



VALIDATION REPORT
RAJASTHAN STATE MINES
& MINERALS LTD

VALIDATION OF THE
22.5 MW GRID CONNECTED
WIND FARM PROJECT BY RSMML
IN JAISALMER, INDIA.

REPORT No. INDIA-VAL/114.49/2007
REVISION No. 02

BUREAU VERITAS CERTIFICATION



VALIDATION REPORT

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Client: RAJASTHAN STATE MINES & MINERALS LTD (RSMML)	Client ref.: Mr Gopal Gandhi

Summary:
Bureau Veritas Certification has made the validation of the 22.5 MW grid connected wind farm project by RSMML in Jaisalmer, India, located in Jaisalmer District of State of Rajasthan on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

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

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

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM 0002, version 06 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: India-val/114.49/2007	Subject Group: CDM	
22.5 MW grid connected wind farm project by RSMML in Jaisalmer, India.		Indexing terms
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**ABBREVIATIONS**

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO2	Carbon Dioxide
CUF	Capacity Utilization factor
DOE	Designated Operational Entity
GHG	Green House Gas(es)
I	Interview
IETA	International Emissions Trading Association
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
RSMML	Rajasthan State Mines & Minerals Ltd
RERC	Rajasthan Electricity Regulatory Commission



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1 INTRODUCTION

RAJASTHAN STATE MINES & MINERALS LTD has commissioned Bureau Veritas Certification to validate its CDM project 22.5 MW grid connected wind farm project by RSMML in Jaisalmer, India” (hereafter called “the project”) at Jaisalmer District of State of Rajasthan.

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

1.1 Objective

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

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

1.2 Scope

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

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

1.3 GHG Project Description

The project activity involves installation and operation of 22.5 MW wind farms to generate electricity in Jaisalmer district of Rajasthan state in India. The project activity consists of 31 wind turbine generators installed in Pohra and Baramsar village respectively in Jaisalmer district of Rajasthan. Out of 31 wind turbine generartors, 6 Nos. of Suzlon Suzlon Wind Energy Generators , each of 1250 KW have been installed at Pohra village, 11 Nos. of wind turbine generators of Vestas RRB, each of 600 KW have been also installed at Pohra village and 14 Nos. wind turbine generators of Vestas RRB, each of 600 KW at Baramsar village. These WEGs are interconnected to 33 KV end of 220 KV Grid Sub Station (GSS) Amarsagar at Jaisalmer.

The total electricity generated by 1250kW WEG's (7.5 MW) at Pohara village and 600 kW WEG's (15 MW) at Baramsar/Pohra will be exported to northern grid and sold to Ajmer DISCOM and drawn 9.75 MW electricity by paying wheeling charges for captive consumption



1.4 Validation team

The validation team consists of the following personnel:

R Seshapathy

Bureau Veritas Certification Team Leader, GHG Verifier

Anil Gupta

Bureau Veritas Certification GHG Verifier

R Reghu Kumar

Bureau Veritas Certification GHG Verifier

Sushil Budhia

Financial Specialist

Dr Ashok Mammen & H B Muralidhar

Bureau Veritas Certification, Internal reviewers

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF). The protocol shows, in a transparent manner, criteria (requirements), means of verification 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 validation protocol consists of five tables. The different columns in these tables are described in Figure 1.

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



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Requirement	Reference	Conclusion	Cross reference
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), a Corrective Action Request (CAR) or a Clarification Request (CL) of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Validation Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent validation process.

Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or	Explains how conformance with the checklist question is investigated. Examples of means of verification are	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See



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	item found.	is	document review (DR) or interview (I). N/A means not applicable.	further used to explain the conclusions reached.	below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.
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Validation Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Validation conclusion
If the conclusions from the Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1 Review of Documents

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

To address Bureau Veritas Certification corrective action and clarification requests, RAJASTHAN STATE MINES & MINERALS LTD revised the PDD and resubmitted it on 15/12/2007. The validation report was also initially submitted to EB, which came under review and the response from PP and DOE was submitted to the EB.

The EB under para 58-b in its 42nd meeting agreed to register the project, "22.5 MW grid connected wind farm project by RSMML in Jaisalmer, India"(1602) subject to satisfactory corrections,

if the project participant and DOE (BVC) submit a revised PDD and corresponding revised validation report which include information to justify the following:

- (i) Parameters used to calculate the 16.08% benchmark such as the average beta value of 0.86 and appropriateness of the power companies selected as references, the tax rate applied, etc;
- (ii) Input values to the IRR and sensitivity analyses such as the PLF of 16%, the flat tariff assumed for the captive electricity generation (i.e., based on avoided electricity purchase from the grid), the possibilities of tax benefits, etc.; and
- (iii) The prior consideration of the CDM following the guidance from EB 41, Annex 46, paragraphs 5 (b) and 6, including relevant evidence;

The validation findings presented in this report relate to the project as described in the latest PDD, and corrected as directed by the EB under para 58-b in its 42nd meeting.



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2.2 Follow-up Interviews

On 24th & 25th August 2007, Bureau Veritas Certification performed site visit and interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of RAJASTHAN STATE MINES & MINERALS LTD were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
RAJASTHAN STATE MINES & MINERALS LTD	Project design Information on project consideration and financial aspects Technical Specification of the equipments Commissioning status of WEG's Sustainable development issues Environmental impacts Consulting process for stakeholder's comments Approval status by the host country CDM consideration by PP
LOCAL Stakeholder	Environmental impacts of project activity Endorsement of MOM of Stakeholder meeting Transparent sharing of information of CDM project activity by RSMML
CONSULTANT	Applicability of methodology Justification of PDD statements Baseline calculations

2.3 Resolution of Clarification and Corrective Action Requests

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

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

3 VALIDATION FINDINGS

In the following sections, the findings of the validation are stated. The validation findings for each validation subject are presented as follows:

- 1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.
- 2) Where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further



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documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 03 Corrective Action Requests and 05 Clarification Requests.

3) The conclusions for validation subject are presented.

3.1 Project Design

Bureau Veritas Certification recognizes that RAJASTHAN STATE MINES & MINERALS LTD, 22.5 MW Wind Energy Project fulfills country goals of promoting sustainable development in the region. The project is expected to be in line with host-country (India) specific CDM requirements because it,

- Contributes to climate change mitigation efforts of the host country
- Enhance the promotion of wind turbines in the region
- Generate local jobs in project maintenance
- Help in avoiding GHG emissions from fossil fuel burning

Also no adverse environmental impacts as well as transboundary impacts have been envisaged from this project activity.

During the site visit validation team could interact with some of the workers recruited from local regions and confirm their employments. It was also observed that Wind turbines are being promoted in the region as more & more wind projects is coming in the region as a part of promotional policy of renewal energy by Local and Central Government.

In the absence of the project activity, electricity generated by the wind turbine generators would have been generated using a fossil fuel in a captive power plant or would have been procured from the grid that is dominated by fossil fuel based thermal power plants. Any of these options would have resulted in higher GHG emissions than those emitted in the project activity.

The project activity involves installation and commissioning of wind turbine generators in the identified areas of Jaisalmer district of Rajasthan. Each wind turbine generator converts the kinetic energy of wind into mechanical energy through rotation of blades provided on the wind turbine and this mechanical energy is converted into electrical energy through generators.

The project has installed 31 Nos. wind turbine generators, 6 of 1250 KW capacity and 25 Nos. wind turbine generators each of 600 KW capacity. The 3 phase 440 Volts output of the wind turbine generators is connected to the Rajasthan State Electricity grid through service connections provided by the State Electricity Board. The output of each service connection is monitored through calibrated trivector meters.

The expected operational lifetime of the project activity is 20 years. A fixed crediting period of 10 years (2008-09 to 2017-18) has been considered and crediting period starting from 01/04/2008 or from the date of registration (whichever is later) is considered for the project.

The emission reductions are estimated to be 28291tCO₂e per year and 282910 tCO₂e over the crediting period.



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The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented by the PDD, of investment, and other barriers, and prevailing practice.

The project design is sound and the geographical (in Jaisalmer district of state of Rajasthan) and temporal (20years) boundaries of the project are clearly defined.

CL-1: Specification indicated in the PDD is not matching with the actual windmills installed

Response: The technical specifications provided by both of the WTG suppliers have been corrected and included in the Annex – 5 of PDD,

Validation Comment: Specifications of windmills are now correctly defined in the PDD

3.2 Baseline and Additionality

The 22.5 MW Grid Connected Wind Farm project uses the approved consolidated baseline methodology ACM 0002, Version 06).

As proposed project activity is grid-connected electricity generation from renewable sources (wind in this case) and does not involve switching from fossil fuel to renewable energy at the project site fulfilling the qualification criteria as per ACM 0002 .

Moreover as required in methodology, geographic and system boundaries of the relevant grid (Northern grid in this case) is clearly defined and information on the characteristics of the grid is available (CEA data , Version 3, dated 15/12/2007). Though CEA database Version 3 is in line with the baseline methodology ACM 0002, Version 07, the same is taken for the calculation purposes by the project proponent to be on the conservative side.

The project boundary defined is in line with ACM0002 version 06 as below :

The proposed project activity would be feeding the generated electricity in the Northern Regional Grid, which serves the Eight Northern States and One Union Territory. The proposed project would have a marginal impact on all the generation facilities in the Northern grid. Thus all the power generation facilities connected to this grid form the project boundary for the purpose of baseline estimation. The Northern grid is also connected with other regional grids, however, the net exchange of energy within the regional grids is very small, and thus the other regional grids are not included in the boundary.

In the baseline scenario the electricity delivered from the project activity to the grid would have been generated by fossil fuelled grid-connected power plants and by the addition of new generation sources.

This is reflected in the combined margin (CM) - the weighted average of the operating Margin (OM) emission factor and the build margin (BM) emission factor. The weighting is set to respectively 75% and 25%, the default values stipulated by ACM0002 version 06 for wind farm projects

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The baseline options considered do not include those options that do not comply with legal and regulatory requirements; or depend on key resources such as fuels, materials or technology that are not available at the project site.

