



VALIDATION REPORT

MSPL LIMITED

VALIDATION OF THE

Green Energy to Grid at Dhule, Maharashtra.

BUREAU VERITAS CERTIFICATION

REPORT No. INDIA-VAL/82.49/ 2007

REVISION No. 01

VALIDATION REPORT

Date of first issue: 14/09/2007	Organisational unit: Bureau Veritas Certification Holding SA
Client: MSPL Limited	Client ref.: Mr. B W Shirolkar

Summary:

Bureau Veritas Certification has made a validation of the 'Green Energy to Grid at Dhule, Maharashtra.' project of M/s. MSPL Limited (hereafter called "the project") located in Tilali and Mandal villages of Nandurbar district in Northern Maharashtra. Maharashtra State, India. on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, 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 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 number and meets the relevant UNFCCC requirements for the CDM, the relevant host country criteria.

Report No.: INDIA-VAL/82.49/2007	Subject Group: CDM
Report title: Green Energy to Grid at Dhule, Maharashtra.	
Work carried out by: S.V.Pendse – Team Leader P. Srinivas – Team Member Sushil Budhia – Financial specialist	
Work verified by: Dr. Ashok Mammen	
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Indexing terms

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Abbreviations

BMS	BVQI Management System
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CPP	Captive Power Plant
DIS	Draft of International Standard
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
GHG	Green House Gas (es)
WEG's	Wind Energy Generators
I	Interview
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardization
MSEDCL	Maharashtra State Electricity Distribution company limited* *Formerly Maharashtra State Electricity Board (MSEB)
MEDA	Maharashtra Energy Development Agency
MoV	Means of Verification
MP	Monitoring Plan
NGO	Non Government Organisation
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change



Table of Contents	Page
1 INTRODUCTION	1
1.1 Objective	1
1.2 Scope	1
1.3 GHG Project Description	1
1.4 Validation team	2
2 METHODOLOGY.....	2
2.1 Review of Documents	4
2.2 Follow-up Interviews	4
2.3 Resolution of Clarification and Corrective Action Requests	5
3 VALIDATION FINDINGS	6
3.1 Project Design	6
3.2 Baseline	8
3.3 Monitoring Plan	12
3.4 Calculation of GHG Emissions	14
3.5 Environmental Impacts	15
3.6 Comments by Local Stakeholders	15
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	16
5 VALIDATION OPINION	17
6 REFERENCES	17

Appendix A: Validation Protocol**Appendix B: Due account taken of the comments****Appendix C: CVs of Verifiers**



1 INTRODUCTION

MSPL Limited (hereafter called “the client”) has commissioned Bureau Veritas Certification to validate its “Green Energy to Grid at Dhule, Maharashtra” (hereafter called “the project”) located at Tilali and Mandal villages of Nandurbar district in Northern Maharashtra.

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 Client 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, the host country criteria & 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. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual (IETA/PCF, v. 3.3, 2004), employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.2 GHG PROJECT DESCRIPTION

The project activity comprises the installation of 17 nos of 1250 KW wind energy generators (WEG's) for green power generation at Dhule, Maharashtra. The power generation is around 42.81 Million Units every year and will be supplied to Maharashtra State Electricity Distribution Company Limited (MSEDCL).

The project activity will generate green energy by utilizing wind as the resource, which is emission free and renewable. A total of 17 WEG's are installed out of which, sixteen belong to M/s. MSPL Limited and one belongs to M/s. Betul Oils and Flour Mills Limited.

VALIDATION REPORT

MSPL Limited (MSPL) founded in the year 1962 by late Shri. Abheraj H. Baldota is a fast growing company under the dynamic leadership of Shri. Narendrakumar A. Baldota, Chairman and Managing Director. Baldota Group having established its leadership in Iron Ore Mining has diversified into Gold exploration in Karnataka. The Govt. of Karnataka has sanctioned 1233.05 Sq. Km of area as Reconnaissance Permit (RP) in Gadag Schist - Belt to Ramgad Minerals & Mining Pvt. Ltd., (RMMPL). A Reconnaissance Permit for diamonds and semi-precious stones has also been sanctioned. The company believes that community development is an integral part of its responsibilities and seeks opportunities to fulfil important social obligations in areas of education, health and sports. By making collective extension of attributes that go to merit a good citizen.

1.3 VALIDATION TEAM

The validation team consists of the following personnel:

Mr. Sameer V. Pendse	Bureau Veritas Certification – Team Leader, Climate change verifier
Mr. P. Srinivas	Bureau Veritas Certification – Team Member, Climate change verifier
Mr. Sushil Budhia	Financial specialist
Dr. Ashok Mammen	Bureau Veritas Certification, Climate change -Internal technical reviewer

Competence details of the team are attached in Appendix C of this validation Report

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF, v. 3.3, 2004). 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 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.

**Validation Protocol Table 1: Mandatory Requirements**

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 (CR) of risk or non-compliance with stated requirements. The CAR's and CR's are numbered and presented to the client in the Validation Report.	Used to refer to the relevant protocol questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent validation process.

Validation Protocol Table 2: Requirements checklist

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 organised in several sections. Each section is then further subdivided. 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.

Validation Protocol Table 3: Baseline and Monitoring Methodologies

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 organised in several sections. Each section is then further subdivided. 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.



Validation Protocol Table 4: Legal requirements				
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 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.

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 or 3 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 summarised in this section.	This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Tables 2/3, under "Final Conclusion".

Figure 1 Validation protocol tables

2.1 REVIEW OF DOCUMENTS

The Project Design Document (PDD) submitted by M/s. MSPL Limited and additional background documents related to the project design and baseline, i.e. Indian Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology ACM 0002, Version 6, 19th May 2006. Kyoto Protocol.

The validation findings presented in this report relate to the project as described in the PDD – Version 3.1, dated 3 January 2008.

2.2 FOLLOW-UP INTERVIEWS

On 29/11/2006 & 01/12/2006 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of M/s. MSPL Limited were interviewed (see References). The main topics of the interviews are summarised in Table 1.

