved monitoring methodology.	OK	OK
c.	Were the list of parameters required by the the selected methodology identified?	VVM	123	Yes, the list of parameters required by the selected methodology is presented in the PDD.	OK	OK
d.	Does the monitoring plan contains all necessary parameters?	VVM	123	The source of data is stated in the PDD, From the site visit and the office discussions it is noted that the net electricity would be a measured value and the both export & import would be measured by the energy meters. However the parameters to be monitored under section B.7.1 of the webhosted PDD states only one parameter. PP to clarify the same.	(CAR 8)	OK
e.	Are the parameters clearly described?	VVM	123	Please refer CAR 8 above	OK	OK
f.	Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Yes the monitoring plan complies with the requirements of the methodology.	OK	OK
g.	Are all data and parameters monitored as per monitoring methodology?	ACM	0002 v.11	The data parameters required by the monitoring methodology are monitored.	OK	OK

h. Are all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period?	ACM	0002 v.11	Yes, the data would be archived electronically and also in hard format and kept at least for 2 years after the end of the last crediting period.	OK	OK
i. Are 100% of the data monitored, if not indicated otherwise?	ACM	0002 v.11	The data required by the monitoring methodology are monitored 100%.	OK	OK
j. Are measurements conducted with calibrated measurement equipment according to relevant industry standards?	ACM	0002 v.12. 1.0	Information about the calibration of energy meters used for measurements is defined in the PDD. iii. However the calibration frequency mentioned in B.7.1 and Annex 4 does not match.	(CAR 8)	OK
k. Are the monitoring provisions in the tools referred to in the methodology correctly applied?	ACM	0002 v.12. 1.0	Yes the same has been applied correctly.	OK	OK
l. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	Roles and Responsibilities are not clearly defined in the webhosted PDD.	OK	OK
m. 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	iv. Data management procedures, data uncertainty procedures and Emergency Preparedness Plan are not detailed in the webhosted PDD.	(CAR 8)	OK
ii. quality assurance procedures?	VVM	123	Please refer CAR 8 above	OK	OK
iii. quality control procedures?	VVM	123	Please refer CAR 8 above	OK	OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in	VVM	125	Not Applicable.	OK	OK

	achieving sustainable development?					
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	Please refer CL 1 in 1.a section	OK	OK
9.	***Local stakeholder consultation***					
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	Yes, the local stakeholders were invited by the Project Participant, which was prior to the publication of the PDD on the UNFCCC website. However the date on which the invitations were sent to the identified stakeholders is not presented in section E.1 of the PDD.	CAR 12	OK
b.	Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	The comments put forth by the local stakeholder are presented in the PDD and are considered relevant to the proposed CDM project activity.	OK	OK
c.	Is the summary of the comments received as provided in the PDD complete?	VVM	129	The summary of the comments put forth by the local stakeholder are provided in the PDD.	OK	OK
d.	Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	The PP has stated on how the comments were received and recorded.	OK	OK
10.	***Environmental impacts***					
a.	Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	The Project Activity does not require any environmental impacts analysis to be conducted.	OK	OK
b.	Have the project participants undertaken an analysis of environmental impacts?	VVM	132	No, the Project Activity does not require any environmental impacts analysis to be conducted.	OK	OK
c.	Does the host Party require an environmental impact assessment?	VVM	132	The host party does not require environmental impact assessment to be conducted for wind	OK	OK

			energy projects.		
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	Not Applicable.	OK	OK

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
CL 1 Letter of Approval from the Host DNA needs to be submitted by the PP.	Table -1 1. a	The Letter of Approval from the Host DNA has been submitted to the DOE for ready reference.	Letter of Approval has been submitted, hence CL 1 is closed.
CL 2 The PP's views on the contribution of project activity to sustainable development are provided. Under the social well being section, the PP has stated that 2% of CDM revenues would be contributed towards the sustainable development as part it's commitment to Host Party DNA. The formal undertaking for the same to be provided by the PP.	Table -1 3. d. iii	The 2% CER sharing plan as per the requirements of Ministry of Environment and Forest (MoEF) which is the DNA of the host country has been updated in the version 02 of the PDD. A copy of the undertaking submitted to the DNA is provided to the DOE as reference.	The formal undertaking is submitted by the Project Participant, the same is acceptable to the validation team, hence CL 2 is closed.
CL 3 The proof for Latitude & Longitude of Individual WEGs has been provided. PP to confirm whether the Geographical Co-ordinates presented in the PDD are the same as per actual site conditions.	Table-1 3. f. ii	The latitude & longitude of the WEGs are same as per actual site conditions.	The geographical coordinates (Latitude & Longitude) are matching with the actual site conditions. The same has been checked and found to be OK. Hence CL 3 is closed.
CL 4 Project Participant has stated that technical lifetime of equipments as 20 years, the same to be	Table-1 3. h. i	The document from Suzlon containing the technical specifications of S82-1.5 MW has	The technical specification of the equipment supplier (Suzlon Energy Limited) has been submitted by the