CDM consideration:

RSMML has provided the evidence for CDM consideration through the extract of minutes of the 35th meeting of the Board of Directors of the Rajasthan State Mines & Minerals Ltd held on 27th September 2005. There are further supporting documents in terms of Note sheet issued by DGM(proj) on 14/08/03 and an inter office memo from Sr Manager (Elect) to GM(MIS) & DGM (Proj). The validation team also accessed all the other correspondence the project participant had with the equipment suppliers, consultants, DOE and DNA as listed in the chronology of events in the revised PDD to note that RSMML was aware of CDM before the decision making, CDM has been the decisive factor as per the IRR working submitted and there has been real actions in parallel to the implementation of the project to secure the CDM status. Moreover, unlike a private enterprise, RSMML being a government undertaking, decision-making process is required to undergo a series of procedures and approvals and which may cause delay in decisions and actions. The validation team recognized this fact and is convinced of the serious consideration of the CDM at the time of decision making for the said project activity.

Starting date of the project has been considered as 15/12/2005. This is based on letter of intent to Suzlon Energy Ltd, Ahmedabad by Group General manager of RSMML for start up the project activity.

RSMML (PP) being a public sector follows governmental guidelines. PP has followed the guidelines / direction has given by Rajasthan Electricity Regulatory commission. Investment in Wind energy follows the same guidelines. It can be observed that the RERC regulations has considered Wind energy generation as well as wheeling.

Though the above-mentioned CDM consideration documents did not mention captive consumption, the objective of the project is to generate energy through wind energy with partial captive consumption through wheeling facility. This was further corroborated by wheeling agreement with concerned agencies.

The additionality of the project has been justified using the UNFCCC approved, "Tool for the demonstration and assessment of additionality".

As proposed project activity involves commissioning of 31 WEG's of 1200 KW (6 nos) & 600 KW (25Nos) capacity to generate electricity and export it to Northern grid, the alternate credible baseline scenarios for the project activity have been suitably identified as,

1. Carry out the project activity without CDM benefit.
2. Do not implement the project activity and continuation of the present situation

In Scenario 1) RSMML shall implement the project activity, generating renewal electricity and export the same to state electricity grid under a power purchase agreement thereby replacing equivalent unit of power generated by fossil fuel based plant in the grid and also no emission of GHG to atmosphere.

In Scenario 2 as no project activity and equivalent amount of energy shall be produced by project grid electricity system through its currently running power plant and by new capacity addition to the grid (which are mostly thermal) is most realistic and credible alternative for the project scenario



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Both the alternative are in compliance with all applicable legal & regulatory requirements as implementation of project activity is voluntary initiative and is not mandatory by law .The electricity act 2003 also does not restrict or empower any authority to restrict the fuel choice and present environmental regulation does not restrict the use of wind energy

Use of DG sets was analysed for captive consumption . It was observed based on the fuel cost and usual practice , the DG sets are maintained as stand-bye only. Project site do not have any DG set. At present the energy is drawn from the state grid. This was evidenced by some of the energy bills paid to the electricity board.

Hence only two alternatives as mentioned above were considered as credible alternative.

Investment analysis:

Initially, RSMML (PP) used Step 3 of additionality tool but most of the analysis given in PDD lead to low return and therefore CAR-1 issued to justify the same and PDD revised to include the Step 2 also to support.

The Project uses benchmark analysis method as not enough alternatives are present (*refer to step 1*) to carry out an investment comparison analysis. Also benchmark analysis will be a more appropriate process for comparison and would yield more credible results.

Benchmark:

The indicator used initially by the project participant for benchmark analysis of this project is equity IRR used as one of the indicators by the Rajasthan Electricity Regulatory Commission (RERC) of India to determine the tariff. However as per the decision of the Board highlighted in paragraph 40 of the 40th Executive Board meeting, the project participant has attempted to determine an alternate appropriate benchmark, which is validated as follows:

The Project Participant had three options available as benchmark during the time of decision-making.

- the expected rate of return to one of its core business activities
- the cost of financing (required return on capital) of the proposed CDM project activity, which represents the opportunity cost of the capital invested.
- to choose 16% return on equity in line with the tariff order of RERC as benchmark, which most power sector investors resorted to.

The second option chosen viz. cost of financing (required return on capital) of the proposed CDM project activity, which represents the opportunity cost of the capital invested) was found to be in line with the additionality tool version 05, where the benchmark that can be chosen can include the Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data.

The validation team verified the working on the cost of equity for the project done by an independent financial expert, M/s. Aren & Associates based on the publicly available information (from Bombay Stock Exchange data) and their communication to RSMML that the cost of equity adjusted to the risk of investing into power sector was around 16.08%. The cost of equity calculated by Aren & Associates is based on Capital Asset Pricing Model (CAPM). The



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cost of equity post tax is worked out as sum of the risk premium (9.97 %) and the risk free rate (6.11%) as per the Reserve Bank of India available at the time of decision-making. This cost of equity is worked out based on beta value for different power sector companies and the BSE Sensex performance data for a reasonably long period (from April 1979 till August 2005) prior to the decision for the project activity.

Tax rate applied in Beta value calculations:

The average tax rate is calculated as the total taxable income/ total tax payable for the project. As seen from the IRR calculations, the tax rate for this windmill project activity of RSMML is 31%. The tax rate of RSMML Company as a whole is 20%. In the response by the project participant to the review questions, the excel sheet for cost of equity calculations carried tax rate of 20% which is the tax rate of the company as a whole. It is verified that the changes in values of the tax rate irrespective of 20 % or 31%, have no effect on the beta co-efficient, as this project is financed entirely through the project participant's equity and there is no debt component, which leaves the benchmark to remain the same at 16.08%.

Appropriateness of power companies selected as reference:

M/s. Aren and associates on behalf of the project participant have calculated an average beta based on power generation companies listed on the BSE. While considering companies engaged in power generation in order to capture the risk related to power generation, and availability of at least three year data to calculate the beta fairly, the power companies listed in BSE from the year 2002 viz., Tata Power Limited, Reliance Infrastructure Limited, Neyveli Lignite Limited, Calcutta Electricity Supply Commission (CESC) and Gujarat Industries Power Company Limited (GIPCL) were considered by the project participant to calculate their un-levered beta (β_a) to remove the effect of financial gearing of these companies. The average of these un-levered betas was calculated to be 0.84.

The validation team noticed the fact that BF Utilities, which is in windmill business and listed has not been included in the companies selected as reference. The Bloomberg snap shot of BF utilities revealed a raw beta value of 2.06 (Appendix A to PDD). The project participant justified saying that "BF utilities was not considered as part of this group of companies due to its small installed capacity (18.33 MW) in comparison to the other companies selected. Besides, since the risk associated with wind projects is higher than conventional power projects, the beta calculated from these power generation companies is further conservative. To ascertain the influence of adding BF utilities also in to the calculations of Beta, the data of BF Utilities is also added to the list (Appendix B to PDD) to find that the Beta value increased to 0.94 and the corresponding bench mark with average un-levered beta of 0.94 works out to 17.22%.

The validation team had access to the alternate source "Bloomberg Snapshots" for the beta values of these companies used, to verify and ascertain the average un-levered beta value of these companies considered, which reflect a value of 0.86 (Appendix C to PDD). However, it is noted that the project participant has used only the average beta value of 0.84 for the benchmark calculations and hence is conservative.

The validation team verified the detailed calculations sheet submitted by the project participant with the publicly available data and found it to be correct and conservative. Hence 16.08% is accepted as the revised benchmark for the project activity.



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Plant load factor:

The project participant considering a Plant Load Factor (PLF) of 16 % did the investment analysis for the project. This was based on the performance of Project Proponent's previous project, which is situated in Jaisalmer and validated by verifying the inter office note sheet dated 23.7.2003 - 14.8.2003, wherein it was said that the previous project has achieved CUF of not more than 16%. This is further confirmed by the validation team referring to the monitored data of the previous project of the same project participant, " 14.8 MW small-scale grid connected wind power project in Jaisalmer state Rajasthan, India by RSMML" (project reference number: 0243) for the period 2002 to 2005. The PLF achieved for this project in the different years as calculated from the data in the monitoring report (Appendix D to PDD) is tabulated below.

Sl no	Year	PLF Achieved
1	2002	11.45
2	2003	10.75
3	2004	13.42
4	2005	16.08

The validation team also verified the evidences and links pertaining to the demonstration project of Jaisalmer and demonstration projects of Rajasthan to see that the PLF in the region is less than 16%. Further the actual PLF achieved for this project activity during the years 2006-07 and 2007-08 were 15.45% and 14.8% respectively. It is to be noted that the 15 MW phase was not operational for the full year of 2006-07. Hence the validation team accepted the PLF of 16% taken by the project participant for the IRR calculations.

Electricity tariff:

The electricity generated by the project activity is partly used for captive consumption and partly for export to the grid. As per note sheet dated 23/07/2003 by RSMML for export of power to the grid, the tariff applicable is Rs. 3.32 / kWh with an escalation of Rs. 0.06 / kWh / year for a period of 9 years beyond which the tariff will be constant till the 20th year. This was also clearly stated in the note dated 23/07/2003. Hence, for the export component of the IRR calculations, the validation team accepted escalation.

For the captive consumption from the project activity, project participant conducted the IRR calculations using the tariff from the energy bills for the grid power consumed by the units. The units were charged Rs. 4.01 / kWh in the energy bills dated 2005 and 2007 which were verified by the validation team. This tariff is observed to be constant since 2001 starting with the 2001 tariff order and the 2004 tariff order by Rajasthan Electricity Regulatory Commission [RERC]. Since the tariff is constant and continued in the 2004 order without any revision and escalation and considering that the tariff at the time of validation was the same, validation team has agreed to the project participant's consideration of constant tariff for the captive power consumption from the project activity.