**Table 1 Interview topics**

Interviewed organisation	Interview topics
M/s. MSPL Limited	<ul style="list-style-type: none"> Mr. B W Shirolkar - General Manager (Operations) - CDM Consideration, additionality, overall Project View, Technological barriers, Investment details, barriers. CA.Rana Lal Mukherjee– Chief Financial Officer - Mr. Prakash Shinde - Assistant Engineer – Operations at site, monitoring practices, communication and coordination with Supplier as well as Electricity authorities., Data monitoring, reporting to Head Office etc.
Ernst & Young Private Limited.	<ul style="list-style-type: none"> Mr. N. SathishKumar – Sr. Consultant - Additionality, overall Project View, Application of Methodology, CDM Manual Mr. Sundeep Pushpangadhan – Associate Consultant - Additionality, overall Project View, Application of Methodology, CDM Manual Mr. Aditya Bharadwaj - Associate Consultant - Additionality, overall Project View, Application of Methodology, CDM Manual
M/s. Suzlon	<ul style="list-style-type: none"> Mr. Ritesh Batsa - Customer Care - Data monitoring, reporting to customers. Mr. Dilip Bhavsar - Jr. Engineer – Operations – Operations and maintenance of wind farm. Mr. Laxmikant Khese - Manager QC – Data reporting, coordination for checking and inspection of meters
Local Stakeholders	<ul style="list-style-type: none"> Mr. Chotu Jadhav - Village Shanimandal Mr. Gangadhar Rama Ahire - Village Shanimandal Mr. Subhash Deoram Desai - Village Shanimandal Mr. Kailash Parshuram Patil - Village Shanimandal Mr. Ravindra Motiram Patil - Village Shanimandal Mr. Dhanraj Sonawane - Village Sakri <p>All the stakeholders were interviewed for their views on project, advantages, benefits to village, contribution of project towards sustainable development etc.</p>

2.3 RESOLUTION OF CLARIFICATION AND CORRECTIVE ACTION REQUESTS

The objective of this phase of the validation was 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.

VALIDATION REPORT

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 summarised. 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 documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 4 (Four) Corrective Action Requests and 1 (One) Clarification Requests.
- 3) The conclusions for validation subject are presented.

3.1 Project Design

The project activity aims at bringing in greenhouse gas emission reductions through export of clean energy to the grid. Green energy from the project is generated by utilising wind as the resource, which is emission free and renewable. The project activity employs seventeen numbers of 1250kW wind energy generators (WEG's) for achieving the purpose of green power generation. The project generates green electricity to a tune of 42.81 Million Units every year and exports it to the Maharashtra State Electricity Distribution Company Limited (MSEDCL).

Out of the seventeen WEG's comprising project activity, sixteen belong to M/s. MSPL Limited and one to M/s. Betul Oils & Flour mills Ltd. As per the agreement between MSPL & Betul Oils & Flour mills Ltd, MSPL would be the sole transaction entity with the Executive Board of the United Nations Framework Convention on Climate Change.

Bureau Veritas Certification recognises that M/s. MSPL Limited's Project namely 'Green Energy To Grid at Dhule, Maharashtra' is helping India fulfill its goals of promoting sustainable development. Specifically, the project is in line with host-country specific CDM requirements because –

- Reduction in greenhouse gases, mainly carbon dioxide.
- Reduction in energy demand (marginally) in the state grid.
- Capacity building and employment generation in rural areas.
- Reducing pollution load on the atmosphere (SOx, NOx).
- Conserving fossil fuel and making them available for other useful purposes.
- Helps increasing the penetration of renewable power composition in the grid.
- Promoting renewable based grid connected electricity generation in developing countries like India.

VALIDATION REPORT

The project design is sound and the geographical (Tilali and Mandal villages of Nandurbar district in Northern Maharashtra.) and temporal (20 years) boundaries of the project are clearly defined.

Prominent Corrective action Requests and Clarifications related to Project Design & their resolution by validation team are summarised below

CAR-1– Section A.3.2 Table 2

Approval from Ministry of Environment & Forests is not available.

Response from Project participant

Host Country Approval dated 3rd April 2007 (File No 4/23/2006-CCC) from the Designated National Authority, Ministry of Environment & Forests (MoEF), Government of India (GoI) is attached along with.

Conclusion by Validation Team

Verified Host country approval dated 3rd April 2007. Corrective action CAR-1 is therefore closed.

CAR-2– Section A.5.1.4 Table 2

Refer Section A.4.1.4. Location of the project activity is mentioned to be 'Dhule District ' However commissioning certificates from MSEDCL indicate the same to be ' Nandurbar district' Similarly, title of the project activity is mentioned to be ' GREEN ENERGY TO GRID at Dhule, Maharashtra'

Nodal agency in Maharashtra - Maharashtra Energy Development Agency (MEDA - Agency responsible for giving permissions for WEG installations in Maharashtra) in its website also indicate ' Nandurbar ' district only.

Response from Project participant

The project activity is located at Tilali and Mandal villages of Nandurbar district in Maharashtra. The power purchase agreement with Maharashtra State Electricity Distribution Company limited dated 02nd January 2006 (refer Exhibit H) indicates the district as Dhule. That is the reason why we had applied for Host Country Approval as "Green Energy to Grid at Dhule, Maharashtra" and further more the wind generation sites which covers Dhule and Nandurbar districts is popularly know as Dhule.

Conclusion by Validation Team

Response is found to be satisfactory. The area of WEG installations is known as Dhule and not Nandurbar, even though district for WEG installations is in Nandurbar district. Validation team has also confirmed that Investors (both MSPL and Betul Oil Mills) have only these installations aggregating 21.25 MW in the area. Hence installations in Nandurbar district with Project title with Dhule is the same project activity and can be accepted.

CAR-2 therefore is closed.

3.2 BASELINE AND ADDITIONALITY

The Project uses the approved baseline methodology ACM 0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (version 6, dated 19 May 2006).

PDD has demonstrated the compliance to applicability conditions.

The project activity qualifies as “grid-connected electricity generation from renewable sources” as defined in methodology ACM0002:

“This methodology is applicable to grid-connected renewable power generation project from wind source”

Following conditions for application of the baseline methodology are met by the proposed project activity:

- ✓ The project activity is a renewable power generation project using wind electric generators (WEG's) and supplies green electricity to the grid.
- ✓ Geographical and system boundaries for the relevant electricity grid are clearly identified and documented information on characteristics of the grid is utilized in arriving at the baseline emission factor calculations.

The alternatives considered for determination of the baseline scenario in the context of the project activity includes that there would be no energy generated from the project activity and supplied to the grid.

Validators have verified the alternatives for their realistic and credible nature.

Validators hereby also confirm that alternatives assessed by Project Participant that –

All alternatives identified in step 1a of the Additionality Tool are in compliance with all applicable legal and regulatory requirements. There is no legal binding on MSPL, to implement the project activity, which reinstates that the project is additional.

The most economically attractive alternative among the alternatives mentioned above has been selected as the baseline scenario, since such alternative is not expected to face any prohibitive barriers that could have prevented it from being taken up as the project activity.

The project scenario is considered additional in comparison to the baseline scenario and therefore eligible to receive CERs under the CDM based on an analysis, presented in the PDD, of investment and other barriers.

Starting date & Evidence of CDM Consideration -

Starting date of the project is considered to be 24/10/2005, the date on which Purchase order for 1 (One) turbine was placed by M/s. Betul Oils & Flours Limited.

It is Clearly evident that CDM was very well under consideration since the very beginning of the project activity. Evidence for the same is the Board resolution of MSPL taken on 24th January 2005.



Evidence of Board resolution of Betul Oils & Flour Mills dated 10/08/2005 is also available, which mentions about realising carbon revenues from upcoming project and also getting associated with M/s. MSPL Limited.

A) Investment barriers:

The validation team has gone through the financial analysis of the project independently and based on the actual data analysis of the project participant it is evident that the CDM revenue is essential for the project to be economically viable.