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
supported with evidence.		been provided to the DOE. The lifetime of the WTG has been given as 20 years in page number 6 of 11 under the heading Main Specifications.	project participant. The specification state that estimated technical lifetime of the equipment is 20 years. The same is checked and accepted, hence CL 5 is closed.
CL 5 Board's decision to go ahead with Investment and CDM to be made available by the Project Participant.	Table-1 3. o. iv	The Board Resolution dated 04 July 2011, which mentions Board's decision to go ahead with Investment and CDM has been submitted to the DOE.	The board resolution dated 04/07/2011 has been submitted by the project participant, hence CL 5 is closed.
CL 6 Post-tax Equity IRR is selected as the financial indicator for the proposed project activity. Project Participant to justify the appropriateness of the financial indicator used.	Table-1 6. q. i.	According to the version 05 of the "GUIDELINES ON THE ASSESSMENT OF INVESTMENT ANALYSIS", a project proponent can use either Project IRR or Equity IRR as a financial indicator. The investment decision for the project is taken by the equity investor and therefore the decision to invest in the project is based on the return derived by the equity investor based on an equity based return i.e. Equity IRR. Project IRR does not take in to account effect of different financing structures on	The response provided by the Project Participant is agreeable to the validation team since the purpose of the equity IRR calculation is to determine the final return on the initial equity investment. As an investor the Project Participant would be interested in assessing the return on investment of the project activity on the investment (equity). Hence CL 6 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
		any project. Investment decisions are as much dependent on financing structures as they are on other project parameters and have significant impact on investment viability. Therefore it would not be appropriate to ignore the financing structure as it forms an important parameter to any investment decision. Considering above, post tax equity IRR is considered to be the most appropriate financial indicator for investment analysis	
CL 7 PP to clarify why the cost of major maintenance and or rehabilitation has not been included in the financial analysis.	Table-1 6. c. f	The Operation & Maintenance cost has been considered and the same can be observed in the IRR sheet. However there is no cost related to rehabilitation.	The Operation & Maintenance cost has been considered and the corrected financials has been checked and found to be OK, hence CL 7 is closed.
CL 8 From the calculations it is not clear whether the fair value is included in the cash flow or not in the calculations.	Table-1 6. c. h	Fair value has been included in the cash flow as Salvage Value in P&L sheet (Cell X 29). It includes in land cost and 10% of the project cost.	The same has been addressed and the corrected financials has been checked and found to be OK, hence CL 8 is closed.
CL 9 The initial offer received from equipment supplier has been submitted by the PP. However the offer	Table-1 6.c.n	Caparo Energy (India) Limited was a company based out of India. Caparo Energy (India) Limited	The project participant has clarified that the company was earlier functioned under the name of