Project participant therefore used a rounded figure of Rs. 4 / kWh for the captive power consumption from the project activity. The validation team verified the impact due to the rounded off tariff considered on the equity IRR of the project. The results are tabulated as follows:



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Tariff	Equity IRR without CDM		Equity IRR with CDM	
	16% PLF	22% PLF	16% PLF	22% PLF
Rs. 4.01	10.03	15.66	10.84	16.72
Rs. 4.00	10.02	15.64	10.82	16.70
Difference in equity IRR	0.01	0.02	0.02	0.02

From the above table it is evident that there is minimal influence on the returns anticipated, by considering the rounded off tariff of Rs.4/- and this minor difference will not affect the decision making process for the project. Thus, the value of Rs 4 / kWh used for investment analysis by the project participant is validated as being reasonable tariff for the investment analysis during crediting period of the project activity.

Tax benefits:

The project participant in IRR calculations has taken the Income tax rate of 33.66% and the Minimum Alternate Tax (MAT) of 10 % as per the Income Tax Act of 1961. The other incentives/ benefits like 80% Accelerated Depreciation and Tax Holiday for a period of 10 years out of the first fifteen years of operation available for windmill projects are taken in to account in the IRR calculations by the project participant.

On the basis of above benchmark, calculation and comparison of financial indicators are carried out in sub-step 2c the equity IRR without CER revenue is estimated to 10.02 %, which shows that the project is not financially attractive in absence of CDM benefits.

Sensitivity analysis:

The sensitivity analysis showed that the changes in Plant Load Factor (PLF) can have a significant impact on project financial performance, We believe that this is the parameter which is reasonably expected to be achieved over the entire term of the project, i.e., 20 years, for the proposed CDM project activity. This parameter is not in control of PP and mainly depends upon wind density and wind speed at sites (within the wind zone), the expected PLF of the wind farms within a particular wind zone cannot be uniform. So the plant load factor will vary from site to site depending on the terrain and the wind regime at the site. The selected PLF value of 16% for project activity for IRR calculation seems to be low but this is fact that in past some of the wind projects in the region achieved a PLF value as low as 14.7 % (referred in PDD) including the wind project of same PP, registered as CDM project. This project achieved a PLF value close to 16% (verified through monitoring report). Therefore at PLF of 16%, the calculated equity IRR comes to 10.02% not exceed the benchmark of 16.08%. It is also noted that even at PLF of 22% set by RERC for tariff determination, the calculated equity IRR (15.64%) is still less than the benchmark making project financial unattractive and only CDM revenue make it financial viable.

According to the 'Guidance on investment analysis' by the Board, only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation ...'. In addition to PLF, O&M cost and the tariffs are the variables, which may satisfy this condition.



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The O&M costs are fixed under the O&M contract for first phase of 15 MW of the project activity. For the second phase of 7.5 MW of project activity, the O&M cost is fixed for the first 6 years in the O&M contract. Hence the variable component of the O&M expenses over the life of the project is Rs.117,734,400, which is just 11.1% of the total project cost and 4.84% of the total project revenues. Thus, there is no need for sensitivity analysis for O&M variation. However, the validation team notes that even if the sensitivity is carried out for this variable component of O&M cost, the IRR without CDM increases to 10.06% from 10.02%.

As regards the tariff applicable to the power exported to the grid, the PPA defines the tariff structure for the entire life of 20 years of the project activity. However, considering the above referenced guidance, project participant conducted the sensitivity analysis for the captive component of the power generated by the project activity. It is noted that for a 10% increase in the tariff for consumed power, the IRR rises to 10.74% from 10.02% without CDM revenue.

In both these cases it is seen that the project activity IRR consistently is below the benchmark of 16.08% determined.

The validation team therefore confirms that the sensitivity analysis reflects possible changes in PLF, O&M as well as tariff that might occur in future during the life of the project activity. The validation team therefore re-iterates that the project activity is considered to be additional.

The validation team has reviewed the calculations and following evidences were also verified :

1. Payment details from RSMML to Suzlon - proof of administration charges Rs 17 lacs @ MW and registration charges of 1.25 lacs for 2.5 MW.
2. Energy bill of RSMML – Proof of energy charges in Rajasthan
3. Monthly generation record from Veritas RRB India – reference doc indicating how energy apportioned
4. Reimbursement paid by Suzlon to RSMML – Rs 17 Lac X 2.5 MW
5. Payment of 85,00,000 for 5 MW to RVPN as per letter from RSMML.
6. Bills related to external lines
7. Detailed letter of intent from RSMML to Vestas RRB(This include details about Scope of work, Contract price, Security deposit, Terms of payment, Liquidated damage, Insurance etc)
8. Annexure – O&M Cost for Vestas RRB - signed by Vestas & RSMML
9. Letter of intent to Suzlon from RSMML (Includes details about Contract price, Security deposit, Terms of payment, O&M Contract, Insurance,etc)
10. Land deeds
11. Note Sheet dt. 14/08/03 prepared by GM(MIC). Point 2 refers the PPA agreement to be made @ Rs. 3.32 unit with Rs 0.06 increase per unit per year upto 2012-13 and there after at a fixed price of Rs. 3.92 /unit.
12. PPA for 7.5 MW (Rs 3.25 per kwh in the year 2005-06. This will be increased at a simple rate of 6 paise each year for period upto 10 years I, upto 2014-15. Thereafter a fixed rate of Rs 3.79 per unit). For captive consumption Rs 4 / unit considered as explained above. Wheeling charges @ 10 % of the energy fed into grid.
13. PPA for 15 MW (Rs 3.31 per kwh in the year 2005-06. This will be increased at a simple rate of 6 paise each year for period upto 9 years I, upto 2014-15. Thereafter a fixed rate of Rs 3.79 per unit)

The investment analysis report was also reviewed and approved by the Financial specialist in validation team. The project entails partly captive consumption (9.75MW) of the total electricity



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generated by paying wheeling charges to state utility. The present wheeling charges of 10% (highest compare to most of the states in the country) will also affect the return of the project but could not be considered as decisive barrier as same is applicable to any power project where captive consumption is taken.

As wind is an intermittent source of energy, the energy generated at a particular period is often surplus of what is required for the captive purposes. At this point of time banking provision has to be utilised. There is always a chance that the banked energy is not utilised during the stipulated time might result in higher unutilised energy and ultimately financial loss to PP but this is not as significant loss and therefore not considered as prohibitive barrier.

Investors of wind power projects have been experiencing huge amount of uncertainty due to the frequent change of tariffs in the state by the RERC as same has been changed from INR 3.32 (in 2003) to INR 3.25 (in year 2006) could affect the financial estimations for the project completely but this could happened to any project including alternative scenario and hence not considered as prohibitive barrier.

Common practice analysis:

As per the **Wind Power Directory 2006**, Rajasthan contributed only 7% to the total installed capacity of wind power in India. The trend of annual addition in the installed capacity of wind power in Rajasthan is lowest even after having the fifth highest gross potential of estimated wind power. In this project activity, RSMML plans to use a portion of the electricity generated for captive consumption for which wheeling charges is payable. This is also not a common scenario prevailing in the state

The proposed project is one of the largest projects undertaken in Rajasthan by a single investor. And till September 2005, approximate installed capacity for wind power in the state was 316 MW. Out of this, almost 300 MW fetched for CDM revenue for a viable returns. Indicating negligible amount of project activity was taking place without CDM revenue Therefore, setting up of wind farms without CDM benefit was not a common practice at all in Rajasthan.

Considering the above arguments, DOE is of the opinion that establishing a Large scale wind power project with partly energy generated used for captive consumption by paying a wheeling charges and without CDM benefits is not a common practice in the region (Rajasthan state).

Related CAR and their resolution:-

CAR-1 : Use of Step 3 alone is not justified. All the arguments end in low return. No analysis was provided to check whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of certified emission reductions (CERs)

Response : The project has used 'Tool for the demonstration and assessment of additionality', Version 04 to demonstrate the additionality of the project. Tool gives the option to select either one among Step 2. Investment Analysis and Step 3. Barrier Analysis. Hence Step 3 was selected.

Now latest version of PDD is redrafted by including both Step 2 and Step 3 to strengthen the additionality of the project.

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DOE Comment : Revised version of PDD verified and accepted. Investment analysis were reviewed and approved by specialist. Mr S.Budhia

Considering the Barriers due to investment and others such as Low capacity factor, Validation team has concluded that the project is additional.

3.3 Monitoring Plan

The project applies the approved consolidated monitoring methodology ACM 0002 (zero-emissions grid-connected electricity generation from renewable sources”, Version 06), which is found to be appropriate.

In the project activity monitoring of electricity generated by the WEG's carried out at two place one at individual WEG and other at Feeder End (jointly monitored by EPC& state utility). It has been addressed in the monitoring plan given in the revised PDD. The monitoring plan consist of monitoring of total & net electricity generation at main meter installed at feeder along with electricity generation of individual WEG at Centralised monitoring system installed for total wind farm to take care of any eventuality i.e., non functioning of main/check meter.

The procedure for calibration & maintenance of monitoring equipment are clearly mentioned as in Sec B 7.2 of the PDD and adequate The calibration shall be done by state utility on annual basis and maintenance of equipments is taken care by Equipments supplier and records of same is also maintained by supplier for any maintenance of equipments (preventive/breakdown), changes in the equipments if any

CAR-2 : During site visit it was observed that two wind machines of other clients have been connected with wind mills of Vestas make. The monitoring method did not consider this aspect.

Response: The monitoring plan has been revised in the section B.7.2 of PDD to include the situation where wind machines of other projects (which are not part of proposed CDM activity) would be added to the same meter. The documentary evidence for the same is furnished.

DOE Comment: Monthly generation records of joint meter reading were made available. These set of readings consist of joint meter reading as well as break-up of net export. Monitoring plan in PDD was also revised accordingly. CAR is closed Refer page 35 of PDD under the sub title “ Metering related issues” point No.12.

CL-2 : Frequency of calibration not clearly defined

Response: The calibration of the meters would be done annually and the same is being mentioned in the Section B.7.2., Monitoring Plan of the revised PDD. The same is mentioned in the PPA signed by the promoters with the state electricity utility, RVPNL.

DOE Comment : Monitoring plan reviewed and accepted.