- a. In the IRR computation, the analysis has considered both the cases – for MSPL, the IRRs without CDM revenue is 14.5% and with CDM revenue, the same is projected at 18.69% and for Betul Oils and Flours Limited, the IRRs without CDM revenue is 8.29% and with CDM revenue, the same is projected at 11.27%.
- b. Sensitivity analysis has been worked out for parameters like increase/decrease in Power tariff, Increase/decrease in O & M Cost., Increase/decrease in power generation. The results are presented in section B.5 of PDD as well as spread sheet of IRR calculations.

Claims of IRR working as well as sensitivity analysis is based on actual data as well as certain assumptions. The data and verifiable evidence / justification available for the same is presented below:

1. Project life has been considered to be 20 years, which is based on available literature on Wind Turbines.
2. Capital cost including cost of WEG, Land, Civil work as well as charges for Installation and commissioning – Purchase orders dated 24/10/2005 for Betul Oil Mills and P.O dated 26 December 2005 for MSPL for all the WTG's.
3. Residual value has been considered to be 5 % of capital cost, which is as per industry norms.
4. Project has loan component in financing – Ratio being 24.1% equity and 75.9% loan. This pattern for funding is only for MSPL and not for Betul Oils and Flours Limited, for which the funding is 25.20% equity and 74.8% term loan.
5. O&M Expenses and annual escalation – This is as per O&M Contract between Suzlon and both parties involved. As per this contract, O&M for MSPL (for 16 machines) is free for the first five years and then there is annual escalation of 5% up to next 15 year. O & M for Betul (for 1 machine) is free for the first three years and then there is annual escalation of 5% up to next 15 year.
6. Rate of purchase of power is Rs. 3.50 / KWh and an escalation of Rs. 0.15/KWh every year till 13th year. Then the rate of purchase of power will be mutually decided. For the calculation purpose, the rate of purchase has been considered as Rs. 3.50/Kwh from 14th year to 20th year. This is based on MSEDCL PPA for each of the turbines. This is constant throughout the project life.
7. Generation is considered to be 80% of guaranteed by the supplier – There is evidences for the same as below -
Study of power generation in entire Maharashtra compared with guaranteed generation given by supplier M/s. Suzlon. Suzlon has evidently (Purchase order of wind turbines) given a net generation guarantee of 31.74 Lacs of units (PLF of 29%). MSPL has invested in turbines in Satara District of Maharashtra in

VALIDATION REPORT

December 2001. Data for all the years since 2001 show billable generation in the range of 75 – 80 % of guaranteed generation.

8. Reactive power is considered to 5% of generation & INR 0.25 / unit – This is based on PPA for each of the turbines. This is constant throughout the project life.

Validation team also evaluated approach of IRR of the company for this project visa-vis their WACC. Going through last three annual reports of the company, it was revealed that return on capital employed (ROCE) is much higher (Ranging from 20% to as high as 48%) than the returns of investment in wind power and expected rate of returns as per benchmark set by regulatory commission of country. Hence validation team is of the opinion that the comparison of returns from core business and from wind power investment is not truly comparable.

Validation team has also evaluated an aspect that how IRR of the project activity is lesser than that as worked out by MERC to yield 16% ROE. It has been validated that, for the subject project activity the capital expenditure per WEG is about INR 6.3 Crores against INR 4 Crores per WEG considered by MERC. The debt-equity ratio is 75.9:24.1 for MSPL and 74.8:25.2 for Betul Oils & Flour Mills against the fixed ratio of 70:30 considered by MERC. The loan repayment period is 5 years for MSPL and 7 years for Betul Oils & Flour Mills.

Similarly sensitivity analysis based on certain assumptions was carried out with optimistic projections to assess the feasibility of project activity. The assumptions and results obtained have been presented in Appendix 3 of PDD. This section also explains why the IRR of the project activity is lesser than the expected IRR as per tariff determination by MERC.

Financial analyst and validation team members have validated the assumptions for normal IRR working as well as working for various parameters under sensitivity analysis. These assumptions, justification or evidence for the same was found to be appropriate.

B) Other Barriers: Common practices:

As presented in PDD, as per the publicly available information (in various Websites), there is a dip in the installed capacity of wind energy generation projects since 2002 to 2004. This fluctuation resulted in creating unfavourable conditions for investment. The project promoter initiated discussions and took decision on investment in wind energy power generation project in this scenario (year 2005).

Validators have assessed the claims of the Project participant on additionality. Overall in our opinion the project has investment barriers in implementation and it becomes viable only with CER revenue.

Similarly as per information available through public source, the project activity is not a common practice in the region specifically w.r.t site i.e. WEG installations in Dhule



Prominent Corrective action Requests and Clarifications related to Baseline & their resolution by validation team are summarised below

CAR-3 : Section B.3.1 Table 2

As required in ACM 0002, additionality has been assessed using the latest version of the *“Tool for the demonstration and assessment of additionality”*. However following claims are not clearly justified

- Minutes of board meeting mentioning CDM consideration.
- Alternative b – New or existing on-site captive power generation, using other energy sources other than WEG's is not realistic alternative since WEG's are not used for captive.
- Detail IRR analysis is not provided.
- Identification of alternative scenarios should be explained in section B.5 and not in B.4.
- Evidence of project being a largest promoter of wind energy in Maharashtra.
- When one large-scale project registered with installations in Karnataka, why site in Maharashtra has been selected?
- What were the considerations for investment in wind project in case of Betul Oil Mills?

PDD states that 'Many of such projects with an estimated installed capacity of 20 MW have gone along the CDM cycle in the state of Maharashtra. This substantiates the existence of other similar options'. Evidence for the same?

Response from Project participant

The minutes of board meeting mentioning CDM consideration has been attached.

Alternative (b) for determining the baseline scenario has been removed as the WEG's are exporting 100% of generated power to the grid and is hence not applicable.

The IRR analysis of the project activity has been included in the PDD and attached herewith.

The alternative scenarios have been identified in section B.4, and the barriers faced by the alternatives has been taken up in section B.5

Please overlook the typographical error as the project proponent wished to portray the project activity as "one amongst the large scale wind projects currently underway in Maharashtra.

The wind power generation at sites in Maharashtra (Dhule) were estimated to be higher, in comparison to sites in Karnataka, which would strengthen the sustainability of the project activity. Hence this was considered to be a more viable option to invest. The considerations for investment in the wind project by Betul Oil Mills have been highlighted in the IRR analysis.

Till date, there have been 6 other large-scale wind power projects in Maharashtra that have gone along the CDM path.

Three project activities have been registered with the UNFCCC as CDM projects namely:

- (i) 15.4 MW wind farm at Satara district, Maharashtra.
- (ii) Bundled wind power projects in Satara & Supa (Maharashtra, India) managed by Tata Motors Ltd. (20.85 MW).



- (iii) 21 MW bundled wind power project in Vankuswade, Maharashtra.