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
letter is in the name of Caparo Energy (India) Limited. PP to clarify the same.		underwent a change of name only and became Mytrah Energy (India) Limited on 27 September 2011. Bindu Vayu Urja Private Limited is a Special Purpose Vehicle (SPV) launched by Mytrah Energy (India) Limited on 05/01/2011 with over 99% of share in it. Hence the initial offer from equipment supplier was made to Caparo Energy (India) Limited which was the parent organization at that point of time. During the due course of time, the parent company decided to transfer the project activity to the aforesaid SPV. The Business Transfer Agreement for the same is submitted to the DOE for reference.	Caparo Energy (India) Limited and on 27/09/2011 was changed to Mytrah Energy (India) Limited, the relevant document issued by Register of Companies has been submitted. The response provided and documentary evidence to support the claim is acceptable to the validation team, hence CL 9 is closed.
CL 10 The Project Participant has calculated the benchmark based on Deafult Values for Cost of Equity prescribed by UNFCCC. The appropriateness of the benchmark with respect to the type of finanical indicator used to demonstarte additonality to be justified by the Project Participant	Table-1 6.c.ww	As per guidance 12 of version 05 of Guidelines on The Assessment of Investment Analysis, "Required/expected returns on equity are appropriate benchmarks for an equity IRR". Therefore, the equity IRR (the financial indicator) is compared to RoE.	The project participant's response and approach to use Default Value for Cost of Equity prescribed by UNFCCC is acceptable to the validation team, hence CL 10 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
		As per version 05 of Guidelines on The Assessment of Investment Analysis, UNFCCC provides default values for Return on Equity for various countries. For India, the Return on Equity given is 11.75%. This value has been added to the inflation rate of India (sourced from Reserve Bank of India) using Fischers Equation.	
CL 11 The Project Participant to clairfy whether the same benchmark has applied across for other projects (implemented projects & proposed projects) for making the investment decision.	Table-1 6.c.yy.ii	The PP has other projects under BVUPL in Rajasthan, Maharashtra and Gujarat. The exact same approach has been used for calculation of benchmark The titles and web links to the these CDM Project Activities are as follows: 1. Kaladonger wind power project in Rajasthan (http://cdm.unfccc.int/Projects/Validation/DB/6KWBAYNMPIRYPD3IHP8BOSWVNTDS3F/view.html) 2. Sinner wind power project in Maharashtra (http://cdm.unfccc.int/Projects/Validation/DB/7WLMR9O0SSUAQUU6	The details of projects have been provided and the weblinks provided have been checked verified. Based on the assessment the validation team is able to conclude that the project participant does not have a internal benchmark and for the projects mentioned they have worked out the benchmark based on the standard parameters in the market for demonstrating additionality, hence CL 11 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
		QLO71N786YPYIF/view.html) 3. Jamanwada wind power project in Gujarat (http://cdm.unfccc.int/Projects/Validation/DB/RX8OPDA1KDCYUHYP4YESNA9KWRQTEG/view.html)	
CL 12 PP to provide the complete details of the comparative analysis and list of projects in the region to be submitted by the PP.	Table-1 6. e. f	The complete list of project in the region has been submitted by the PP to the DOE.	The complete list of project in the region has been submitted by the project participant, hence CL 12 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
CAR 1 Brief description of the project activity has been provided. However the pre project and baseline scenario has not been clearly described in the webhosted PDD.	Table-1 3. d. i	Necessary changes have been made in the version 02 of the PDD.	The changes have been incorporated in section A.2 of revised PDD, the same has been checked and found to be meeting the requirements of "Guidelines for Completing the PDD". Hence CAR 1 is closed.
CAR 2 The physical location with unique identification for individual Wind Turbine Generators and approaches to the site (railway station, airport) are not presented in the web hosted PDD.	Table-1 3. f. iii	The physical location with unique identification for individual Wind Turbine Generators are presented in Page 43, Annexure 1 of the PDD.	The changes have been incorporated in section A.4.1.4 of revised PDD, the same has been checked and found to be meeting the requirements of "Guidelines for Completing the PDD". Hence CAR 2 is closed.
CAR 3 The project type and category has not been provided.	Table-1 3. g	The project type and category has been corrected under section A.4.2 of PDD.	The project type and category are correctly quoted, hence CAR 3 is closed.
CAR 4 Description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies) has been provided, but how	Table-1 3. h. i	How the project is environmentally safe throughout its life time has been mentioned in the revised PDD.	The project participant has provided information on how environmentally safe the technology in section 4.3 of the revised PDD, the corrections are

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
the technology is environmentally safe during the operational lifetime of WTG is not presented and the same is not in line with Guidelines for Completing the PDD.			meeting the requirements of Guidelines for Completing the PDD, hence CAR 4 is closed.
CAR 5 First applicability criteria of the section B.2 i.e. justification of choice of the methodology is not in accordance with the applied baseline and monitoring methodology.	Table-1 3. I. i	Necessary changes have been made in the PDD.	The applicability condition is now justified correctly in the revised PDD, hence CAR 5 is closed.
CAR 6 Flow diagram of the project boundary physically delineating the project activity has been provided. But the same is not as per the actual site condition which is evidenced during the validation site visit.	Table-1 3. m. ii	Necessary changes have been made in the PDD.	The project boundary diagram depicted in section B.3 of the revised PDD is now as per the site conditions and in line with the "Tool to calculate emission factor for an electricity system". The correction incorporated in the revised PDD is satisfactory, hence CAR 6 is closed.
CAR 7 National Policies and Circumstances with respect to the baseline scenario are not presented in the B.5 section of webhosted PDD.	Table-1 3. o. iii & 6. h	National Policies and Circumstances with respect to the baseline scenario have been updated in version 02 of PDD.	National Policies and Circumstances with respect to the baseline scenario are now presented in the section B.5 section of revised PDD. The same has been checked and found to be ok, hence CAR 7 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
CAR 8 i) From the site visit and the office discussions it is noted that the net electricity would be a measured value and the both export & import would be measured by the energy meters. However the parameters to be monitored under section B.7.1 of the webhosted PDD states only one parameter. PP to clarify the same. ii) Type of Energy Meter used is not stated in the webhosted PDD. iii) However the calibration frequency mentioned in B.7.1 and Annex 4 does not match. iv) Data management procedures, data uncertainty procedures and Emergency Preparedness Plan are not detailed in the webhosted PDD	Table-1 3. t. ii. a Table-1 3. t. ii. b Table-1 7.j Table-1 7. m. i	Although electricity export and import is being measured, the value of net electricity exported will be the sole basis for CER calculation. Hence only the value of net electricity exported will be monitored. However, the value of electricity generation from the individual WTGs are used for apportioning and therefore the same has also been included as a monitoring parameter. The Energy Meters details have been updated in the version 02 of the PDD. The calibration frequency has been updated. Data management procedures, data uncertainty procedures and Emergency Preparedness Plan have been updated in the version 02 of the PDD.	CAR 8 (i) the parameters (export & import) which are used to be determine the net electricity are monitored. Hence CAR 8 (i) is closed. (ii) Information about energy meters are stated in the revised PDD. Hence CAR 8 (ii) is closed. (iii) Calibration Frequency has been quoted as annual. Hence CAR 8 (iii) is closed. (iv) Data management procedures, data uncertainty procedures and Emergency Preparedness Plan have been updated by the Project Participant in the revised PDD, version 02. Hence CAR 8 (iv) is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
CAR 9 The sources and documentary evidence (corporate tax, income tax act, companies act) for the information presented in the B.5 section and financial spreadsheet to be provided by the PP.	Table-1 6. q. ii	The reference to the assumptions have been provided in the worksheet.	The sources & references and documentary evidence for the information provided in section B.5 of the revised PDD, the same is checked and OK. Hence CAR 9 is closed.
CAR 10 Project Participant to provide workings for scenarios where the IRR would be crossing the benchmark and probabilities of occurrence of this sceanrios.	Table-1 6. c.pp	Threshold analysis has been provided in version 02 of the PDD.	The analysis has been provided, however the scenarios of why IRR would not cross the benchmark has been provided and the following parameters and justified correctly, - PLF, - O&M & - Tariff CAR 10 is closed.

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in Table 1	Summary of project owner response	Validation team conclusion
CAR 11 The assessment for common practice has been performed. PP to confirm how the assessment is meeting the requirements of Paragraphs 6, 8 and 47 of "Tool for the demonstration and assessment of additionality" Annex 21, EB65	Table-1 6. e. c	The common practice analysis has been updated in the version 02 of the PDD. It is now in conformance with Paragraphs 6, 8 and 47 of "Tool for the demonstration and assessment of additionality" Annex 21, EB65	The source and common practice analysis sheet has been provided and the same is checked found to be in conformance with the "Tool for the demonstration and assessment of additionality", hence CAR 11 is closed.
CAR 12 Yes, the local stakeholders were invited by the Project Participant, which was prior to the publication of the PDD on the UNFCCC website. However the date on which the invitations were sent to the identified stakeholders is not presented in section E.1 of the PDD.	Table-1 9. a	The date on which the invitations were sent to the stakeholders has been updated in the version 02 of the PDD.	The project participant has now provided the date as 08/10/2011, the same has been checked and found to be OK. Hence CAR 12 is closed.