CL-3 :Following procedures are not clear:

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Internal audit of GHG operations , Project performance review, Corrective action / Preventive action

Response:

The project performance review would be done regularly by the EPC contractor's internal experts as part of the contract between the project proponent and the contractor. In case of any problem, it would be addressed as soon as possible. Overall O&M team of EPC contractors at site takes care of these performance reviews to maintain generation of electricity from this renewable source and will carry out the GHG audits at the site. The same has been included in the Section B.7.2. Monitoring Plan of revised PDD.

DOE Comment: The monitoring plan is revised to in revised Version of PDD and is found to be satisfactory and CL is now closed.

3.4 Calculation of GHG Emissions

As per ACM 0002(Grid connected electricity generation from renewable sources), the baseline emission sources considered CO₂ as main emission from grid electricity generation. Other emissions CH₄ and N₂O are excluded, as these are conservative compare to CO₂ ,

As required under ACM 0002 (Grid connected electricity generation from renewable sources), the baseline emissions are calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors. The detailed algorithms are described later under sections B 6.3 of the PDD using CEA data ver 2.0 initially.

Now latest CEA data ver 3.0 dated 15/12/2007 for operating margin (OM) and build margin (BM) factors is available .It may be noted that Latest version of CEA included the year data for 2006-07 and same is used for OM & BM calculation and accordingly all the changes incorporated in latest PDD.

As described in ACM 0002 (Grid connected electricity generation from renewable sources), the project emissions result due to on-site fossil fuel consumption due to the implementation of the project is not anticipated and therefore CO₂, CH₄ and N₂O gases are excluded. With reference to this methodology, project does not lead to any leakage.

The estimated annual average of approximately 28291 tCO₂e over the crediting period of emission reduction represents a reasonable estimation using the assumptions given by the project.

CAR-3: Justification for not choosing other 3 options as given in ACM0002 not available (Ref B.6, step-1 of PDD).

Response : Justification has been done now in the section B.6.3.of the revised PDD for selecting Simple OM.

Comments of DOE: Appropriate justification is given in Sec B 6.3 of PDD for choosing Simple OM than other 3 options and hence CAR is considered as closed



3.5 Sustainable Development Impacts

No significant environmental impacts envisaged from the project activity.

Also as per EIA notification i.e. S.O. 1533, dated 14th September 2006, Ministry of Environment & Forests (MoEF), Govt. of India, the wind projects are not included in the list of projects that has to get Prior Environmental Clearance (EC) either from State or Central Govt. authorities and hence no EIA study was conducted for the project.

The other normal (negative/ positive) environmental impacts assessed due to the activity are summarized below: There are no migratory birds / endangered species in the region of project activity. Therefore no harm to the ecological environment is envisaged.

Noise is generated due to the movement of rotor blades. It has no direct effect on the population, as the wind park is located in a sparsely populated area with no vulnerable flora or fauna

Wind Power plants are known to contribute to zero atmospheric pollution as no fuel combustion is involved during any stage of the operation

The project activity sites were owned by Revenue Department of state Government and leased to project proponents so disturbance of the landscape also not envisaged due to project activity

The net impact under environmental pollution category would be positive. The project activity does not have any major adverse impacts on environment during its construction or operational phase.

3.6 Comments by Local Stakeholders

Local stakeholder consultation meeting to discuss stakeholder concerns on the proposed Clean Development Mechanism (CDM) project – 22.5 MW Grid Connected Wind Farm Project at Jaisalmer district of Rajasthan state was held on 26/01/2006 at Project office of Suzlon Energy at Jaisalmer , Rajasthan, India. The stakeholders were invited through public notice pasted at Dy Commissioner office at Jaisalmer.

The list of participants, notice to interested stakeholders, inviting their participation, and photographic record of the stakeholder meeting proceedings are maintained by the project participant. The same are reviewed at the time of site visit by validation team.

The stakeholders viewed 22.5 MW Grid Connected Wind Farm 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. These views were endorsed by the local stakeholders interviewed during the site visit of the validation activity during 24th & 25th August 2007.

CL-4 Date of stakeholder Consultation was not available & what media is used for their invitation also not clear

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Response : The stakeholder meeting was held on 26th January 2006. The announcement was done with help of public notice boards which is being included in Section E.1., of revised PDD.

DOE Comments : Relevant documents were verified during site visit by the validation team by reviewing minutes of meeting and notice given for meeting. The same is included in the revised PDD and hence considered closed.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

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

Bureau Veritas Certification published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 23/06/2007 and invited comments within 22/07/2007 by Parties, stakeholders and non-governmental organizations.

Comments were received from one person.

The project participants provided response to these comments. Due account of these comments and the respective responses was taken while making the validation opinion. The details of these comments received, responses by the project participant/s and the explanation of how due account of these is taken by the validation team are attached as Appendix B with this validation report.

Public Comment :

“The baseline emission factors for the grid taken in the PDD are at variance with Baseline emissions as per the ones prepared by CEA which are the official emission data for the country. Hence the PDD is incorrect. This is significantly due to the fact that the weights for the operating margin and build margin have been taken incorrectly.

Further the PDD refers to captive consumption in step 4 - without providing the percentage that will be used as captive consumption - hence lacks transparency.”

Response:

At the time of submitting the PDD for Public web-hosting, the available baseline emission factor was Version 1.1 of the ‘CO2 Baseline Database’ dated 21st December 2006, which was published by Central Electricity Authority (CEA). Govt. of India. However, the most recent version i.e. version 3 was published after the PDD was web-hosted.

The PDD has now been revised to incorporate the recent version of the CEA baseline (i.e. Version 3, 15th December , 2007) and the emission reductions have been calculated according to this.

The proportion for captive consumption for the project has been clearly mentioned in the Section A.2. Description of the Project activity of the PDD, version 2 which was kept open in the website for public comments. Following is an extract from it:



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“Of the total, 90% of electricity generated by 6 No.s of 1250kW (7.5 MW) Suzlon make WEGs at Pohara village will be sold to Ajmer DISCOM and the balance 10% will be utilized for captive use. Whereas 40% electricity generated by the 25 No.s of 600 kW (15 MW) Vestas RRB WEGs at Baramsar/Pohra village will be sold to Ajmer DISCOM and rest 60% would be utilized for captive use.”

DOE Comment: PDD has been revised accordingly. Response is adequate.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the 22.5 MW grid connected wind farm project by RSMML in Jaisalmer India. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis of investment, 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 and other barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (Version 03) 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.

The validation is based on the information made available to us and the engagement conditions detailed in this report.



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6.0 REFERENCES**Category 1 Documents:**

Documents provided by Type the RAJASTHAN STATE MINES & MINERALS LTD that relate directly to the GHG components of the project.

/1/	Host country Approval dated 04/06/07
/2/	PDD – Version 3, 15 /12/2007.
/3/	Minutes of Meeting with Stake-holders dated 26/01/06
/4/	Detailed letter of Intents for Design, Engineering, Manufacture ,supply ,Erection, Construction, Testing & commissioning of 25 X 600 KW Wind energy generators of 15 MW wind farm and maintenance for 20 years Issued to M/s Veritas RRB India Ltd (RSMM/CO/Proj/windmill(Ph-V/2006/477 dt.24 /June/2006
/5/	Detailed letter of Intents for Design, Engineering, Manufacture ,supply ,Erection, Construction, Testing & commissioning of 2X1250 KW Wind energy generators of 2.5 MW wind farm and maintenance for 20 years Issued to M/s Suzlon Energy Ld RSMM/CO/Proj/2006/7 dt. 8/03/06
/6/	Detailed letter of Intents for Design, Engineering, Manufacture ,supply ,Erection,Construction, Testing & commissioning of 4X1250 KW Wind energy generators of 5 MW wind farm and maintenance for 20 years Issued to M/s Suzlon Energy Ld RSMM/CO/Proj/2006/721 dt. 8/03/06
/7/	Commissioning Reports of 6 -1250 KW turbines (identification nos. J-91 to J-95 ,J-99) from Suzlon , dated 25/03/06
/8/	Power Purchase cum wheeling & banking agreements (for 7 .5 MW, dated 20/03/06 and for 15 MW Dated 12/10/06
/9/	E-Mail communication on monthly MIS Report from Site to H.O dated – As an example of monitoring & reporting system between site & Head Office.
/10/	Invoice copies of – as an example of billing of net exports to Ajmer Discom
/11/	In the matter of amendments to RERC (Power purchase & Procurement Process of Distribution Licensees) Regulations 2004 and RERC (Terms & Conditions for Determination of Tariff) Regulations 2004 under Section 61 & 86 of the Electricity Act 2003. And In the matter of review of the RERC order dated 31.3.06 in respect of power purchase from non-conventional energy sources in Rajasthan.
/12/	The data for calculating Simple OM has been taken from the following: CO ₂ baseline database, Central Electricity Authority (CEA) , Version: 3.0 Date: 15/12/2007
/13/	The Energy Bills Mar 2006, Aug 2007 & Nov 2007
/14/	Wind Power Directory 2006
/15/	Proof for CDM consideration through the extract of minutes of the 35 th meeting of the board of directors of the Rajasthan state mines & minerals ltd held on 27 th September 2005. There are further supporting documents in terms o Note sheet issued by DGM(proj) on 14/08/03 and an inter office memo from Sr Manager (Elect) to GM(MIS) & DGM (Proj).



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Category 2 Documents:

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

/1/	Kyoto Protocol to the United Nations Framework Convention on Climate Change, United Nations, 1997
/2/	Guidelines for completing CDM--PDD and CDM—PDD-NM, Version 03
/3/	Approved consolidated methodology ACM 0002 (Grid connected electricity generation from renewable sources, version 06)
/4/	Tool for the demonstration and assessment of additionality, Version 4,

Persons interviewed:

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

/1/	Mr. Gopal Gandhi – Deputy General Manager, RSMML
/2/	Mr. Manoj Kr. Sharma – Deputy Manager, O&M
/3/	Mr. Rajeev Sharma – State O&M Head
/4/	Mr. P. J. S Kundal – Sr. Manager, RSMML
/5/	Mr S Balagurunathan – Manager Carbon Credits, Senergy Global Private Limited
/6/	Ms. Sumedha Basu - Senior Analyst, Carbon Credits, Senergy Global Private Limited

Stake holders interacted at the time of site visit

1	Mr Manak Shah – Village Pohra
2	Mr Manaram – Village Baramsar
3	Mr Mag Singh – Village Pohra
4	Mr Vir Singh – Village Pohra
5	Mr Chandan Singh – Village Pohra
6	Mr Magaram Village Pohra



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APPENDIX A: RAJASTHAN STATE MINES & MINERALS LTD CDM PROJECT VALIDATION PROTOCOL

Table 1 Mandatory Requirement for Clean Development Mechanism (CDM) Project Activities.