Two project activities have been rejected by the UNFCCC as CDM projects namely:

- (i) Grid connected electricity generation from renewable sources at Satara by M/s Bajaj Auto Ltd. (BAL) using wind power (45.2 MW).
- (ii) Grid connected electricity generation from renewable sources at Supa, Taluka Parner, Dist. Ahmednagar by M/s Bajaj Auto Ltd. (BAL) using wind power (20 MW).

One project activity is currently requesting registration with the UNFCCC as a CDM project namely:

- (i) 75 MW wind power project in Maharashtra by Essel Mining Industries Limited.

All of the above data is available on the UNFCCC website.

Conclusion by Validation Team

1. The explanation is found to be sufficient. Evidently CDM was under consideration prior to actual implementation of the project.
2. The corrections have been accepted.
3. IRR calculations have been submitted and checked by the validation team independently.
4. The corrections have been verified and accepted.
5. The correction has been done in page no 16 of the PDD and hence accepted.
6. The explanation is found to be sufficient.
7. The IRR of Betul has been verified by the validation team independently and accepted.
8. The explanation and the details provided are found to sufficient and hence accepted.

Corrective Action Request CAR-3 therefore is closed.

3.3 MONITORING PLAN

The Project uses the approved consolidated monitoring methodology ACM 0002, Version 6, dated 19/05/2006.

The adopted monitoring methodologies have been appropriately applied to the project under the context.

Following conditions for application of the baseline methodology are met by the proposed project activity:

- ✓ Project is Generation of electricity from renewable energy i.e. wind Electricity generated is connected to Grid – Western grid in this case.

The main objective of having a monitoring system is to have a constant check on the emission reductions. The energy generated is monitored through energy meters and check meters. The meters are installed at the metering point and will have four

VALIDATION REPORT

quadrants, three phase, four wire, provision for online reading and time slots as required. The readings are noted from operators main energy meter as well as MSEDCL's energy meter, in logbooks daily by O & M contractor's personnel and verified by the designated person. A quarterly generation report is prepared showing aggregate generation. The project activity is supplying electricity to Western grid. Metering equipment is electronic trivector meters with 0.5 % accuracy class. The metering equipments are being maintained in accordance with electricity standards. The parties take the monthly meter readings at the project sites jointly.

The validation team could access a CDM manual, which addresses procedures for data collection, reporting and archiving. Annex 4 of PDD also addresses the same

In the absence of the Project activity,

1. The proposed activity not undertaken as a CDM project activity.
2. Continuation of current situation.

The details of parameters, their frequency and relevant QA/QC procedures have been explained section B.7.1 of PDD. Description of monitoring plan for monitoring of electricity on regular basis has been explained in Section B.7.2 and Annex. 4 of PDD.

Prominent Corrective action Requests and Clarifications related to Monitoring plan & their resolution by validation team are summarised below

CAR-4 – Section D.5.1 Table 2

Refer section B.7.2, which mentions CDM manual, which is not evident.

Response from Project participant

The CDM manual is attached herewith.

Conclusion by Validation Team

The CDM manual is verified. Hence, Clarification request CAR-4 therefore is closed.

CL-1 – Section D.1.3 Table 2

Site visit revealed that all MSPL machines are connected to one feeder (No. 16) and Machine of Betul Oil Mills is on another feeder (No. 15). Reportedly around 18-20 different machines are connected to one feeder and generation from individual machine is calculated based on total generation figure as available on substation minus avg. loss in % to all the machines. Regulatory body (MSEDCL) has not provided any individual metering system. Every turbine has display card provided by supplier. In such cases, aspects like data monitoring from individual machines, calibration / verification of display systems, alternative methods of monitoring and measurements etc. are not explained in PDD.

Response from Project participant

This is the norm followed in the region.

As per Article 11 of the PPA for the project activity:

The metering equipment shall be duly approved, tested and sealed by the MSEDCL. The MSEDCL shall adopt no other method of assessment of delivery of wind energy except for the main meter and the corresponding check meter.

VALIDATION REPORT

The metering equipment consisting of main and check meters shall be identical in make, technical standards and of 0.5% accuracy class and calibration and comply with the requirements of Electricity Rules. The meters installed at the metering point shall have four quadrant, three phase, four wire, provision for online reading and time slots as required.

The main and check meters shall be tested for accuracy with a portable standard meter by the MSEDCL's testing division, at the cost of the seller. The MSEDCL shall carry out the calibration, periodical testing, sealing and maintenance of meters in the presence of the authorised representative(s) of the seller and the representative(s) of the seller shall sign on the result thereof.

The frequency of meter testing shall be annually.

All the meters will be tested only at the metering point. The MSEDCL will provide a copy of the test reports to the seller.

If during testing, both the main and check meter are found to be within the permissible limit of error i.e. 0.5%, the energy computation will be as per the main meter. If during test, any of the main meters is found to be within the permissible limits of error but the corresponding check meter is beyond the permissible limit, the energy computation will be as per the main meter. The check meter shall be calibrated immediately.

If during the tests, the main meter is found to be beyond permissible limits of error, but the corresponding check meter is found to be within the permissible limits of error, then the energy computation for the month to-date and time of such test check shall be in accordance with check meter. The main meter shall be calibrated immediately and the energy for the period thereafter shall be as per the calibrated main meter.

If during any of the monthly meter readings, the variation between the main meter and the check meter is more than 0.5%, all the meters shall be retested and calibrated immediately by MSEDCL, at the seller's cost.

The correction required as per result of the testing will be applied to the generation and consumption of energy for the period from last meter reading to the time of such test checks. Energy for the periods thereafter shall be in accordance with the calibrated main meter.

The meter readings at the metering point shall be undertaken jointly by the representatives of the state grid/MSEDCL, and the authorised representatives of the seller on the 1st day of every month for the preceding month. The meter readings shall be jointly certified by both representatives of the state grid/MSEDCL and the seller.

Conclusion by Validation Team

Response is found to be sufficient w.r.t taking meter readings, calibration and what will be done in case of any errors in the main meter and check meters. The detailed procedures are explained in the CDM manual. Hence, the clarification request CL-1 therefore is closed.

3.4 CALCULATION OF GHG EMISSIONS

As per ACM 0002, version 6, dated 19/05/2006, the baseline emission sources considered are as follows

In the absence of the Project activity,

VALIDATION REPORT

1. The proposed activity not undertaken as a CDM project activity.
2. Continuation of current situation.

The relevant grid considered for the calculation of baseline emissions is the Western region grid and not the state or the National grid.

As required under ACM 0002, Version 6, dated 19/05/2006, the baseline emissions are calculated as per combined margin approach, both in terms of relevant grid definitions and the emission factors. The combined margin calculation is based on straight average of operating and build margin. National data is now compiled and authenticated by Central Electricity Authority (CEA). Project has correctly applied the same by using Western Grid emission factor of 0.89 kgCO₂/kWh.

As described in ACM 0002, the project emissions result due to combustion of auxiliary fuel (furnace oil) in the project activity. Since no fossil fuel is used in the project activity, the project is not expected to lead to emissions. With reference to ACM0002 therefore, project does not lead to any leakage.

Project has correctly applied the equations for calculations of emission reductions due to displacement of Electricity.

Conservativeness:

The approach in the determining the baseline as well as estimated emission reductions have been found to be conservative. Monitoring plans also include the external data like grid emission factor for Western grid. The values used for calculations are found to be latest as per the sources indicated.

The estimated annual average of approximately 38,098 tCO₂e over the ten-year crediting period of emission reduction represents a reasonable estimation using the assumptions given by the project and based on the CEA data considering an emission factor of 0.89 (as per CEA data for wind farms using 75% of Build margin and 25 % of operating margin) for Western grid.

The Central Electricity Authority of the Government of India has published the CO₂ Baseline Database for the Indian power sector, which includes data for all regional grids in India. Version 2.0 of the CO₂ Baseline Database was initially adopted for baseline determination in accordance with ACM0002. The resulting emission factor from applying the data provided in version 2.0 of the CEA database was 0.90 tCO₂/MWh. However during the course of validation, version 3.0 of the database was published with data added for the year 2006-2007. The emission factor resulting from data in the updated database is 0.89 tCO₂/MWh. Thus, a more conservative baseline for the project activity is established using data from version 3.0. Therefore, the ex-ante values for the operating margin, build margin, and corresponding emission factor were updated as per version 3.0 of the CO₂ Baseline Database.

3.5 SUSTAINABLE DEVELOPMENT IMPACTS

As per the Environment Impact Assessment Notification S.O.60(E), dated 27.01.1994, it is not a requirement that a detailed environmental impact analysis be done, since the

VALIDATION REPORT

type of the project does not require the same. This has been indicated in sections D.1 and D.2 of PDD.

Further project also contributes towards sustainable developments as –

- Reduction in greenhouse gases, mainly carbon dioxide.
- Reduction in energy demand (marginally) in the state grid.
- Capacity building and employment generation in rural areas.
- Reducing pollution load on the atmosphere (SO_x, NO_x).
- Conserving fossil fuel and making them available for other useful purposes.
- Helps increasing the penetration of renewable power composition in the grid.
- Promoting renewable based grid connected electricity generation in developing countries like India.

In view of above positive impacts and contribution towards the country's goal of sustainable development and improvement in quality of life of local population, the development and implementation of systems for 'MSPL Limited', Green Energy to Grid at Dhule, Maharashtra were recommended by the MSPL Limited management. The clearance of this CDM initiative by MSPL Limited would facilitate the process of sustainable energy production.

3.6 COMMENTS BY LOCAL STAKEHOLDERS

Local stakeholder consultation meeting to discuss stakeholder concerns on the proposed Clean Development Mechanism (CDM) project – MSPL Limited, Green Energy to Grid at Dhule, Maharashtra was held in Tilali and Mandal villages of Nandurbar district in Northern Maharashtra., Maharashtra on August 2nd, 2006. The list of participants, notice inviting participation to interested stakeholders; record of the stakeholder meeting proceedings is maintained by the project participants.

The stakeholders viewed the MSPL 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. The local stakeholders interviewed during the site visit of the validation activity endorsed these views.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

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

Bureau Veritas Certification published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on and invited comments within 29/11/2006 to 28/12/2006 by Parties, stakeholders and non-governmental organisations.

VALIDATION REPORT

2 Comments were received from 01 person.

The project participant has provided response to these comments. Due account of these comments and respective responses were 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.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the MSPL Limited's Green Energy to Grid at Dhule, Maharashtra Project in India. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/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 generating electricity from wind, 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 and the follow-up interviews has 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.

Review of the project design documentation (Latest version - Version 3.1, 03/01/2008 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, relevant host country criteria.

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

6 REFERENCES

Category 1 Documents:

 VALIDATION REPORT

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

- /1/ Host country Approval - India dated 03 April 2007
- /2/ PDD – Initial Version – Version 1 dated 27/11/2006 & Final Version – Version 3.1 dated 03/01/2008
- /3/ Extract of Board resolution Letter dated 24/01/2005 issued by Executive Director of MSPL Limited.
- /4/ Extract of Board resolution Letter dated 10/08/2005 issued by Managing Director of Betul Oils and Flour Mills Limited
- /5/ Purchase order MKA/MSPL/1468 dated 26/12/2005 by MSPL limited raised on Suzlon Energy Limited for supply of 16 nos. of S-70 1250 KW Wind Turbine generators at Dhule
- /6/ Purchase order dated 24/12/2005 by Betul Oils and Flours limited raised on Suzlon Energy Limited for supply of 1 no. of S-70 1250 KW Wind Turbine generators at Dhule
- /7/ Loan documents pertaining to the project.
- /8/ Wind Energy Purchase agreement between MSPL Limited and MSEDCL dated 29/04/2006
- /9/ Wind Energy Purchase agreement between Betul Oils and Flours Limited and MSEDCL
- /10/ Annual reports of MSPL Limited 2003-04,2004-05,2005-06
- /11/ Foreign currency facility agreement dated 15 May 2006 between MSPL Limited and State Bank of India for financing of the project.
- /12/ CDM Manual

Stakeholders' Consultation Process

- /13/ Call for Initial stakeholder Consultation dated 27 July 2006
- /14/ Photographs as actual evidence of actual consultation on 02nd August, 2006

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 - Version 06, dated 28/07/2006
- /3/ Approved Methodology –ACM 0002 - Version 6 –19/05/2006
- /4/ Tool for 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. B W Shirolkar- General Manager – Operations – MSPL Limited.
- /2/ CA. Rana Lal Mukherjee – Chief Financial Officer – MSPL limited
- /3/ Mr. Prakash Shinde – Assistant Engineer – MSPL Limited
- /4/ Ritesh Batsa - Customer Care – Suzlon
- /5/ Mr. Dilip Bhavsar - - Jr. Engineer – Operations - Suzlon
- /6/ Mr. Laxmikant Khese - Manager QC – Suzlon
- /7/ Mr. Chotu Jadhav - Village Shanimandal
- /8/ Mr. Gangadhar Rama Ahire - Village Shanimandal
- /9/ Mr. Subhash Deoram Desai - Village Shanimandal
- /10/ Mr. Kailash Parshuram Patil - Village Shanimandal
- /11/ Mr. Ravindra Motiram Patil - Village Shanimandal
- /12/ Mr. Dhanraj Sonawane - Village Sakri

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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 Host country approval dated 3 April 2007 has been received.
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	Ministry of Environment and Forest (MOEF), DNA, India has given written approval dated 3 April 2007.
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 are also part of the validation report.
6. Reduction in GHG emissions shall be additional to any that would	Kyoto Protocol	OK	Table 2, Section B.2



VALIDATION REPORT

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
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	Art. 12.5c, Marrakesh Accords, CDM Modalities §43 and 44		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.
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	Marrakech	OK	Table 2, Section B.1.1 and



VALIDATION REPORT

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
approved by the CDM Methodology Panel	Accords, CDM Modalities §37e		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 29/11/2006 to 28/12/2006. comments were received during the commenting period.
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 6, dated July 28, 2006



VALIDATION REPORT

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	GREEN ENERGY TO GRID at Dhule, Maharashtra Version 3.1, 03/01/2008	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 to supply to common local substation. Refer A.2 of PDD. It is mentioned as 'The project activity employs seventeen numbers of 1250kW wind energy generators (WEG's) for achieving the purpose of green power generation. The project generates green electricity to a tune of 42.81 Million Units every year and exports it to the Maharashtra State Electricity Distribution Company Limited (MSEDCL)'	OK	OK



VALIDATION REPORT

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, the project activity contributes to sustainable development through:</p> <ul style="list-style-type: none"> • Reduction in greenhouse gases, mainly CO₂. • Reduction in energy demand (marginally) in the state grid. • Capacity building and employment generation in rural areas. • Reducing pollution load on the atmosphere (SO_x, NO_x). • Conserving fossil fuel and making them available for other useful purposes. • Helps increasing the penetration of renewable power composition in the grid. • Promoting renewable based grid connected electricity generation in developing countries like India. 	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 I	Indian legislation allows windmill operations. The Indian and Maharashtra state government promotes wind power generation.	OK	OK
A.3.2. Is the project in line with host-country specific CDM requirements?	-	DR I	Approval from Ministry of Environment & Forests is not available.	CAR-1	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	-	DR I	Refer to A.3.2	-	OK
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	-	DR I	The project is reported to lead to sustainable development. Refer A.2.2.	OK	OK



VALIDATION REPORT

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 A.4.1	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	Maharashtra	OK	OK
A.5.1.3. City/Town/Community etc.	1	DR	Nandurbar	OK	OK
A.5.1.4. Detailed description of the physical location, including information allowing the unique identification of this project activity.	1	DR	Refer Section A.4.1.4. Location of the project activity is mentioned to be 'Dhule District ' However commissioning certificates from MSEDCL indicate the same to be ' Nandurbar district' . Similarly, title of the project activity is mentioned to be ' GREEN ENERGY TO GRID at Dhule, Maharashtra ' Nodal agency in Maharashtra - Maharashtra Energy Development Agency (MEDA - Agency responsible for giving permissions for WEG installations in Maharashtra) in its website also indicate ' Nandurbar ' district only.	CAR-2	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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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
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>					
A.5.3.1. Does the project design engineering reflect current good practices?	-	DR I	Yes Refer A.4.3 Project design engineering reflects current good practices. As per PDD, the project activity employs world class Wind Energy Generators for producing green energy, which is one of the unique features of this project activity.	OK	OK
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	Refer A.5.3.1		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 not likely that the project technology will be replaced within this project time.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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	There is a operation and maintenance contract signed between Project participant and EPC contractor M/s. Suzlon Wind farm services Pvt. Ltd. According to this wind turbines are to be operated and maintained by EPC contractor for a period of 10 years from date of commissioning. M/s. Suzlon Wind farm services Pvt. Ltd is a ISO 9001:2000 certified organisation which has a structured training plan. Similarly staff employed by MSPL has been trained to understand requirements related to Wind turbines, generation aspects etc.	OK	OK
A.5.3.5. Does the project make provisions for meeting training and maintenance needs?	-	DR I	Refer A.5.3.4.	-	
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 CO ₂ equivalent provided?	1	DR	The estimated emission reductions over the 10 year fixed crediting period would be 380,980 t CO ₂ e.	OK	OK
A.5.4.3. Is this information indicated using the tabular format?	1	DR	Yes. Refer A.4.4 of PDD.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 from Parties included in Annex I. 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.	-	
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 I	Yes. Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM 0002, Version 06, May 19, 2006.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.1.2. Is the baseline methodology previously approved by the CDM Methodology Panel?	1	DR	Yes. Refer B.1.1		
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	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					



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.3.1. Is the proposed project activity additional?	1	DR	<p>As required in ACM 0002, additionality has been assessed using the latest version of the <i>"Tool for the demonstration and assessment of additionality"</i>. However following claims are not clearly justified</p> <ul style="list-style-type: none"> • Minutes of board meeting mentioning CDM consideration • Alternative b – New or existing on-site captive power generation, using other energy sources other than WEG's is not realistic alternative since WEGs are not used for captive • Detail IRR analysis is not provided IRR analysis • Identification of alternative scenarios should be explained in section B.5 and not in B.4 • Evidence of project being a largest promoter of wind energy in Maharashtra • When one large-scale project registered with installations in Karnataka, why site in Maharashtra has been selected? • What were the considerations for investment in wind project in case of Betul Oil Mills? • PDD states that 'Many of such projects with an estimated installed capacity of 20 MW have gone along the CDM cycle in the state of Maharashtra. This substantiates the existence of other similar options.' Evidence for the same? 	CAR-3	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 17 nos 1250 KW WEG's, pooling and the substations.	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 the sub-stations.	OK	OK
B.5. Details of the baseline and its development					
B.5.1. Is the date of completion provided?	1	DR	Yes. Refer B.8. Baseline completion date is ?	OK	OK
B.5.2. Is contact information provided?	1	DR	Yes. MSPL Limited.	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 to be 24/10/2005 The project activity is expected to be operational for a period of 20 years from the date of commencement of operations.	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	Fixed crediting period – 10 years & 0 Months.	OK	OK



VALIDATION REPORT

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 the methodology is 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 D.1.1	-	



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	-	DR	Site visit revealed that all MSPL machines are connected to one feeder (No. 16) and Machine of Betul Oil Mills is on another feeder (No. 15). Reportedly around 18-20 different machines are connected to one feeder and generation from individual machine is calculated based on total generation figure as available on substation minus avg. transmission loss in % to all the machines. Regulatory body (MSEDCL) has not provided any individual metering system. Every turbine has display card provided by supplier. In such cases, aspects like data monitoring from individual machines, calibration / verification of display systems, alternative methods of monitoring and measurements etc. are not explained in PDD.	CL-1	OK
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	-	DR	See D.1.2		
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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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	Not applicable	OK	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
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. Not applicable	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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.4. Monitoring of Baseline Emissions <i>It is established whether the monitoring plan provides for reliable and complete project 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 delivered 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
D.4.2 Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	-	DR	Yes. Western grid has been considered for baseline emissions.	OK	OK
D.4.3 Will it be possible to monitor the specified baseline indicators?	-	DR	Refer D.4.2 Above	-	
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, which mentions CDM manual, which is not evident.	CAR-4	OK
D.5.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	Refer D.5.1.	-	OK
D.5.3. Are procedures identified for training of monitoring personnel?	-	I	Refer D.5.1.		OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	-	I	Refer D.5.1.		OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	-	I	Refer D.5.1.		OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	-	I	Refer D.5.1.		OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	-	I	Refer D.5.1.		OK
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	Refer D.5.1.		OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	-	I	Refer D.5.1. & D.1.3 above.		OK
D.5.10. Are procedures identified for review of reported results/data?	-	I	Refer D.5.1.		OK
D.5.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	-	I	Refer D.5.1.		OK
D.5.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	-	I	Refer D.5.1		OK
D.5.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	-	I	Refer D.5.1.		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	See E.1.2 or -E.1.1	-	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	-	DR	See E.1.2	-	OK
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	-	DR	See E.1.2	-	OK
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	-	DR	See E.1.2	-	OK
E.1.6. Are uncertainties of external data sources for emissions reduction estimated?	-	DR	See E.1.2	-	OK



VALIDATION REPORT

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



VALIDATION REPORT

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 380,980 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 Government does not require detail environmental impact analysis.	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 Indian legislation, when the project is below Rs. 1000 Million and is not in the red category industry, 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	These are addressed in A.2 of PDD.	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 on 02.08.2006.	OK	OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	-	DR	Refer E.1	OK	OK
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 for the type of the project activity.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
G.1.4. Is a summary of the stakeholder comments received provided?	-	DR	Yes. Refer E.2 of PDD	OK	OK
G.1.5. Has due account been taken of any stakeholder comments received?	-	DR	Yes. Refer E.3 of PDD	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 methodology ACM0002	2	DR I	Yes, ACM 0002. Refer B.1.1	OK	OK
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	2	DR	Yes, relevant electricity grid indicated is Western	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
for the relevant electricity grid be clearly identified?		Inter net	grid.		
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 CO ₂ emissions from electricity generation in fossil fuel fired power that is displaced due to project activity?	2	DR	Not applicable.	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
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	2	DR	Yes	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
management policies?					
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, Western 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 electricity system are defined as electricity exports?	2	DR	Yes	OK	OK
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	2	DR	Not applicable.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
determined as for the OM imports.					
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.	-	-
1.3. Identification of alternative baseline scenarios					
1.3.1. Does the project activities modify or retrofit an existing generation facility?	2	DR	No	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	2	DR	Yes	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
facility would be likely be replaced or retrofitted in the absence of the CDM project activity.					
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 (120 months) (excluding abnormal years) of historical generation data is required in the case of hydro facilities.	2	DR	Not applicable	OK	OK
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 the maximum 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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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
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.	OK	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	2	I	Project participant has considered the options that are permitted by law and therefore this is not	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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?			applicable.		
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 03 of the Tool for demonstration and assessment of additionality. Refer B.3.1 above	OK	OK
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 and justification for the same is given in PDD.	OK	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	2	DR	Equation in PDD uses the following formula for	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
according to the formula $ER_y = BE_y$?			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		
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	Yes.	OK	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 Western 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



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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
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	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
2.3. Quality Control (QC) and Quality Assurance (QA) Procedures					
2.3.1. Did all measurements use calibrated	2	I	Annex 4 of PDD states the procedure for calibration		OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
measurement equipment that is regularly checked for its functioning?			of equipment i.e. meters used for monitoring the electricity generated. Refer D.1.3 above in Table 2		
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 1.1above	OK	OK
1.3 Are the conditions of the Designated National Authority being met?	1	DR I	Refer 1.1 above	OK	OK



VALIDATION REPORT

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
Approval from Ministry of Environment & Forests is not available.	A.3.2 CAR-1	Host Country Approval dated 3 rd April 2007 (File No 4/23/2006-CCC) from the Designated National Authority, Ministry of Environment & Forests (MoEF), Government of India (Gol) is attached along with.	Verified Host country approval dated 3 rd April 2007. Corrective action CAR-1 is therefore closed.
Refer Section A.4.1.4. Location of the project activity is mentioned to be 'Dhule District ' However commissioning certificates from MSEDCL indicate the same to be ' Nandurbar district' Similarly, title of the project activity is mentioned to be ' GREEN ENERGY TO GRID at Dhule, Maharashtra' Nodal agency in Maharashtra - Maharashtra Energy Development Agency (MEDA - Agency responsible for giving permissions for WEG installations in Maharashtra) in its website also indicate ' Nandurbar ' district only.	A.5.1.4 CAR-2	The project activity is located at Tilali and Mandal villages of Nandurbar district in Maharashtra. The power purchase agreement with Maharashtra State Electricity Distribution Company Limited dated 2nd January 2006 (refer Exhibit H) indicates the district as Dhule. That is the reason why we had applied for Host Country Approval as "Green Energy to Grid at Dhule, Maharashtra" and further more the wind generation sites which covers Dhule and Nandurbar districts is popularly know as Dhule.	Response is found to be satisfactory. The area of WEG installations is known as Dhule and not Nandurbar, even though district for WEG installations is in Nandurbar district. Validation team has also confirmed that Investors (both MSPL and Betul Oil Mills) have only these installations aggregating 21.25 MW in the area. Hence installations in Nandurbar district with Project title with Dhule is the same project activity and can be accepted. Corrective Action Request CAR-2 therefore is closed.



VALIDATION REPORT

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>As required in ACM 0002, additionality has been assessed using the latest version of the <i>“Tool for the demonstration and assessment of additionality”</i>. However following claims are not clearly justified</p> <ul style="list-style-type: none"> Minutes of board meeting mentioning CDM consideration Alternative b – New or existing on-site captive power generation, using other energy sources other than WEG’s is not realistic alternative since WEGs are not used for captive Detail IRR analysis is not provided Identification of alternative scenarios should be explained in section B.5 and not in B.4 Evidence of project being a largest promoter of wind energy in Maharashtra When one large-scale project registered with installations in Karnataka, why site in Maharashtra has been selected? What were the considerations for investment in wind project in case of Betul Oil Mills? <p>PDD states that ‘Many of such projects with an estimated installed capacity of 20 MW have gone along the CDM cycle in the state of Maharashtra. This substantiates the existence of other similar options.’ Evidence for the same?</p>	<p>B.3.1 CAR-3</p>	<p>The minutes of board meeting mentioning CDM consideration has been attached.</p> <p>Alternative (b) for determining the baseline scenario has been removed as the WEGs are exporting 100% of generated power to the grid and is hence not applicable.</p> <p>The IRR analysis of the project activity has been included in the PDD and attached herewith.</p> <p>The alternative scenarios have been identified in section B.4, and the barriers faced by the alternatives has been taken up in section B.5</p> <p>Please overlook the typographical error as the project proponent wished to portray the project activity as “one amongst the large scale wind projects currently underway in Maharashtra.</p> <p>The wind power generation at sites in Maharashtra (Dhule) were estimated to be higher, in</p>	<p>i. The explanation is found to be sufficient. Evidently CDM was under consideration prior to actual implementation of the project.</p> <p>ii. The corrections have been accepted.</p> <p>iii. IRR calculations have been submitted and checked by the validation team independently.</p> <p>iv. The corrections have been verified and accepted.</p> <p>v. The correction has been done in page no 16 of the PDD and hence accepted.</p> <p>vi. The explanation is found to be sufficient.</p> <p>vii. The IRR of Betul has been verified by the validation team independently and accepted.</p> <p>viii. The explanation and the details provided are found to sufficient and hence accepted.</p>



VALIDATION REPORT

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>comparison to sites in Karnataka which would strengthen the sustainability of the project activity. Hence this was considered to be a more viable option to invest in.</p> <p>The considerations for investment in the wind project by Betul Oil Mills have been highlighted in the IRR analysis.</p> <p>Till date, there have been 6 other large scale wind power projects in Maharashtra that have gone along the CDM path.</p> <p>Three project activities have been registered with the UNFCCC as CDM projects namely:</p> <ul style="list-style-type: none"> (iv) 15.4 MW wind farm at Satara district, Maharashtra (v) Bundled wind power projects in Satara & Supa (Maharashtra, India) managed by Tata Motors Ltd. (20.85 MW) (vi) 21 MW bundled wind power project in Vankuswade, 	<p>Corrective Action Request CAR-3 therefore is closed.</p>



VALIDATION REPORT

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>Maharashtra</p> <p>Two project activities have been rejected by the UNFCCC as CDM projects namely:</p> <p>(i) Grid connected electricity generation from renewable sources at Satara by M/s Bajaj Auto Ltd. (BAL) using wind power (45.2 MW)</p> <p>(ii) Grid connected electricity generation from renewable sources at Supa, Taluka Parner, Dist. Ahmednagar by M/s Bajaj Auto Ltd. (BAL) using wind power (20 MW)</p> <p>One project activity is currently requesting registration with the UNFCCC as a CDM project namely:</p> <p>(ii) 75 MW wind power project in Maharashtra by Essel Mining Industries Limited</p>	



VALIDATION REPORT

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
		All of the above data is available on the UNFCCC website.	
Refer section B.7.2, which mentions CDM manual, which is not evident.	D.5.1 CAR-4	The CDM manual is attached herewith.	The CDM manual is verified. Hence, Clarification request CAR-4 therefore is closed.
Site visit revealed that all MSPL machines are connected to one feeder (No. 16) and Machine of Betul Oil Mills is on another feeder (No. 15). Reportedly around 18-20 different machines are connected to one feeder and generation from individual machine is calculated based on total generation figure as available on substation minus f avg. loss in % to all the machines. Regulatory body (MSEDCL) has not provided any individual metering system. Every turbine has display card provided by supplier. In such cases, aspects like data monitoring from individual machines, calibration / verification of display systems, alternative methods of monitoring and measurements etc. are not explained in PDD.	D.1.3 CL-1	<p>This is the norm followed in the region.</p> <p>As per Article 11 of the PPA for the project activity:</p> <p>The metering equipment shall be duly approved, tested and sealed by the MSEDCL. The MSEDCL shall adopt no other method of assessment of delivery of wind energy except for the main meter and the corresponding check meter.</p> <p>The metering equipment consisting of main and check meters shall be identical in make, technical standards and of 0.5% accuracy class and calibration and comply with the requirements of Electricity Rules. The meters installed at the metering point</p>	Response is found to be sufficient w.r.t taking meter readings, calibration and what will be done in case of any errors in the main meter and check meters. The detailed procedures are explained in the CDM manual. Hence, the clarification request CL-1 therefore is closed.



VALIDATION REPORT

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>shall have four quadrant, three phase, four wire, provision for online reading and time slots as required.</p> <p>The main and check meters shall be tested for accuracy with a portable standard meter by the MSEDCL's testing division, at the cost of the seller. The MSEDCL shall carry out the calibration, periodical testing, sealing and maintenance of meters in the presence of the authorised representative(s) of the seller and the representative(s) of the seller shall sign on the result thereof.</p> <p>The frequency of meter testing shall be annually.</p> <p>All the meters will be tested only at the metering point. The MSEDCL will provide a copy of the test reports to the seller.</p> <p>If during testing, both the main and check meter are found to be within the permissible limit of error i.e. 0.5%, the energy computation will be as per the main meter. If</p>	



VALIDATION REPORT

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>during test, any of the main meters is found to be within the permissible limits of error but the corresponding check meter is beyond the permissible limit, the energy computation will be as per the main meter. The check meter shall be calibrated immediately.</p> <p>If during the tests, the main meter is found to be beyond permissible limits of error, but the corresponding check meter is found to be within the permissible limits of error, then the energy computation for the month to-date and time of such test check shall be in accordance with check meter. The main meter shall be calibrated immediately and the energy for the period thereafter shall be as per the calibrated main meter.</p> <p>If during any of the monthly meter readings, the variation between the main meter and the check meter is more than 0.5%, all the meters shall be retested and calibrated immediately by</p>	



VALIDATION REPORT

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>MSEDCL, at the seller's cost.</p> <p>The correction required as per result of the testing will be applied to the generation and consumption of energy for the period from last meter reading to the time of such test checks. Energy for the periods thereafter shall be in accordance with the calibrated main meter.</p> <p>The meter readings at the metering point shall be undertaken jointly by the representatives of the state grid/MSEDCL, and the authorised representatives of the seller on the 1st day of every month for the preceding month. The meter readings shall be jointly certified by both representatives of the state grid/MSEDCL and the seller.</p>	

1. GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 06 – July 28th, 2006
2. APPROVED CONSOL DATED 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 published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 29/11/2006 and invited comments within 28/12/2006 by Parties, stakeholders and non-governmental organizations. The table below describes how due account of the comments received for the CDM project “Green Energy to Grid at Dhule” by MSPL Limited was taken by Bureau Veritas Certification:

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
01	Mr. Peter Smith email Id: smith_projects@yahoo.co.uk	06/12/2006	The comment that this the largest project in Maharashtra for CDM is incorrect. Common practice analysis needs to be reworked.	Please overlook the typographical error as the project proponent wished to portray the project activity as “one amongst the large scale wind projects currently underway in Maharashtra.” The common practice analysis has been reworked to revise the text. Project activity is not the largest one in Maharashtra, but one of the largest in the state.	The correction has been done in page no 17 of the revised PDD – Version 3.1, dated 03/01/2008 and hence accepted. Reviewed the revised PDD – Version 3.1, dated 03/01/2008. The correction has been done and hence accepted.



APPENDIX C : CVs of Verifiers

Dr. Ashok Mammen: 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. S. V. Pendse: He is the Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. He has done post graduation in the field of Environmental Science and has several years of Industrial 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 20 CDM projects.

Mr. P. Srinivas: 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 Mechanical Engineer and has several years of Industrial work experience in the field of Power generation and related projects. He has undergone intensive training on Clean Development Mechanism. He is technical expert in the team and so far has carried out Validation/verification for more than 10 CDM projects.

Mr. Sushil Budhia: He is a financial analyst and a Chartered Accountant and has extensive experience for conducting statutory and tax audits. He has experience in internal audits and taxation matters. He has done validation of IRR for more than 10 CDM Projects. He is financial specialist for this project and has evaluated the cash flow and investment analysis.

End of Report: INDIA-Val/ 82.49/2007/Rev.01