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a	OK	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved, including confirmation by the host party that the project activity assists it in achieving sustainable development	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a, §28, Annex 3 of the Resolução Interministerial 01/03	OK	Host country approval dated has been received
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E The relevant discussion is also part of the validation report.
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM Modalities §43 and 44	OK	Table 2, Section B.2 Assessed by DOE and transparently addressed in the validation report
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	OK	No public funding for the project from Annex1 parties is indicated.



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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29	OK	Ministry of Environment and Forest has been designated national authority by the host country i.e. India.
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	OK	Host country, India is a party to the Kyoto Protocol
10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	Marrakech Accords, CDM Modalities §37b	OK	Table 2, Section G
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	Marrakech Accords, CDM Modalities §37c	OK	Table 2, Section F
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	OK	Table 2, Section B.1.1 and D.1.1
13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Marrakech Accords, CDM Modalities §37f	OK	Table 2, Section D
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	OK	PDD was made available for public comments from
15. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, CDM Modalities, §45 b, c, e	OK	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, CDM Modalities, §47	OK	Table 2, Section B.2
17. The project design document shall be in conformance with the UNFCCC CDM-PDD format and fulfilled according to the guidelines for completing CDM-PDD, CDM-NMB, and CDM-NMM	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	OK	Guideline for completing CDM PDD – Version 4, dated July 8, 2005



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Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity <i>The project design is assessed.</i>					
A.1. Title of the project activity, version number and date of the document	1	DR	22.5 MW Grid Connected Wind Farm Project by RSMML in Jaisalmer, India. Version 03 15/12/07	OK	OK
A.2. Description of the project activity					
A.2.1. Is the purpose of the project activity included?	1	DR	To generate power from wind farm and export Partially to regional electricity Grid (12.75MW) and partially use for captive consumption (9.75MW) (Refer A.2 of PDD). It is mentioned as 'the project activity use 6 Nos. of 1250 KW & 25 nos.of 600 KW wind energy generators (WEG's) totaling of 22.5 MW for achieving the purpose of wind power generation and captive consumption.	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2.2. Is the view of the project participants on the contribution of the project activity to sustainable development included?	1	DR	<p>According to project participants as per A.2 Of PDD the project activity contributes to sustainable development through:</p> <ul style="list-style-type: none"> • Contribution to climate change mitigation efforts • Enhancement the commercialisation of wind turbines in the region • Contribution to the sustainable development of the region, socially, environmentally and economically • Reduction in prevalent regulatory risks for this wind power project through revenues from the CDM 	OK	OK
A.3. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	-	DR 	Yes Indian legislation allows windmill operations..	OK	OK
A.3.2. Is the project in line with host-country specific CDM requirements?	-	DR 	Yes, Approval from Ministry of Environment & Forests (DNA) is available.	OK	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	-	DR 	Refer to A.2.2	-	OK
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	-	DR 	The project is reported to lead to sustainable development. Refer A.2.2.	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.4. Project participants					
A.4.1. Are Party (ies) and private and/or public entities involved in the project activity listed?	1	DR	Yes listed. Refer A.3 of PDD.	OK	OK
A.4.2. Is the contact information provided in annex 1 of the PDD?	1	DR	Yes. Refer page 36 of PDD	OK	OK
A.4.3. Is this information indicated using the tabular format?	1	DR	Yes. Information is provided using tabular format	OK	OK
A.5. Technical description of the project activity					
A.5.1. Location of the project activity					
A.5.1.1. Host country Party(ies)	1	DR	India	OK	OK
A.5.1.2. Region/State/Province etc.	1	DR	Rajasthan	OK	OK
A.5.1.3. City/Town/Community etc.	1	DR	District - Jaisalmer	OK	OK
A.5.1.4. Detailed description of the physical location, including information allowing the unique identification of this project activity.	1	DR	The project activity is located in 2 village namely Pohra & Baramsar in the district of Jaisalmer in Rajasthan state. Pohara is located at a Latitude of 27° 02"N and Longitude of 70°57"E while Baramsar has 26°35" N latitude & 70°35" E as Longitude respectively. Location of sites also have Khasra no (table 3 & 4) of PDD	OK	OK
A.5.2. Category of the project activity					
A.5.2.1. Is the category of the project activity specified?	1	DR	Scope Number 1, Energy Industries (renewable/non renewable sources)	OK	OK
A.5.2.2. Is it justified how the proposed project activity conforms to the project category selected?	-	DR	The proposed project activity being a power generation activity using renewable wind energy, conforms to the category selected	OK	OK

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VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5.3. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.</i>					



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<p>A.5.3.1. Does the project design engineering reflect current good practices?</p>	<p>-</p>	<p>DR I</p>	<p>Yes Refer A.4.3 Project design engineering reflects current good practices. As per PDD, the project activity employs Two type of WEG Eg Suzlon & Vestas RRB make</p> <p>Suzlon make WEG has following features</p> <ol style="list-style-type: none"> 1. Higher Efficiency 2. Minimum Stress and Load 3. Shock Load-free Operation 4. Intelligent Control 5. Maximum Power Factor - delivers power factor up to 0.99 6. Climatic Shield 7. Unique Micro-Pitching Control <p>Grid friendly design generates harmonics- pure sinusoidal power</p> <p>While Vestas RRB type WEG has following features</p> <ol style="list-style-type: none"> 1. Specially suited for Indian climatic conditions. 2. Incorporate highly reliable components ensuring life time trouble free operation. 3. Equipped with microprocessor-controlled pitch regulation, ensuring continuous and optimal adjustment of the angles of the blades in relation to the prevailing wind. <p>Specification indicated in the PDD is not matching with the actual wind mills installed</p>	<p>CL-1</p>	<p>OK</p>



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5.3.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	-	DR I	Yes , Refer A.5.3.1	OK	OK
A.5.3.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	-	DR I	Expected operational lifetime of the project activity is 20 years. It is unlikely that the project technology will be replaced within this project time.	OK	OK
A.5.3.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	-	DR I	Yes Extensive training required prior the start of project as Project participant does not have experience in the area of wind energy generation	OK	OK
A.5.3.5. Does the project make provisions for meeting training and maintenance needs?	-	DR I	Refer B 7.2 of PDD which describe the same	OK	OK
A.5.4. Brief statement of how anthropogenic emissions of GHG by sources are to be reduced by the proposed CDM project activity					
A.5.4.1. Is it stated how anthropogenic GHG emission reductions are to be achieved?	1	DR	The project itself is a zero emission power project as it is based on wind, a renewable natural source. In the absence of the project activity, the electricity authority would have permitted new thermal or other GHG intensive power generation options.	OK	OK
A.5.4.2. Is the estimate of total anticipated reductions of tons of CO2 equivalent provided?	1	DR	The estimated emission reductions over the 10 year crediting period would be 280910 t CO2e .	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5.4.3. Is this information indicated using the tabular format?	1	DR	Yes. Refer A.4.4 of PDD.	OK	OK
A.5.5. Public funding of the project activity					
A.5.5.1. Is it indicated whether public funding from Parties included in Annex I is involved in the proposed project activity?	1	DR	The project has not received any public funding Refer A.4.5 of PDD.	OK	OK
A.5.5.2. If public funding is involved, is information on sources of public funding for the project activity provided in Annex 2, including an affirmation that such funding does not result on a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties?	1	DR	Not applicable.	-	-



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B. Project Baseline <i>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</i>					
B.1. Baseline Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.1.1. Are the title and the reference of the baseline methodology applicable to the project activity defined?	1 UNF CCC web site	DR 	Yes. Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM 0002, Version 06, May 19, 2006.	OK	OK
B.1.2. Is the baseline methodology previously approved by the CDM Methodology Panel?	1	DR	Yes. Refer B.1.1	OK	OK
B.1.3. Does the proposed project activity meet the applicability conditions of the methodology?	1	DR	Yes. This methodology applies to project activities that generate electricity from renewable energy sources.	OK	OK
B.2. Description of how the methodology is applied in the context of the project activity					
B.2.1. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	1 ACM 0002	DR	The approved baseline methodology is applicable to grid-connected renewable power generation project activities. Including capacity additions from wind sources.	-	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.3. Description of how the anthropogenic GHG emissions by sources are reduced below those that would have occurred in the absence of the proposed project activity					
B.3.1. Is the proposed project activity additional?	1	DR	<p>Yes Project additionality has been demonstrated using the version 04 of the <i>"Tool for the demonstration and assessment of additionality"</i></p> <p>During the site visit validation team could interact with some of the workers recruited from local regions. It was also observed that Wind turbines are being promoted in the region</p>	CAR -1	OK
B.3.2. Are national policies and circumstances relevant to the baseline of the proposed project activity summarised?	-	I	These are summarized in Step 1b of additionality check.	OK	OK
B.4. Description of the project boundary for the project activity					
B.4.1. Are the project's spatial (geographical) boundaries clearly defined?	1	DR	The spatial extent of the project boundary is limited to the physical, geographical site of all 31 WEG's, pooling and all the power plant connected physically to the system that this project power plant is connected.	OK	OK
B.4.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1	DR	Yes, it includes the wind turbines, pooling and all the power plant connected physically to the system that this project power plant is connected	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.5. Details of the baseline and its development					
B.5.1. Is the date of completion provided?	1	DR	The current draft of PDD with baseline completion was completed on 07.03.2007. Refer B.8	OK	OK
B.5.2. Is contact information provided?	1	DR	Yes. In Annex –1 of PDD	OK	OK
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR	Yes. The PDD mentions starting date is 24/02/2006 The project activity is expected to be operational for a period of 20 years 0 month from the date of commencement of operations (later it is revised to 15/12/05)	OK	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	1	DR	Renewal crediting period – Fixed 10 years & 0 Months. Crediting start date is mentioned as 01/09/2007 (later it is revised to 01/04/2008 or after registration which is later	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D. Monitoring Plan <i>The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.</i>					
D.1. Monitoring Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
D.1.1. Does the CDM Methodology Panel previously approve the monitoring methodology?	1	DR	The approved monitoring methodology ACM 0002 called 'Consolidated Monitoring Methodology for zero emissions grid-connected electricity generation from renewable sources' has been used as per current version of 06 dated 19 th May 2006.	OK	OK
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	1	DR	Refer F.1.1	-	OK
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	-	DR	Yes B 7.2 of PDD explain the same	OK	OK
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	-	DR	Yes as per B 6.1 of PDD , choice of methodology explained clearly	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.2. Monitoring of Project Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	-	DR	Not applicable	OK	OK
D.2.2. Are the choices of project GHG indicators reasonable?	-	DR	Not applicable	OK	OK
D.2.3. If the project is hydro power project, are project emissions included based on density of power as required by methodology.	-	DR	Project being power generation through wind, this is not applicable.	OK	OK
D.2.4. Will it be possible to monitor / measure the specified project GHG indicators?	-	DR	During site visit it was observed that two wind machines of other clients have been connected with wind mills of Vestas make. The monitoring method does take consider this aspect.	CAR-2	OK
D.2.5. Will the indicators give opportunity for real measurements of achieved emission reductions?	-	DR	Not applicable	OK	OK
D.2.6. Will the indicators enable comparison of project data and performance over time?	-	DR	Not applicable	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.3. Monitoring of Leakage <i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	-	DR	No leakage is considered, as per adopted baseline methodology.	OK	OK
D.3.2. Have relevant indicators for GHG leakage been included?	-	DR	As per ACM0002 version 6, PP does not need to consider leakage.	OK	OK
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	-	DR	See D.3.1, Not applicable	OK	OK
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	-	DR	See D.3.1, Not applicable	OK	OK
D.4. Monitoring of Baseline Emissions <i>It is established whether the monitoring plan provides for reliable and complete base line emission data over time.</i>					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	-	DR	As per section B.7.2 of the PDD, only the electricity generated by the project activity to grid is to be monitored. The baseline emission factors are already determined on ex-ante basis and hence need not be monitored regularly. The monitoring plan therefore is adequate enough for determining the baseline emissions.	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.4.2 Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	-	DR	Yes. Northern grid has been considered for baseline emissions.	OK	OK
D.4.3 Will it be possible to monitor the specified baseline indicators?	-	DR	Yes all the baseline indicators as per PDD can be monitored	OK	OK
D.5. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i>					
D.5.1. Is the authority and responsibility of project management clearly described?	1	DR	Refer section B.7.2, DGM (project/elec) is responsible for this project	OK	OK
D.5.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	Refer F.5.1.	OK	OK
D.5.3. Are procedures identified for training of monitoring personnel?	-	I	Proof shown at the time of site visit	OK	OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	-	I	Proof shown at the time of site visit.	OK	OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	-	I	To be done by corporation but at what frequency calibration need to be done, not clear.	CL-2	OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	-	I	Yes same is taken care by supplier of WEG	OK	OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	-	I	Yes as per B7.2	OK	OK


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.5.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	-	I	Yes as per B 7.2	OK	OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	-	I	Yes as per B7.2	OK	OK
D.5.10. Are procedures identified for review of reported results/data?	-	I	Yes as per B 7.2	OK	OK
D.5.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	-	I	Not clear in PDD	CL-3	OK
D.5.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	-	I	Not clear in PDD	CL-3	OK
D.5.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	-	I	Not clear in PDD	CL-3	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E. Calculation of GHG Emissions by Source <i>It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.</i>					
E.1. Predicted Project GHG Emissions <i>The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.</i>					
E.1.1. Are all aspects related to direct and indirect GHG emissions, including leakage, captured in the project design?	-	DR	As per the approved methodology, the project emissions are to be considered as nil hence not applicable.	OK	OK
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	-	DR	Yes	-	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	-	DR	Yes	-	OK
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	-	DR	Yes	-	OK
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	-	DR	Yes	-	OK
E.1.6. Are uncertainties of external data sources for emissions reduction estimated?	-	DR	Yes	-	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.2. Leakage <i>It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.</i>					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	-	DR	Not applicable, as per adopted baseline methodology.	OK	OK
E.2.2. Have these leakage effects been properly accounted for in calculations?	-	DR	Refer E.2.1	-	OK
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	-	DR	Refer E.2.1	-	OK
E.2.4. Are the calculations documented in a complete and transparent manner?	-	DR	Refer E.2.1	-	OK
E.2.5. Have conservative assumptions been used when calculating leakage?	-	DR	Refer E.2.1	-	OK
E.2.6. Are uncertainties in the leakage estimates properly addressed?	-	DR	Refer E.2.1	-	OK
E.3. Baseline Emissions <i>The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.</i>					
E.3.1. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	-	DR	The baseline boundaries are clearly defined.	OK	OK


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.3.2. Are the GHG calculations documented in a complete and transparent manner?	-	DR	Yes. These are documented in complete and transparent manner.	OK	OK
E.3.3. Have conservative assumptions been used when calculating baseline emissions?	-	DR	Refer E.3.2,	OK	OK
E.3.4. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	-	DR	Refer E.3.2,	OK	OK
E.3.5. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	-	DR	The project baseline(s) and the project emissions been determined using the same appropriate methodology.	OK	OK
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	-	DR	The total estimated emission reduction during 10 Years of crediting period would be 282917 t CO ₂ e	OK	OK
F. Environmental and Social Impacts <i>Documentation on the analysis of the environmental and social impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.</i>					
F.1.1. Has an analysis of the environmental and social impacts of the project activity been sufficiently described?	PDD	I	Section D.1 of the PDD mentions that Indian Legislation does not require environmental impact assessment for wind park	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	-	I	As per MOEF Notification, dated 14/09/06 EIA is required for the proposed projects/industries if they are listed in a predefined list of project/industries . The proposed project is not in the list and hence EIA is not required and no objection certificate is sufficient.	OK	OK
F.1.3. Will the project create any adverse environmental or social effects?	-	I	Project is not likely to create any adverse environmental impacts.	OK	OK
F.1.4. Are Transboundary environmental and social impacts considered in the analysis?	-	I	No transboundary impacts are envisaged on account of the project activity.	OK	OK
F.1.5. Have identified environmental and social impacts been addressed in the project design?	-	I	Impact is negligible and same are addressed in D.1 of PDD during construction and O& M Phase of project.	OK	OK
F.1.6. Does the project comply with environmental legislation in the host country?	-	I	No specific environmental legislation is applicable for type of the Project Activity	OK	OK
G. Stakeholder Comments					
<i>The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.</i>					
G.1.1. Have relevant stakeholders been consulted?	-	DR	Refer E.1 of PDD. Consultation was called but when it is done is not clear Proofs were shown at the time of site visit, but PDD does not address.	CL-4	OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	-	DR	Not addressed in PDD	CL-4	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	-	I	The stakeholder consultation process is not required by regulations/laws in India hence stakeholder consultation is not necessary for the projects of type and scale of this project.	OK	OK
G.1.4. Is a summary of the stakeholder comments received provided?	-	DR	Refer E.2 of PDD, no adverse comment received	OK	OK
G.1.5. Has due account been taken of any stakeholder comments received?	-	DR	No comment and therefore no consideration	OK	OK

Table 3 Baseline and Monitoring Methodologies ACM0002 version 6 dated 19/05/2006

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Baseline Methodology					
1. 1. Applicability					
1.1.1. Does the project activity generate electricity from a renewable source?	2	DR I	The project activity involves generation of electricity from wind power.	OK	OK
1.1.2. Is the power connected to the grid?	2	DR I	Yes, the power is exported to the grid	OK	OK
1.1.3 What is the sub-type of the project activity?	2	DR I	Project activity is grid-connected electricity from renewable sources. I.e. wind in this case	OK	OK
1.1.4 Is the baseline methodology used in conjunction with the approved monitoring	2	DR I	Yes, ACM 0002. Refer B.1.1	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
methodology ACM0002					
1.1.5. Does the project activity relate to electricity capacity additions from renewable sources?	2	DR I	Yes, it relates to capacity additions from wind power.	OK	OK
1.1.6 If the capacity addition is by hydro electric power projects with reservoir having power density greater than 4 W/m ² ?	2	DR I	Not applicable since this is not a hydro project	OK	OK
1.1.7. Is fuel switch done in the process?	2	DR I	No. There is no fuel switch in the process.	OK	OK
1.1.8. Can the geographic and system boundaries for the relevant electricity grid be clearly identified?	2	DR Inter net	Yes, relevant electricity grid indicated is Northern grid.	OK	OK
1.1.9. Is the information on the characteristics of the grid available?	2	DR Inter net	Yes, the characteristics of the grid are available.	OK	OK
1.1.10. If the electricity generation is from landfill gas capture, is the methodology combined with the approved "Consolidated baseline methodology for landfill gas project activities" [ACM 0001] ?	2	DR	Not applicable	OK	OK
1. 2. Project boundary					
1.2.1. Did the project participant account for the CO2 emissions from electricity generation in fossil fuel fired power that is displaced due to project activity?	2	DR	Not applicable as the project activity does not involve geothermal power plant.	OK	OK
1.2.2. Does the spatial extent of the project boundary include the project site and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	2	DR	The spatial extent of the project boundary as defined at section B.3 of the PDD includes all power plants connected physically to the electricity system that the CDM project power plant is connected to.	OK	OK


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.2.3. Is the regional project electricity system identified by the spatial extent of the power plants that can be dispatched without significant transmission constraints?	2	DR	Yes identified.	OK	OK
1.2.4. Are the assumptions made in determining the project electricity system defined and justified?	2	DR	There are no assumptions made in defining the project electricity system,	OK	OK
1.2.5. Does the application of this methodology result in a clear grid boundary?	2	DR	Yes	OK	OK
1.2.6. Does the application of this methodology result in a given country specific variations in grid management policies?	2	DR	Yes	OK	OK
1.2.7. If answer to question is no whether DNA guidance is available for defining the boundary.	2	DR	No	OK	OK
1.2.8. If answer to question is no and if the host country has a layered dispatch system (e.g. state/provincial/regional/national), is the regional grid is used?	2	DR	Yes, Northern Region grid is considered.	OK	OK
1.2.9. If the regional grid is not used whether the national grid is used.	2	DR	Not applicable	OK	OK
1.2.10. Have the electricity transfers from connected electricity systems to the project electricity system are defined as electricity imports?	2	DR	Yes	OK	OK
1.2.11. Have the electricity transfers to connected electricity systems to the project	2	DR	Yes	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
electricity system are defined as electricity exports?					
1.2.12. For the purpose of build margin, Is the spatial extent to the project boundary limited to project electricity system?	2	DR	Yes	OK	OK
1.2.13. Are recent or likely future additions to transmission capacity likely to significantly increase imported electricity?	2	DR I	Not applicable.	OK	OK
1.2.14. If answer to question is yes whether transmission capacity is considered a build margin source with the emission factor determined as for the OM imports.	2	DR	Not applicable.	OK	OK
1.2.15. Is the emission factor determined as one of the four options for the OM imports?	2	DR	Not applicable	OK	OK
1.2.16. For determining the operating margin, is one of the four options chosen to determine the CO ₂ emission factors for net electricity imports within the same host country?	2	DR	Not applicable	OK	OK
1.2.17. If the import of electricity is from another country, is the CO ₂ emission factors for net electricity imports considered as 0 t CO ₂ per MWh.	2	DR	Not applicable	OK	OK
1.2.18. Are the electricity exports subtracted from the electricity generation data used for the calculation and monitoring the baseline emission rate?	2	DR	Refer D.4.1 of Check List.	-	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.3. Identification of alternative baseline scenarios					
1.3.1. Does the project activities modify or retrofit an existing generation facility?	2	DR	Not applicable in this case	OK	OK
1.3.2. If the answer is No then Is the baseline scenario the following: electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources?	2	DR	Yes	OK	OK
1.3.3. If the answer is Yes then in the absence of the CDM project activity, the existing facility would continue to provide electricity to the grid at historical average levels, until the time at which the generation facility would be likely be replaced or retrofitted in the absence of the CDM project activity.	2	DR	Yes	OK	OK
1.3.4. If the answer is Yes from that point of time onwards whether the baseline scenario is assumed to correspond to the project activity, and the baseline electricity production is assumed to equal project electricity production and no emission reductions are assumed to occur?	2	DR	Not Applicable	OK	OK
1.3.5. Where EG-historical is the average of historical electricity delivered by the existing facility to the Grid, whether spanning all data from the most recent available year (or month, week or other time period) to the time at which the facility was constructed, retrofit, or modified in a manner that significantly affected output (i.e., by 5% or more), expressed in MWh per year. A minimum of 5 years	2	DR	Not applicable	OK	OK


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
(120 months) (excluding abnormal years) of historical generation data is required in the case of hydro facilities.					
1.3.6. Whether a minimum of three years data is referred and used in case the project is non-hydro?	2	DR	Yes	OK	OK
1.3.7. Is it required to estimate the point in time when the existing equipment would need to be replaced in the absence of project activity?	2	DR	The project activity has expected lifetime of 20 years, which is more than fixed crediting period of 10 years. Hence it is not necessary at this stage to estimate the point in time when the existing equipment would need to be replaced.	OK	OK
1.3.8. If the answer to question is Yes Whether project participants have taken any of the two approached, indicated in the ACM0002 into account?	2	DR	Not applicable	OK	OK
1.3.9. Whether the typical average technical lifetime of the type equipment is determined and documented taking into account common practices in the sector and country e.g. based on industry surveys, statistics, and technical literature?	2	DR	Typical average lifetime is based on publicly available data for wind turbines.	OK	OK
1.3.10. Whether the common practices of the responsible practices of the responsible company regarding the replacement schedules is evaluated and documented, e.g. based on historical replacement records for such equipment?	2	DR	Not applicable	OK	OK
1.3.11. Whether the baseline emission factor is calculated as a combined margin consisting of the combination of operating margin (OM) and build margin factors according to three steps indicated in the methodology ACM0002?	2	DR	The baseline emission factor is calculated as a combined margin consisting of the combination of the operating margin and the build margin.	OK	OK


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.3.12. Whether the weighted average applied by project participant is fixed for a crediting period.	2	DR	The weighted average applied by the Project participant is fixed for the crediting period.	OK	OK
1.3.13 If the project is generation of electricity from wind or solar, whether weighted average takes in to account the default weights as wOM = 0.75 and wBM = 0.25 as required by Version 6 of ACM 0002?	2	DR	Yes. The combined margin calculated by the project participant takes in to account the weights as required by the methodology.	OK	OK
1.3.14. Whether operating margin emission factors calculations are based on one of the four methods described in the methodology ACM 0002?	2	DR	Yes. The simple operating margin method is used for calculating the operating margin emission factor. The simple OM is considered to be calculated using the ex-ante approach and fixed for the crediting period only , not others are not available in PDD	CAR-3	OK
1.3.15. Is the most likely baseline scenario 'electricity production from other sources feeding into the grid ?	2	DR	Yes.	OK	OK
1.3.16. Did the project participant provide evidence and supporting documents to exclude baseline options that do not comply with legal and regulatory requirements; or depend on key resources such as fuels, materials or technology that are not available at the project site?	2	I	Project participant has considered the options that are permitted by law and therefore this is not applicable.	OK	OK
1.3.5. If the project activity modifies or retrofits an existing electricity generation facility, is the guidance by EB08 taken into account?	2	DR I	Not applicable.	OK	OK
1.4. Additionality					
1.4.1. Was the additionality of the project activity demonstrated and assessed using the latest version of the "Tool for demonstration and assessment of additionality"?	2	DR	Project participant has used the version 04 of the Tool for demonstration and assessment of additionality. Refer B.3.1 above – Refer CAR-1	CAR-1	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1.5 Project Emissions					
1.5.1. Are the project emissions considered as zero [0]?	2	DR	The project emissions are considered as zero.	OK	OK
1.6. Baseline Emissions					
1.6.1. Are the baseline emissions determined according to the formula $BE_y = EG_y \times EF_y$?	2	DR	Yes. Equation in PDD uses the following formula for the baseline emissions. $BE_y = EG_y \times EF_y$	OK	OK
1.6.2. Were the Emissions Factor for displaced electricity calculated as in ACM0002?	2	DR	Simple OM approach is selected but justification for not choosing other 3 options as given in ACM0002 not available (Ref B.6, step-1 of PDD)	CAR-3	OK
1.7. Leakage					
1.7.1. Are the leakage considered as zero [0]?	2	DR	No leakage is considered	OK	OK
1.7.2. Have any credits been claimed for the project on account of reducing the emissions due to power plant construction, fuel handling and land inundation below the level of the baseline scenario?	2	DR I	No credits claimed on any pre-project activity.	OK	OK
1.8. Emission Reduction					
1.8.1. Did the emissions reductions were determined according to the formula $ER_y = BE_y$?	2	DR	Equation in PDD uses the following formula for calculation of emission reductions. $ER_y = BE_y - PE_y - L_y$ Since the project emissions and leakage are considered as zero, the emissions reductions will be calculated as $ER_y = BE_y$ Refer E.1.1 above However calculation for EG_y (electricity generation by project activity) is not given	CL-5	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			adequately e.g. consideration of PLF, no of hrs operation, losses etc. Presently total base line emission value is given (Ref step-4, sec B 6.2 of PDD)		
1.8.2. Were all values chosen in a conservative manner and was the choice justified?	2	DR I	All values were chosen in a conservative manner and the choice was justified.	OK	OK
1.8.3. Whether an estimate of likely project emission reductions for the proposed crediting period is prepared as part of the PDD?	2	DR	Ref 1.8.1 above	CL-5	OK
1.8.4. Whether the estimate in principle employs the same methodology ACM0002?	2	DR	Yes	OK	OK
1.8.5. Whether the emission factor is determined ex-post during monitoring?	2	DR	No. ex-ante option is chosen.	OK	OK
1.8.6. If yes whether project participants have used models or other tools to estimate the emission reductions prior to validation?	2	DR	Not applicable	OK	OK
2. Monitoring Methodology					
2.1. Applicability					
2.1.1. Does the project activity generate electricity from a renewable source?	2	DR I	Yes. Renewable source-Wind	OK	OK
2.1.2. Is the power connected to the grid?	2	DR I	Yes, the power is connected to a Northern grid.	OK	OK
2.1.3. Does the project activity relate to electricity capacity additions from renewable sources?	2	DR I	Yes, the project relates to capacity additions from wind energy source.	OK	OK
2.1.4. Is fuel switch done in the process?	2	DR	No.	OK	OK
2.1.5. Can the geographic and system boundaries for the relevant electricity grid be clearly identified ?	2	DR I	Yes, the geographic and system boundaries for the relevant electricity grid can be clearly identified.	OK	OK



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1.6. Is the information on the characteristics of the grid available?	2	DR I	The information on the characteristics of the grid is available	OK	OK
2.1.7. If the electricity generation is from landfill gas capture, is the methodology combined with the approved "Consolidated baseline methodology for landfill gas project activities" [ACM 0001] ?	2	DR	Not applicable.	OK	OK
2.2. Monitoring Methodology					
2.2.1. Does the monitoring plan require monitoring of electricity generation from the proposed project activity?	2	DR	Refer B.7.2. PDD states that electricity generation from the proposed project activity will be monitored.	OK	OK
2.2.2. Does the methodology requires monitoring of Data needed to recalculate the operating margin emission factor, if needed, based on the choice of the method to determine the operating margin (OM), consistent with ACM0002?	2	DR	Not applicable as the option of 3-year average, based on the most recent statistics available is chosen (CEA data ver 1.1, Dec 2006 at the time of PDD prepared) CEA data ver 2, 21 st June 2007 is available (at the time of PDD review) At present CEA data ver 3 dated 15/12/2007 is available	OK	OK
2.2.3. Does the monitoring plan require monitoring of Data needed to recalculate the build margin emission factor, if needed, consistent with ACM0002 ?	2	DR	Not applicable as the option of ex ante is chosen.	OK	OK
2.2.4. Does the monitoring plan require monitoring of data needed to calculate fugitive carbon dioxide and methane emissions and carbon dioxide emissions from combustion of fossil fuels required to operate the geothermal power plant ?	2	DR	Not applicable.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.3. Quality Control (QC) and Quality Assurance (QA) Procedures					
2.3.1. Did all measurements use calibrated measurement equipment that is regularly checked for it's functioning?	2	I	Not mentioned about calibration (who will do and at what frequency) in PDD	CL-2	OK
2.3.2. Are the data double-checked against commercial data?	2	DR I	Yes.	OK	OK

Table 4 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	1	DR I	No environmental Licence required.	OK	OK
1.2. Are the conditions of the environmental license being met?	1	DR I	Refer 1.1	OK	OK
1.3 Are the conditions of the Designated National Authority being met?	1	DR I	Refer 1.1	OK	OK



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Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
<p>CAR-1 Use of Step 3 alone is not justified. All the arguments end in low return. No analysis was provided to check whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of certified emission reductions (CERs)</p>	<p>Table –2 B.3.1 Table-3 1.4.1</p>	<p>The project has used 'Tool for the demonstration and assessment of additionality', Version 04, to demonstrate the additionality of the project. Tool gives the option to select either one among Step 2. Investment Analysis and Step 3. Barrier Analysis. Hence Step 3 was selected.</p> <p>Now PDD (version 3) is being redrafted by including both Step 2 and Step 3 to strengthen the additionality of the project.</p> <p>Whereas, As per Step 1. Identification of alternatives to the project activity consistent with current laws and Regulations, the alternatives were also identified and included in the PDD, version 3 itself.</p>	<p>Investment analysis has been verified by our specialist Chartered Accountant and analysis is acceptable. CAR-1 is now closed.</p>
<p>CAR-2 During site visit it was observed that two wind machines of other clients have been connected with wind mills of Vestas make. The monitoring method does take consider</p>	<p>Table-2 D.2.4</p>	<p>The monitoring plan has been revised in the section B.7.2 of PDD to include the situation where wind machines of other projects (which are not part of proposed CDM activity) would be</p>	<p>Monitoring plan in PDD is revised to incorporate point 12 which explain to take care with such situation and therefore CAR is closed.</p>



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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
this aspect.		<p>added to the same meter.</p> <p>The documentary evidence for the same is furnished.</p>	
<p>CAR-3 The simple operating margin method is used for calculating the operating margin emission factor. The simple OM is considered to be calculated using the ex-ante approach and fixed for the crediting period but justification of using this method only , not others are not available in PDD. Justification for not choosing other 3 options as given in ACM0002 not available (Ref B.6, step-1 of PDD)</p>	Table-3 1.6.2	Justification has been done now in the section B.6.3. of the PDD, version 3 for selecting Simple OM.	Appropriate justification is given in Sec B 6.3 of PDD for choosing Simple OM than other 3 options. Justification verified , found adequate and hence closed
<p>CL-1 Specification indicated in the PDD is not matching with the actual wind mills installed</p>	Table-2 A.5.3.1	The technical specifications provided by both of the WTG suppliers have been corrected and included in the Annex – 5 of PDD, Version 3	PDD is now revised to rectify the error. CL is now closed.
<p>CL-2 Frequency of calibration not clearly defined</p>	Table-2 D.5.5	The calibration of the meters would be done annually and the same is being mentioned in the Section B.7.2., Monitoring Plan of the PDD, Version 3	Calibration frequency is included in revised PDD . CL is now closed.



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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
		The same is mentioned in the PPA signed by the promoters with the state electricity utility, RVPNL.	
CL-3 Following procedures are not clear: Internal audit of GHG operations Project performance review Corrective action / Preventive action	D5.10 – D.5.13	The project performance review would be done regularly by the EPC contractor's internal experts as part of the contract between the project proponent and the contractor. In case of any problem, it would be addressed as soon as possible. Overall O&M team of EPC contractors at site takes care of these performance reviews to maintain generation of electricity from this renewable source and will carry out the GHG audits at the site. The same has been included in the Section B.7.2., Monitoring Plan of PDD, version 3	The monitoring plan is revised to in Version 3 of PDD and is found to be satisfactory and CL is now closed.
CL-4 Date of stakeholder Consultation was not available & what media is used for their invitation also not clear	G1.1 & G.1.2	The stakeholder meeting was held on 26 th January 2006. The announcement was done with help of public notice boards, which is being included in Section E.1., of PDD, version 3.	Relevant documents were verified during site visit by the validation team by reviewing minutes of meeting and notice given for meeting. The same is included in the revised PDD. CL is now closed.



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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3	Summary of project owner response	Validation team conclusion
CL-5 Calculation for EGy (electricity generation by project activity) is not given adequately e.g. consideration of PLF, no of hrs operation, losses etc. Presently total base line emission value is given (Ref step-4, sec B 6.2 of PDD)	Table-3 1.8	The required value of the electricity generated has been mentioned in the revised the PDD (version 3). The calculation for the same with assumptions has been done in a separate excel sheet and the same is attached.	Relevant documents available. PDD revision verified. CL is now closed.

1. GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 06 – July 28th, 2006
2. APPROVED CONSOLIDATED METHODOLOGY ACM0002 – Version 06 – 19 May 2006.
3. TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY – Version 4,



Appendix -B

COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

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

Bureau Veritas certification Pvt Ltd published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 23/June/2007 and invited comments within 22/July/2007 by Parties, stakeholders and non-governmental organizations. The comments were received for 22.5 MW grid connected wind farm project by RSMML in Jaisalmer, India, are compiled below:

Sr. No	Details of the commenter	Date of the comment	Comment	Response by the project participants	Explanation on how account is taken by the DOE
1	Kanwal Jit Singh 403 B Silvecr Mist Off Yari Road, Versova Andheri (W) MUMBAI 400 061 kanwals@vsnl.com	22/07/07	The baseline emission factors for the grid taken in the PDD are at variance with Baseline emissions as per the ones prepared by CEA which are the official emission data for the country. Hence the PDD is incorrect. This is significantly due to the fact that the weights for the operating margin and build margin have been taken incorrectly. Further the PDD refers to captive consumption in step 4 - without	At the time of submitting the PDD for Public web-hosting, the available baseline emission factor was Version 1.1 of the 'CO2 Baseline Database' dated 21 st December 2006, which was published by Central Electricity Authority (CEA). Govt. of India. However, the most recent version i.e. version 2 was published after the PDD was web-hosted. The PDD has now been revised to incorporate the recent version of the	PDD Version 3 verified. Response found to be satisfactory.



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			<p>providing the percentage that will be used as captive consumption - hence lacks transparency.</p>	<p>CEA baseline (i.e. Version 2, 21st June, 2007) and the emission reductions have been calculated according to this.</p> <p>Now Latest CEA data Ver 3.0 dated 15/12/07 is available and accordingly emission reductions have been calculated to this and incorporated in PDD Ver 3.0</p> <p>The proportion for captive consumption for the project has been clearly mentioned in the Section A.2., Description of the Project activity of the PDD, which was kept open in the website for public comments. Following is an extract from it:</p> <p>“Of the total, 90% of electricity generated by 6 No.s of 1250kW (7.5 MW) Suzlon make WEGs at Pohara village will be sold to Ajmer DISCOM and the balance 10% will be utilized for captive use. Whereas 40% electricity generated by the 25 No.s of 600 kW (15 MW) Vestas RRB WEGs at Baramsar/Pohra village will be sold to Ajmer DISCOM and rest 60% would be utilized for captive use.”</p>	
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APPENDIX-C – VALIDATORS’ CV

Mr.R. Seshapathy	Bureau Veritas Certification India	Team Leader, GHG Validator A B. Tech (Chemical) graduate with additional qualification of PG diploma in Environmental Economics. 13 years of experience in Energy & Manufacturing industries and 6 years in management systems auditing/training including Environmental management system.He has undergone intensive training in CDM and is involved in the validation and verification of more than 20 CDM projects.
Mr. Anil Gupta	Bureau Veritas Certification India	He is the Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. He is a Post graduate in Environmental Engineering with additional qualification of PG diploma in Industrial Pollution, prevention & Control and has more than 15 years of work experience in the field of environmental management systems. He has undergone intensive training on Clean Development Mechanism. He is so far has carried out Validation/verification for more than 5 CDM projects.
Mr. R. Reghu Kumar	Bureau Veritas Certification India	Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Post graduate in Environmental Engineering, Management and certified Project Management Professional from PMI, Pennsylvania, USA, with 20 years of work experience, which include teaching, Environmental Management & Monitoring as part of the environmental regulatory authority and Management system auditing with exposure to variety



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		industrial processes. He has undergone intensive training on Clean Development Mechanism and involved in validation / verification of CDM projects.
Mr Sushil Bhudia	Financial specialist	Financial Analysts, a Chartered Accountant and has extensive experience for conducting statutory and tax audits. He has experience in internal audits and taxation matters
Dr.Ashok Mammen	Bureau Veritas Certification India Private Limited	Internal Reviewer Ph.D (Oils & Lubricants) and M.Sc.(Analytical chemistry with over 20 years of experience in petrochemical sector. He is a Lead auditor with Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism and has been involved in the validation and verification processes of more than 30 CDM projects.
Mr. H.B Muralidhar	Bureau Veritas Certification India Private Limited	Internal Reviewer Graduate in Electrical Engineering with 25 years of experience power generation and distribution related fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects.