



VALIDATION REPORT BAJAJ AUTO LIMITED

VALIDATION OF THE GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCES AT SUPA

REPORT No. BVQI/INDIA/6.49

REVISION No. 01

BUREAU VERITAS QUALITY INTERNATIONAL

VALIDATION REPORT

Date of first issue: 25 December 2005	Project No.: BVQI/INDIA/6.49
Approved by: Ashok Mammen	Organisational unit: BVQI Holdings
Client: Bajaj Auto Limited	Client ref.: Mr. Kevin D'Sa

Summary:

Bureau Veritas Quality International (BVQI) has made a validation of the grid connected electricity generation from renewable sources at Supa project of M/s. Bajaj Auto Limited (hereafter called "the project") located in Supa, taluka Parner, Dist. Ahmednagar on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan (October 2005); ii) follow-up interviews with project stakeholders (October 2005); iii) resolution of outstanding issues and the issuance of the final validation report and opinion (December 2005). The overall validation, from Contract Review to Validation Report & Opinion, was conducted using internal procedures (BMS, September 2003), which were audited by the UN CDM Accreditation Team in December 2004.

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 BVQI's opinion that the project correctly applies the baseline and monitoring methodology number ACM0002 version 4 dated 28/11/2005 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: BVQI/INDIA/6.49	Subject Group: GHG/CDM
Report title: Bajaj Auto Limited	
Work carried out by: Sandeep Lele H. B. Muralidhar	
Work verified by: Ashok Mammen	
Date of this revision: 26/12/2005	Rev. No.: 01
Number of pages: 66	

Indexing terms

- ☒ No distribution without permission from the Client or responsible organisational unit
- ☐ Limited distribution
- ☐ Unrestricted distribution

 VALIDATION REPORT

Abbreviations change / add to the list as necessary

ACM	Approved Consolidated Methodology
BAL	Bajaj Auto Limited
BMS	BVQI Management System
BVQI	Bureau Veritas Quality International
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CH ₄	Methane
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
FRP	Fibre Reinforced Plastic
GHG	Green House Gas(es)
GI	Galvanised Iron
Ht	Height
Hz	Hertz
I	Interview
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardization
Km	Kilometers
KV	Kilo Volts
KW	Kilo Watts
MoV	Means of Verification
MP	Monitoring Plan
MSEB	Maharashtra State Electricity Board
Mtr	Meters
MVA	Million Volt Amperes
MW	Mega Watts
NGO	Non Government Organisation
PDD	Project Design Document
SW SPL	Suzlon Wind Services Private Limited
tCO ₂ e	Tones of carbon-di-oxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
V	Volts
WEG	Wind Electricity Generator

 VALIDATION REPORT

Table of Contents	Page
1 INTRODUCTION	5
1.1 Objective	5
1.2 Scope	5
1.3 GHG Project Description	5
1.4 Validation team	6
2 METHODOLOGY.....	6
2.1 Review of Documents	8
2.2 Follow-up Interviews	9
2.3 Resolution of Clarification and Corrective Action Requests	9
3 VALIDATION FINDINGS	9
3.1 Project Design	10
3.2 Baseline	11
3.3 Monitoring Plan	12
3.4 Calculation of GHG Emissions	12
3.5 Environmental Impacts	13
3.6 Comments by Local Stakeholders	14
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	14
5 VALIDATION OPINION	14
6 REFERENCES	15

Appendix A: Validation Protocol

Appendix B : Explanation of how due account of comments was taken by the DOE

VALIDATION REPORT

1 INTRODUCTION

Bajaj Auto Limited (hereafter called “the client”) has commissioned Bureau Veritas Quality International (BVQI) to validate its grid connected electricity generation from renewable sources (hereafter called “the project”) at Supa, taluka Parner, district Ahmednagar, Maharashtra, India.

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

1.1 Objective

The validation serves as project design verification and is a requirement of all 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, as well as the host country criteria.

1.2 Scope

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

1.3 GHG Project Description

The project activity involves generation, operation and maintenance of grid connected electricity generation facility at Supa in Maharashtra with a

VALIDATION REPORT

total generation capacity of 20 MW. The electricity generated from this wind farm is supplied to common local substation through local transmission lines duly metered at developer's end. The project activity comprises of supply, erection, commissioning & operation of 20 numbers of pitch controlled asynchronous wind electric generators each capacity 1000KW of Suzlon make. The planned annual output of the wind farm is 40 million units. The generated electricity is being wheeled to the Bajaj Auto Limited's operations in Pune and Aurangabad.

1.4 Validation team

The validation team consists of the following personnel:

Mr. Sandeep Lele	BVQI India	Team Leader, GHG Validator
Mr. H. B. Muralidhar	BVQI India	GHG Validator
Dr. Ashok Mammen	BVQI India	Internal reviewer

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using internal procedures (BMS, September 2003) which were audited by the CDM Accreditation Team in December 2004.

In order to ensure transparency, a validation protocol was customised 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 organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of five tables. The different columns in these tables are described in Figure 1.

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

VALIDATION 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 (CL) of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Validation Report.	Used to refer to the relevant protocol questions in 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 REPORT

Validation Protocol Table 4: Legal requirements				
Checklist Question	Reference	Means 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 Bajaj Auto 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), the Proposed New Methodology: Baseline (CDM-NMB) and the Proposed New Methodology: Monitoring (CDM-NMM), Approved methodology ACM0002 version 4 dated 28/11/2005, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

The following documents were used as references to the validation work, in addition to internal BVQI procedures: IETA/PCF – Validation and Verification Manual (v. 3.3, Mar 2004); ISO FDIS 14064-3 - Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions; ISO FDIS 14064-2 -

VALIDATION REPORT

Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements.

To address BVQI corrective action and clarification requests Bajaj Auto Limited revised the PDD and resubmitted it on December 2005.

The validation findings presented in this report relate to the project as described in the PDD on December 2005.

2.2 Follow-up Interviews

On 20 – 22 October 2005, BVQI performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Bajaj Auto Limited were interviewed (see References). The main topics of the interviews are summarised in Table 1.

Table 1 Interview topics

Interviewed organisation	Interview topics
Bajaj Auto Limited	➤ Management consideration of CDM, Project financials, technical details of the project, baseline, additionality, monitoring plan
Individual stakeholders	➤ Views on the impacts of the project activity
PriceWaterhouseCoopers	➤ Baseline information, additionality, methodology application, monitoring plan

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 BVQI positive conclusion on the project design.

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

3 VALIDATION FINDINGS

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

- 1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.

VALIDATION REPORT

- 2) Where BVQI 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 5 Corrective Action Requests and 13 Clarification Requests.
- 3) The conclusions for validation subject are presented.

3.1 Project Design

The project activity involves 20 windmills of 1000KW capacity each of Suzlon make 3 phase 50Hz 690V stepped up to 33 KV and connected to grid through common metering to deliver wind energy to local evacuation at Substation Supa 132/33 KV, 2 X 25MVA transformers capacity.

Salient features of the technology are:

- 20 WEG are 690 V 3 phase 50 Hz each of capacity 1000KW
- Asynchronous generator with pitch control features with gearbox and three blades of FRP, machine mounted on lattice type GI Tower of 60 metre Ht with step up transformer and protection systems

As per the 'list of sectoral scopes and approved baseline and monitoring methodologies', the project activity falls under Scope number 1, sectoral scope – Energy industries (renewable / non-renewable sources).

Bajaj Auto Limited, Pune, India are the project participants.

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

BVQI recognises that BAL Project is helping India fulfill its goals of promoting sustainable development. The project is expected to be in line with host-country specific CDM requirements because it is likely to contribute towards -

- meeting the electricity supply deficit in Maharashtra
- conserving natural resources
- rural and infrastructure development

The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Certified Emissions Reductions (CERs) under the CDM, based on an analysis, presented by

VALIDATION REPORT

the PDD, of investment, technological and other barriers, and prevailing practice.

The project design is sound and the geographical (Supa, taluka Parner, district Ahmednagar, Maharashtra) and temporal (20 years) boundaries of the project are clearly defined.

3.2 Baseline

The Bajaj Auto Limited's Project uses the approved baseline methodology ACM0002 (Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 04 dated 28/11/2005).

The baseline methodology applies to electricity capacity additions from wind sources and hence suitable for the project activity. The project activity did not involve any fuel switch. The project activity considers western regional grid in India. This grid fulfills the methodology conditions like clear identification of geographic and system boundaries and public availability of characteristics of the grid. Hence the project activity meets all the applicability conditions of the methodology.

The alternative considered for determination of the baseline scenario in the context of the project activity is electricity generation in power plants connected to the western regional grid. This provision also meets the requirement of the methodology.

The four possible alternative baseline scenarios are the following:

- (a) Proposed project activity without CDM
- (b) Proposed project activity with CDM benefits
- (c) Electricity generation in power plants connected to the western regional grid
- (d) Captive power plant using fossil fuel

These options do not include those options that:

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

As per the PDD, out of the above four alternatives identified, alternatives c & d were found to be financially feasible. Out of these two alternatives, the one providing conservative estimate of emissions reductions viz. alternative c was chosen as the baseline. As per the PDD, this alternative is also cheaper than the project activity. According to the PDD, this alternative is not expected to face any prohibitive barriers that could have prevented it from being taken up as the project activity.

VALIDATION REPORT

The additionality of the emissions reductions is discussed using the tool for demonstrating the additionality. Barrier analysis is used to demonstrate the additionality. The technological barriers include unavailability of inhouse experts on windmills operations, non-core business operations, upgrading the skill sets of the existing persons, possibilities of damage of the windmills on account of lightning and fire incidents. The investment barriers include huge investment in order to reduce the risk of lower load factor, cost of wind power being higher than coal or grid based power, etc. The barriers due to prevailing practice is that the technology penetration in the state of Maharashtra where the project is implemented is as low as 2.64%.

3.3 Monitoring Plan

The Project uses the approved consolidated monitoring methodology ACM0002 (Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources, version 04 dated 28/11/2005).

The adopted monitoring methodology has been chosen based on the following reasons:

- The methodology applies to electricity capacity additions from wind sources
- There was no fossil used at the site. Hence, there is no switching from fossil fuels to wind sources in the project activity

As discussed under section 3.2, the project activity meets the applicability conditions of the methodology.

The monitoring plan meets the requirements of the methodology. The monitoring is mainly a joint metering report by the project participant and the electricity authority. The meters used for monitoring are sealed and calibrated by the authorities. Check meters are provided and the authority also calibrates these. Considering the provisions of calibration and alternate modes of measurement, the uncertainties in monitoring are very limited.

3.4 Calculation of GHG Emissions

As per ACM0002 methodology, the baseline emission sources considered are fossil fuel fired power plants connected to the relevant electricity system (grid). The relevant grid considered for the calculation of baseline emissions is the western region grid and not the state or the National grid. The reason for such exclusion of the latter grids is that the project is supplying power to the regional grid. According to the PDD, consideration of regional grid minimizes the effect of inter-state power transactions, which are dynamic and vary widely.

VALIDATION REPORT

As required under ACM0002, the baseline emissions are calculated as per combined margin approach, both in terms of relevant grid definitions and the emission factors. The operating margin in the baseline emissions is calculated using equation (1) described in ACM0002. For calculating the operating margin, data vintage of 3-year average (based on the most recent publicly available statistics available at the time of PDD submission) has been used. The build margin calculations have been completed with most recent information available on plants already built at the time of PDD submission. The combined margin calculation is based on straight average of operating and build margin. The detailed algorithms are described later under sections D.2.1.3 and E.4 of the PDD.

As described in ACM0002, there are no project emissions. As per this methodology [ACM0002] leakage effects due to power plant construction are not to be considered. Hence there are no leakage considerations for the project activity. The project activity does not claim any credits for the project on account of reducing these emissions. In all, the requirements of the methodology ACM0002 are met.

The estimated annual average of approximately 33,262 tCO₂e over the ten-year crediting period of emission reduction represents a reasonable estimate using the assumptions given by the project documents.

3.5 Sustainable Development Impacts

As per the Indian legislation, environmental impact assessment is not required for the project activity. The other normal (negative/ positive) environmental impacts assessed due to the activity include,

1. ambient noise
2. impacts due to debris disposal during construction phase

The project participants have analysed the social impacts of the project activity. The analysis of social impacts did not reveal any adversely significant social impacts.

According to the PDD, this CDM initiative would contribute, among other impacts, towards:

- meeting the electricity supply deficit in Maharashtra
- conserving natural resources
- rural and infrastructure development

In view of above positive impacts and contribution towards the country's goal of sustainable development, the development and implementation of systems for grid-connected electricity generation from renewable sources at Supa were recommended by the Bajaj Auto Limited's management. The

VALIDATION REPORT

clearance of this CDM initiative by Bajaj Auto Limited would facilitate the process of sustainable energy production.

3.6 Comments by Local Stakeholders

The local stakeholder consultations were conducted periodically. A formal local stakeholder consultation meeting to discuss stakeholder concerns on the proposed Clean Development Mechanism (CDM) project – grid-connected electricity generation from renewable sources by Bajaj Auto Limited's wind farm in Maharashtra state of India, was held on 16/09/2005 at the office of Grampanchayat [village council] Hanga, taluka Parner, district Ahmednagar, state Maharashtra, India. The stakeholders were invited for the meeting by a notice in local language [Marathi] displayed at the Grampanchayat [village government council] office.

The list of participants, notice inviting participation to interested stakeholders, photographic record of the stakeholder meeting proceedings is maintained by the project participants.

The stakeholders viewed the BAL 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.

BVQI published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 27/10/2005 and invited comments within 25/11/2005 by Parties, stakeholders and non-governmental organisations.

Comments were received from 2 persons viz. Mr. Axel Michaelowa & Mr. Perumal Arumugam. The project participant provided responses to these comments. The validation team took due account of these comments and respective responses by the project participant. The details of these comments received and the explanation of validation team took due account of these comments are provided in Appendix B to this report.

5 VALIDATION OPINION

BVQI has performed a validation of the Bajaj Auto Limited's CDM Project in India. The validation was performed on the basis of UNFCCC criteria

VALIDATION REPORT

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 (October 2005); ii) follow-up interviews with project stakeholders (October 2005); iii) the resolution of outstanding issues and the issuance of the final validation report and opinion (December 2005).

By generating electricity from wind farms, the project is likely to result in reductions of GHG emissions partially displacing electricity that would have otherwise been purchased from the grid. An analysis of the investment and technological 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 reviews of the project design documentation (initial version of October 2005 through revision 02 of December 2005) and the subsequent follow-up interviews have provided BVQI 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.

6 REFERENCES

Category 1 Documents:

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

- /1/ The Project Design Document, version 02 dated 17/12/2005
- /2/ Approved Consolidated Methodology ACM0002, version 04 dated 28/11/2005
- /3/ Tool for demonstration and assessment of the additionality, version 02 dated 28/11/2005.
- /4/ Letter by MSEB reference SE/ANRC/TECH/HT/T-40/7445 dt.03.07.2001 - Proof of commissioning 1 no. wind mill no. BA 04 on 04.07.2001
- /5/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/10020 dt.10.09.2001 - Proof of commissioning 1 no. Wind mill no. BA 02 on 15.09.2001

VALIDATION REPORT

- /6/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/10254
dt.15.09.2001 - Proof of commissioning 1 no. wind mill no. BA 19
on 16.09.2001
- /7/ Letter by MSEB reference SE/ANRC/TECH/HT/T-40/8964
dt.10.08.2001 - Proof of commissioning 1 no. wind mill no. BA 03
on 18.07.2001
- /8/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12765
dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 12
on 22.10.2001
- /9/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12766
dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 13
on 22.10.2001
- /10/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12767
dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 14
on 22.10.2001
- /11/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/15062
dt.24.12.2001 - Proof of commissioning 1 no. wind mill no. BA 06
on 25.12.2001
- /12/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/10422
dt.21.09.2001 - Proof of commissioning 1 no. wind mill no. BA 08
on 28.09.2001
- /13/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/13112
dt.31.10.2001 - Proof of commissioning 1 no. wind mill no. BA 09
on 28.11.2001
- /14/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/13940
dt.27.11.2001 - Proof of commissioning 1 no. wind mill no. BA 15
on 28.11.2001
- /15/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12768
dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 16
on 28.11.2001
- /16/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/13939
dt.27.11.2001 - Proof of commissioning 1 no. wind mill no. BA 18
on 28.11.2001
- /17/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/13938
dt.27.11.2001 - Proof of commissioning 1 no. wind mill no. BA 20
on 28.11.2001
- /18/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/14003
dt.29.11.2001 - Proof of commissioning 1 no. wind mill no. BA 10
on 30.11.2001
- /19/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/9462
dt.31.08.2001 - Proof of commissioning 1 no. wind mill no. BA 01
on 31.08.2001
- /20/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/9462
dt.31.08.2001 - Proof of commissioning 1 no. wind mill no. BA 05
on 31.08.2001
- /21/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/13117
dt.31.10.2001 - Proof of commissioning 1 no. wind mill no. BA 07

 VALIDATION REPORT

- on 31.10.2001
- /22/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12764 dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 11 on 31.10.2001
- /23/ Letter by MSEB reference SE/ANRC/TECH/HT/T-46/12769 dt.20.10.2001 - Proof of commissioning 1 no. wind mill no. BA 17 on 31.10.2001

Category 2 Documents:

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

- /24/ Purchase Order No 00535005 & 0053006 /DNK 03.04.2001 for the Supply, Installation and Commissioning of 20 Nos Wind Energy Generators on M/s Suzlon Energy and Suzlon Developers including twenty years service Contract with M/s Suzlon Windfarms Services Private Limited.
- /25/ Permission under the Mumbai Tenancy & Agricultural Land Act for purchase of land for installation of Wind Mills No DI/Land/Permission/212/2000/B-20951 dated 19/04/2001 with relevant Annexures.
- /26/ NOC No 16544 dated 17/04/2000 for 9.75 MW (13 x 750 KW) and NOC No 35133 dated 23/08/2000 for 9.8 MW (28x 350 KW)
- /27/ Approval of the Maharashtra Government to M/s Suzlon Energy for installation of wind mills at Supa Site. KNCP 1099/PK/503 dated 31/12/1999 (9.8 MW) & KNCP1099/PK/517 dated 31/12/1999 (9.75 MW)
- /28/ Permission for Transfer of Ownership of 20MW Windfarm Project at Taluka Parner, District Ahmednagar in the name of Bajaj Auto Limited by the Maharashtra Energy Development Agency (MEDA).WFP/BAL/2000-01/2707 dated 29/12/2000.
- /29/ Approval for Installation of 20MW Farm Complex (20 Nos) and connection to MSEB grid and self use at Aurangabad Plant/Sale to third party/Sale to Board
- /30/ Permission for commissioning of the Suzlon make by MEDA
1. 2.00 MW WFP-/SUZ/16-0-80/bajaj/2000-2001/2020 dated 19/06/01
 2. 3.00 MW WFP-/SUZ/16-0-80/bajaj/2000-2001/2396 dated 20/08/01
 3. 5.00 MW WFP-/SUZ/16-0-80/bajaj/2000-2001/3080 dated 10/09/01
 4. 7.00 MW WFP-/SUZ/16-0-80/bajaj/2000-2001/2020 dated



 VALIDATION REPORT

11/10//05

 5. 3.00 MW WFP-/SUZ/16-0-80/bajaj/2000-2001/4247 dated
20/11/01
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. Kevin D'sa - Vice President [Finance], BAL
- /2/ Mr. S. P. Shinde - Sr. Manager, Wind Mill Project, BAL
- /3/ Mr. B. Chandra Sekaran - Sr. Manager, Internal Audit, BAL
- /4/ Mr. Anant G. Marathe - Asst. Manager, Finance, BAL
- /5/ Mr. Abhay Pathak - Manager Environment
- /6/ Mr. R. B. Gaikwad - Tehsildar, Parner, BAL
- /7/ Mr. Bajirao Shinde - Resident of village Hanga, Local stakeholder
- /8/ Mr. Tukaram Dalvi - Resident of village Hanga' Local stakeholder
- /9/ Mr. Nandkumar Salve - SWSPL, Section Head
- /10/ Mr. Rajesh Naik - SWSPL, Section-in-charge
- /11/ Mr. Pujari - SWSPL, Project-in-charge
- /12/ Mr. Shivaji Shinde - SWSPL, Health, Safety and Environment
- /13/ Mr. Sanjay Ashtekar - SWSPL, Dy. Manager – HT
- /14/ Dr. Ram Babu - PriceWaterhouseCoopers, Associate Director

- o0o -

 VALIDATION REPORT

APPENDIX A – BAJAJ AUTO LIMITED, SUPA CDM PROJECT VALIDATION PROTOCOL

Table 1 Mandatory Requirements 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	Yes	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	Yes	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	Yes	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	Yes	Letter of approval dated 21/11/2005 by Ministry of Environment & Forests, Government of India
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	Yes	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of	Kyoto Protocol Art. 12.5c, Marrakech	Yes	Table 2, Section B.3



VALIDATION REPORT

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Accords, CDM Modalities §43 and 44		
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	Yes	Declaration by BAL at Annex 2 of the PDD.
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29	Yes	Government of India has designated the National Clean Development Mechanism (CDM) Authority under Ministry of Environment & Forest to act as DNA. Source http://cdm.unfccc.int/DNA
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	Yes	Date of accession – 26/08/2002 Source http://unfccc.int/parties_and_observers/parties/items/2109.php
10. Comments by local stakeholders shall be invited, a summary of	Marrakech	Yes	Table 2, Section G



VALIDATION REPORT

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
these provided and how due account was taken of any comments received	Accords, CDM Modalities §37b		
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	Yes	Table 2, Section F
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	Yes	Table 2, Section B.1.1 and D.1.1
13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Marrakech Accords, CDM Modalities §37f	Yes	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	Yes	Source http://cdm.unfccc.int/Projects/Validation
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	Yes	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	Yes	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	Marrakech Accords, CDM	Yes	Reference 1 to this validation protocol



VALIDATION REPORT

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
guidelines for completing CDM-PDD, CDM-NMB, and CDM-NMM	Modalities, Appendix B, EB Decisions		

VALIDATION REPORT

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV ^a	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	Grid connected electricity generation from renewable source (wind energy generation) at Supa, Taluka Parner, District Ahmednagar by M/s. Bajaj Auto Limited. [BAL]. Date 13 th September 2005 revised to version 02 dated 17/12/2005	OK	OK
A.2. Description of the project activity					
A.2.1. Is the purpose of the project activity included?	1	DR	The project activity is generation of electricity from wind farm and supply to common local substation. The power is wheeled and consumed by the Bajaj Motors' manufacturing units at Pune and Waluj (Aurangabad).	OK	OK
A.2.2. Is the view of the project participants on the contribution of the project activity to sustainable development included?	1	DR	Yes. According to project participants, the project activity contributes to sustainable development through <ul style="list-style-type: none"> • meeting government policy, • reducing electricity supply deficit, • rural and infrastructure development, • reducing emission intensities, • conservation of natural resources and • strengthening local grid 	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 wind mill operations. The Indian and Maharashtra State Government promotes wind power generation. The state government also has released a Wind Power Generation Policy in 1998 Refer Resolution No NCP 1097/CR-57/NRG-7	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 awaited .	CAR1	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	<i>The project is reported to lead to sustainable development. Refer A.2.2</i>	OK	OK
A.4. Project participants					
A.4.1. Are Party(ies) and private and/or public entities involved in the project activity listed?	1	DR	Bajaj Auto Limited, Pune, Maharashtra	OK	OK
A.4.2. Is the contact information provided in annex 1 of the PDD?	1	DR	Bajaj Auto Limited – Mr. Kevin P D'sa – +91.20.2747.2851 Ext 6601, +91.20.2740.6601 [D]	OK	OK
A.4.3. Is this information indicated using the tabular format?	1	DR	The project participant information is indicated using the tabular format of the reference 1 of this check-list.	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

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5.1.2. Region/State/Province etc.	1	DR	Ahmednagar district in Maharashtra state	OK	OK
A.5.1.3. City/Town/Community etc.	1	DR	Taluka Parner	OK	OK
A.5.1.4. Detailed description of the physical location, including information allowing the unique identification of this project activity.	1	DR	The project is located in the Site 2, Supa Wind zone at Taluka Parner, Ahmednagar District in Maharashtra, India. It is located on the Pune – Ahmednagar highway. Latitude between 18°20' - 19°15' [Direction is not identified] Longitude between 73°37' - 74°41' [Direction is not identified] The nearest railway station is Ahmednagar.	CL1	OK
A.5.2. Category of the project activity					
A.5.2.1. Is the category of the project activity specified?	1	DR	Scope Number 1, Energy Industries (renewable/non renewable sources)	OK	OK
A.5.2.2. Is it justified how the proposed project activity conforms to the project category selected?	-	DR	The proposed project activity being a power generation activity using renewable wind energy, conforms to the category selected	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5.3. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.</i>					
A.5.3.1. Does the project design engineering reflect current good practices?	-	DR I	<ul style="list-style-type: none"> The project activity involves 20 windmills of 1000KW (1 MW) capacity each of Suzlon make 3 phase 50Hz 690Vstepped up to 33 KV and connected to grid through common metering to deliver wind energy to local evacuation at Substation Supa 132/33 KV, 2 X 25MVA transformers capacity. Salient features of the technology are: 20 Wind Energy Generators are 690 V phase50 Hz each capacity 1000KW Asynchronous generator with pitch control features with gear box and three blades of FRP, machine mounted on lattice type GI Tower of 60mtr Height with step up transformer and protection systems. 	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	<ul style="list-style-type: none"> The WEG and its features mentioned above is the current state of the art technology available in the market.. 	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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
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	The project is operated and maintained by M/s Suzlon the manufacturer and suppliers of WEG.A subsidiary company namely M/s Suzlon Wind Farm Services Private Limited [SWSPL] is involved in this activity. The staff is qualified and competent. Infrastructure and systems are available at site for upkeep and efficient operation. Three employees of M/s Bajaj have also been trained by M/s Suzlon. The operator has also implemented a Quality and Environmental Management System and is certified (ISO 9001-2000 and ISO 14001-2004)	OK	OK
A.5.3.5. Does the project make provisions for meeting training and maintenance needs?	-	DR I	SWSPL maintains Certified Quality and Environmental Management Systems. This system covers the training and maintenance needs of the project.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 332,623 tCO ₂ .	OK	OK
A.5.4.3. Is this information indicated using the tabular format?	1	DR	The information on emissions reductions is indicated using the tabular format of the reference 1 of this check-list. The host party is not identified.	CL2	OK
A.5.5. Public funding of the project activity					
A.5.5.1. Is it indicated whether public funding from Parties included in Annex I is involved in the proposed project activity?	1	DR	The project will not receive any public funding from Parties included in Annex I.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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.	-	OK
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 UNFCCC web site	DR I	Yes. Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002. Version no. of the methodology used is not identified.	CL 3	OK
B.1.2. Is the baseline methodology previously approved by the CDM Methodology Panel?	1	DR	Yes. Approved consolidated baseline methodology ACM0002	OK	OK
B.1.3. Does the proposed project activity meet the applicability conditions of the methodology?	1	DR	Yes. Consolidated baseline methodology for grid-connected electricity generation from renewable sources.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 methodology is applicable to grid-connected renewable power generation project activities including capacity additions from wind sources. The project activity meets the applicability conditions of the approved methodology ACM0002. The baseline methodology is considered applicable and justified. There is no justification on how the baseline scenario is determined from among the various alternatives identified.	CAR 2	OK
B.3. Description of how the anthropogenic GHG emissions by sources are reduced below those that would have occurred in the absence of the proposed project activity					
B.3.1. Is the proposed project activity additional?	1	DR	As required in ACM0002, additionality has been assessed using the latest version of the <i>“Tool for the demonstration and assessment of additionality”</i> . As per the tool, at step 4b, it is necessary to demonstrate why the existence of similar activities does not contradict the claim that the proposed project activity is additional. The interpretation given here is equally applicable to the other similar activities. The justification is not adequate.	CAR 3	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



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	<i>These are summarised in Step 1b of additionality check.</i>	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 the 57 MW including the wind turbine and pooling and the substations. All power plants connected physically to the electricity system that the project power plant is connected to are not included in the project boundary. As per the methodology, these are to be included in the project boundary.	CL 4	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, computerised control from local as central monitoring systems, step up transformer and protection systems.	OK	OK
B.5. Details of the baseline and its development					
B.5.1. Is the date of completion provided?	1	DR	The current draft PDD with baseline study was completed on 13 th September 2005 and revised to revision 02 dated 17/12/2005	OK	OK
B.5.2. Is contact information provided?	1	DR	Dr. Ram Babu of Pricewaterhouse Coopers [P] Limited has assisted the project sponsor in determining the baseline methodology. The contact information is not provided for Dr. Ram Babu in Annex 1.	CL 5	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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	The commercial operation of the project activity commenced from 4 th July 2001, which is taken to be the starting date of the project activity.	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.	OK	OK
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. Is the monitoring methodology previously approved by the CDM Methodology Panel?	1	DR	The approved monitoring methodology ACM0002 called 'Consolidated baseline methodology for grid-connected electricity generation from renewable sources' has been used. Refer B 1.1	-	OK
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	1	DR	The reasons for choosing this monitoring methodology are appropriately justified in the item D.2 of the PDD.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



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	Yes	OK	OK
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	-	DR	See D.1.2	-	OK
D.2. Monitoring of Project Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	-	DR	Not applicable	OK	OK
D.2.2. Are the choices of project GHG indicators reasonable?	-	DR	Not applicable	OK	OK
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	-	DR	Not applicable	OK	OK
D.2.4. Will the indicators give opportunity for real measurements of achieved emission reductions?	-	DR	Yes	OK	OK
D.2.5. Will the indicators enable comparison of project data and performance over time?	-	DR	Yes	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.3. Monitoring of Leakage <i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	-	DR	No leakage is considered, as per adopted baseline methodology.	OK	OK
D.3.2. Have relevant indicators for GHG leakage been included?	-	DR	See D.3.1	-	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	-	OK
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	-	DR	See D.3.1	-	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

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	Variables to be monitored: - Electricity supplied to the grid During the site visit, it is observed that the project activity occasionally imports electricity. There is no provision in the monitoring plan to account for such imports. Further, the footnote for $EF_{OM,y}$ indicates that certain parameters are to be monitored at least annually. This needs to be reviewed for the option of ex ante considerations	CAR 4	OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	-	DR	Yes, since they meet the following formulae: - $BE_y = EG_y * EF_y$ - $EF_y = (EF_{OM,y} + EF_{BM,y}) / 2$ - $EF_{OM,y} = [\sum (F_{i,j,y} * COEF_{i,j}) / \sum GEN_{j,y}]$ $COEF_{i,j} = NCV_i * EF_{CO2,i} * OXID_i$	OK	OK
D.4.3. Will it be possible to monitor the specified baseline indicators?	-	DR	Yes	OK	OK
D.5. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i>					
D.5.1. Is the authority and responsibility of project management clearly described?	1	DR	The project will be operated and managed by Bajaj Auto Limited who are also the project proponent.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.5.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	Section D.4 of the PDD defines responsibilities for the collection, reporting and verification of the data.	OK	OK
D.5.3. Are procedures identified for training of monitoring personnel?	-	I	Procedures for training of monitoring personnel are identified. They are a part of the certified quality and environmental management systems of the O&M agency SWSPL.	OK	OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	-	I	The procedures for emergency preparedness for cases where these can cause unintended emissions have been identified. They are a part of the certified quality and environmental management systems of the O&M agency SWSPL.	OK	OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	-	I	The procedure for calibration of the monitoring equipment has been identified. Evidence for calibration of the equipment was available. Appropriate records were maintained.	OK	OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	-	I	Procedures for maintenance of monitoring equipment and installations are identified. They are a part of the certified quality and environmental management systems of the O&M agency SWSPL.	OK	OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	-	I	Section D.4 of the PDD defines responsibilities for the collection, reporting and verification of the data.	OK	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	Procedures for control of records are identified. They are a part of the certified quality and environmental management systems of the O&M agency SWSPL.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	-	I	In case the energy meter provided by Maharashtra State Electricity fails and is replaced, the electronic data in the replaced meter is not subsequently available. In such case, the records are maintained on paper. The PDD however mentions that the data will be maintained in electronic form.	CAR 5	OK
D.5.10. Are procedures identified for review of reported results/data?	-	I	Section D.4 of the PDD defines responsibilities for the collection, reporting and verification of the data.	OK	OK
D.5.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	-	I	There is no separate internal audit process. 3 qualified persons from Bajaj Auto Limited ensure this through routine monitoring of the project activity.	OK	OK
D.5.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	-	I	Mechanism for review and approval of data before submission internally or externally are identified.	OK	OK
D.5.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	-	I	Procedures for corrective and preventive actions are identified. They are a part of the certified quality and environmental management systems of the O&M agency SWSPL. Additionally, BAL personnel managing the project also have processes for corrective and preventive action.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



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	OK	OK
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	-	DR	See E.1.2	-	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

* MoV = Means of Verification, DR= Document Review, I= Interview



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

* MoV = Means of Verification, DR= Document Review, I= Interview



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	The data for Build margin calculations does not clearly identify the emission factors considering the larger of the two options as defined in the methodology	CL 7	OK
E.3.3. Have conservative assumptions been used when calculating baseline emissions?	-	DR	Refer E.3.2	-	OK
E.3.4. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	-	DR	Refer E.3.2	-	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 2001 – 2011 will be 332,623 tCO ₂ .	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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 F.1 of the PDD details the analysis of environmental impacts of the project activity The social impacts have not been sufficiently described.	CL 8	OK
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 investment 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	A Rapid environmental impact assessment [EIA] was conducted by M/s CARE Sustainability, Navi Mumbai An impact analysis has been undertaken. Necessary mitigation measures have also been identified. Refer F.1.1 for social 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. Refer F.1.1 for social impacts	OK	OK
F.1.5. Have identified environmental and social impacts been addressed in the project design?	-	I	The environmental impacts have been addressed in the project design. Refer F.1.1 for social impacts	OK	OK
F.1.6. Does the project comply with environmental legislation in the host country?	-	I	Refer section 1.1 of Table 4.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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	<p>BAL have identified local communities, officials of Grampanchayat [local government council], employees of wind mill O&M contractor, M/s. Suzlon, Supa Industrial area, farmers, college students as the most important stakeholders. These were consulted vide the meeting carried out on 16/09/2005 at office of Grampanchayat Hanga, Tal Parner, Dist Ahmednagar.</p> <p>Records of the meeting confirm that relevant stakeholders were consulted.</p> <p>The meeting was conducted very late as compared to the start of the project activity.</p>	CL 9	OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	-	DR	<p>BAL sent out a notice to representatives of various stakeholder groups. Information about the meeting was also broadcast publicly in the village. The notice was also published in the local newspapers and on the Grampanchayat office displayed at prominent locations within the locality..</p>	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	-	I	The stakeholder consultation process is not necessary for the projects of type and scale of this project.	OK	OK
G.1.4. Is a summary of the stakeholder comments received provided?	-	DR	Summary is provided at section G.2 of the PDD. The records of the proceedings of the meeting are also maintained. Input during the interview with some of the local stakeholder confirms this represents the actual situation.	OK	OK
G.1.5. Has due account been taken of any stakeholder comments received?	-	DR	Table in item G.3 of the PDD describes how the stakeholder comments have been addressed. No comments have been ignored.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Table 3 Baseline and Monitoring Methodologies ACM0002 version 2 dated 03/12/2004

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 and wheeled to BAL's Akurdi and Waluj units.	OK	OK
1.1.3. 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
1.1.4. Is fuel switch done in the process?	2	DR I	No.	OK	OK
1.1.5. Can the geographic and system boundaries for the relevant electricity grid be clearly identified ?	2	DR Inter net	Yes. The geographic and system boundaries of western grid can be identified.	OK	OK
1.1.6. Is the information on the characteristics of the grid available ?	2	DR Inter net	Yes, the characteristics of the western grid are available.	OK	OK
1.1.7. 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
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 as the project activity does not involve geothermal power plant.	OK	OK
1.2.2. Does the spatial extent of the project	2	DR	Refer B.4.1	-	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
boundary include the project site and all power plants connected physically to the electricity system that the CDM project power plant is connected to ?					
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	Western region grid considered.	OK	OK
1.2.4. Are the assumptions in made in determining the project electricity system defined ?	2	DR	The assumptions made in defining the project electricity system are defined at section B.2 of the PDD	OK	OK
1.2.5. Are recent or likely future additions to transmission capacity likely to significantly increase imported electricity ?	2	DR I	The current transmission capacity is sufficient. Further additions to the transmission capacity are not envisaged.	OK	OK
1.2.6. If answer to question 1.2.5 is no, is the spatial extent for the purpose of Build Margin limited to the project electricity system ?	2	DR	The spatial extent for the purpose Build Margin is limited to the project electricity system	OK	OK
1.2.7. If answer to question 1.2.5 is yes, is the transmission capacity considered as a build margin source ?	2	DR	The transmission capacity is not considered as a build margin source.	OK	OK
1.2.8. For the case of 1.2.7, is the emission factor determined as one of the four options for the OM imports ?	2	DR	Not applicable	OK	OK
1.2.9. 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
1.2.10. If the import of electricity is from another	2	DR	Not applicable	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
country, is the CO ₂ emission factors for net electricity imports considered as 0 t CO ₂ per MWh					
1.2.11. Are the electricity exports subtracted from the electricity generation data used for the calculation and monitoring the baseline emission rate ?	2	DR	There are no electricity exports from the project electricity system.	OK	OK
1.3. Identification of alternative baseline scenarios					
1.3.1. Do the baseline scenario alternatives include all options that provide or produce electricity connected to the grid ?	2	DR	Yes.	OK	OK
1.3.2. Is the most likely baseline scenario 'electricity production from other sources feeding into the grid ?	2	DR	Refer B.2.1	-	OK
1.3.3. Did the project participant provide evidence and supporting documents to exclude baseline options that do not comply with legal and regulatory requirements; or depend on key resources such as fuels, materials or technology that are not available at the project site?	2	I	Not applicable as all the alternative scenarios comply with the law.	OK	OK
1.3.4. Is the baseline scenario the following : electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources ?	2	DR I	Refer B.2.1	-	OK
1.3.5. If the project activity modifies or retrofits an existing electricity generation facility, is the guidance by Eb08 taken into account ?	2	DR I	Not applicable.	OK	OK
1.4. Additionality					
1.4.1. Was the additionality of the project activity demonstrated and assessed using the latest version	2	DR	Refer B.3.1	-	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
of the “Tool for demonstration and assessment of additionality”?					
1.5 Project Emissions					
1.5.1. Are the project emissions considered as zero [0] ?	2	DR	The project emissions are considered as zero. This is defined in section E of the PDD	OK	OK
	2	DR			
1.6. Baseline Emissions					
1.6.1. Are the baseline emissions were determined according to the formula $BE_{\text{electricity, y}} = EG_y \times EF_y$?	2	DR	This is not clearly defined in the PDD	CL 10	OK
1.6.2. Were the Emissions Factor for displaced electricity calculated as in ACM0002?	2	DR	There is no justification provided for choosing Simple OM approach. Justification is required as per ACM0002 for using Simple OM approach.	CL 11	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 leakage emissions below the level of the baseline scenario ?	2	DR I	No credits have been claimed.	OK	OK
1.8. Emission Reduction					
1.8.1. Did the emissions reductions were determined according to the formula $ER_y = BE$?	2	DR	Yes, this is explained in section E.4 of the PDD	OK	OK
1.8.2. Were all values chosen in a conservative manner and was the choice justified?	2	DR I	The data on emission reductions is not transparent. OM calculations – ‘Gas’ considered as ‘waste gas’.	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, the project activity generates electricity from renewable wind energy.	OK	OK
2.1.2. Is the power connected to the grid ?	2	DR	Yes, the power is connected to the western grid.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
		I			
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 I	No.	OK	OK
2.1.5. Can the geographic and system boundaries for the relevant electricity grid be clearly identified ?			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 ?			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] ?			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	Yes. Item 6 of the monitoring plan – EG _y – Net Electricity supplied to the grid by the project. Refer D.4.1	-	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
2.2.4. 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
2.2.5. Does the monitoring plan require monitoring of data needed to calculate fugitive carbon dioxide and methane emissions and carbon dioxide	2	DR	Not applicable.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
emissions from combustion of fossil fuels required to operate the geothermal power plant ?					
2.3. Quality Control (QC) and Quality Assurance (QA) Procedures					
2.3.1. Did all measurements use calibrated measurement equipment that is regularly checked for its functioning?	2	I	Calibrated equipment were used for the measurement. These are electronic meters which are self calibrated. Periodic verification is done by SWSPL for the individual meters. The meters measuring the export of power to the grid are maintained and calibrated by the MSEB [electricity authority].	OK	OK
2.3.2. Are the data double checked against commercial data ?	2	DR I	The procedure for double-checking the data is not implemented.	CL 12	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

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?			<p>The project activity does not lead to generation of liquid or gaseous emissions. Hence consent of Maharashtra Pollution Control Board is not required.</p> <p>Each windmill is expected to generate waste oil at a periodic interval of 5 years. There is no evidence of Authorisation for handling of waste oil as required by the Hazardous Waste Management & Handling Rules.</p>	CL 13	OK
1.2. Are the conditions of the environmental license being met?			Refer 1.1	-	OK
1.3 Are the conditions of the Designated National Authority being met?			Refer A.3.2	-	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

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 2/3/4	Summary of project owner response			Validation team conclusion
CAR 1 Approval from Ministry of Environment & Forests is awaited.	A.3.2	The Host Government Approval dated 21/11/2005 has been obtained.			The corrective action request is closed.
CAR 2 There is no justification on how the baseline scenario is determined from among the various alternatives identified.	B.2.1	The Alternatives as discussed in the PDD are:			The information provided is considered sufficient. The corrective action request is closed.
		Alternatives	Permitted by regulations	Financial Feasibility	
		Use of a higher GHG intensive fuel like Coal for power generation,	Yes	Yes	
		Option of the state electricity grid to fulfil its power.	Yes	yes	

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response			Validation team conclusion
		Generation of electricity using wind as a renewable source of energy for power generation, without CDM revenue	yes	No	
CAR 3 As per the tool, at step 4b, it is necessary to demonstrate why the existence of similar activities does not contradict the claim that the proposed project activity is additional. The arguments here are equally	B.3.1	<p>Out of the alternative scenarios, the first two are financially feasible alternatives and the baseline emissions in the second scenario, would be less than those of first scenario in this project context.</p> <p>Before the establishment of wind farms by BAL the total electricity generation through wind in Maharashtra totalled to only 24 MW*. BAL was the first to install a wind farm of the capacity of 20 MW,</p>			The information provided is considered sufficient to demonstrate the difference in the barriers faced by the project activity as compared to similar activities. Hence the project activity is

* As per the data published in the annual bulletin of 2003 Maharashtra Energy Development Agency for Non-Conventional Energy sources.

† Policy on wind power generation, Government of Maharashtra – Industries, Energy & Labour Department. Resolution No. NCP 1097/CR-57/NRG-7.

‡ NOC from State Electricity Board

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
applicable to the other similar activities. The justification is not adequate.		<p>the largest wind farm establishment till that time at Supa. The BAL wind farm project is thus business unusual in terms of its Capacity i.e. no other project of similar size existed in that region.</p> <p>Secondly the project becomes additional due to the difference in Power Policies^{†,‡} that it has faced as described below:</p> <p>Wind Farms established prior to BAL's installations were charged by 0% -1% transmission losses depending on the transmission distance. This CDM project activity was charged 10% transmission losses which was later reduced to 5 %, by MERC.</p> <p>In effect the other wind power projects in Maharashtra that have been established earlier, faced charges to the tune of 0%-1% for transmission losses, while the project activity faced charges to the tune of 5% for transmission losses.</p> <p>It is our understanding that the project of similar size that have been put up after this project, are being structured</p>	not a common practice. The corrective action request is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
		<p>as CDM projects and are at different stages of CDM project cycle.</p> <p>Based on the above facts it is concluded that the project activity is not a common practise. The revised PDD is reflecting these changes.</p>	
<p>CAR 4 During the site visit, it is observed that the project activity occasionally imports electricity. There is no provision in the monitoring plan to account for such imports.</p>	D.4.1	<p>The import and export of electricity is continuously monitored by the export/import meter and the data is recorded on a monthly basis jointly by the proponent and the electricity board. This meter is located at the delivery point of wind power in SEB's grid. This accounts for the import of electricity that is used by the Project proponent. Hence the net electricity generated is calculated from the joint meter reading and recorded /archived in paper/electronic. The revised PDD is reflecting these changes</p>	<p>The information provided is considered sufficient. The corrective action request is closed.</p>
<p>CAR 5 In case the energy meter provided by Maharashtra State Electricity fails and is replaced, the electronic data in the replaced meter is not subsequently available. In such case, the records are maintained on paper. The PDD however mentions that the data will be maintained in electronic form.</p>	D.5.9	<p>Whenever there is a break down in the meter, resulting replacements, the data archived in the meter is fed into a computer storage system. The replaced meter starts from 0. The net electricity generated is calculated from the readings of failed and new meters.</p>	<p>The information provided is considered sufficient. The corrective action request is closed.</p>

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
		The response to CAR 4 and corrective action therein, would address CAR5, too	
CL 1 Latitude 17°42' [Directions are not identified] Longitude 74°02' Direction are not identified]	A.5.1.4	The Directions North & East are mentioned in the revised version of the PDD.	The information provided is considered sufficient. The clarification request is closed.
CL 2 The host party is not identified.	A.5.4.3	The government of India is the host Party and is mentioned in the revised PDD.	The information provided is considered sufficient. The clarification request is closed.
CL 3 Version no. of the methodology used is not identified.	B.1.1	The version no. 4 of the methodology used is mentioned in the revised PDD	The PDDs were received by BVQI on 07/10/2005 for validation. On this date, version 02 of the PDD was valid. Subsequently, the latest version 04 of ACM0002 is applied. The project does not involve any retrofitting. The baseline calculations were based on regional grid consideration. This change did not impact the project activity. The clarification request is closed.
CL 4 All power plants connected physically to the electricity system that the project power plant is connected to are not included in the project boundary. As per the methodology, these are to be included in the project boundary.	B.4.1	This section is revised to incorporate the term "western grid" while defining the project boundary in the revised PDD.	The power plants are now included in the project boundary in the revised PDD. The clarification request is closed.
CL 5 The contact information is not provided	B.5.2	The revised PDD has deleted reference	The contact information is now

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
for Dr. Ram Babu in Annex 1.		to Annex 1 from D.5 and provided contact information for Dr. Ram Babu at sec B.5..	available in the revised PDD. The clarification request is closed.
CL 6 Further, the footnote for $EF_{OM,y}$ indicates that certain parameters are to be monitored at least annually. This needs to be reviewed for the option of ex ante considerations.	D.4.1	The revised PDD deletes the footnote.	The correction is accepted. The clarification request is closed.
CL 7 The data for Build margin calculations does not clearly identify the emission factors considering the larger of the two options as defined in the methodology	E.3.2	The data on build margin includes all recent plants (which are more than five in number) and the total generation amounts to 21.8%. The later is considered for computing Build Margin Emission Factor.	The information provided is considered sufficient. The clarification request is closed.
CL 8 The social impacts have not been sufficiently described.	F.1.1	The following social impacts were considered and found insignificant: <ul style="list-style-type: none"> • Occupational Loss • Human habitat fragmentation • Loss of land and settlements • Loss of cultural and heritage sites 	The information provided is considered sufficient. The clarification request is closed.
CL 9 The meeting was conducted very late as compared to the start of the project activity.	G.1.1	The stake holder meetings have been conducted right from the inception of this project and at various intervals there after. The documentary proof of the stakeholder consultation is provided	The information provided is considered sufficient. The clarification request is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
		by the project proponent in form of the yearly community consultation meetings held in the year of inception. The stakeholder consultation meeting(referred in section F) for CDM project was held after BAL came to know of such requirement for CDM projects	
CL 10 Baseline emission calculation is not clearly defined in the PDD	1.6.1	Though the calculation is done following the formula in ACM0002, the formula is stated in the revised PDD.	The formula is now included in the revised PDD. The clarification request is closed.
CL 11 There is no justification provided for choosing Simple OM approach. Justification is required as per ACM0002 for using Simple OM approach.	1.6.2	The justification is provided in the PDD in the page 7, paragraph 1	The justification provided is considered sufficient. The clarification request is closed.
CL 12 The procedure for double-checking the data is not implemented.	2.3.2	As a procedure for double checking, electricity supplied by the project to the grid is also verified by the deemed revenue receipt of the sales being captive consumption as mentioned in the PDD.	The change is accepted. The clarification request is closed.
CL 13 Each windmill is expected to generate waste oil at a periodic interval of 5 years. There is no evidence of Authorisation for handling of waste oil as required by the Hazardous Waste Management & Handling	1.1	BAL has entered into a 20 year contract with M/s Suzlon energy for operation & maintenance of windmills, which specifically addresses issues of oil change. The oil change activity does	This clarifies that the waste oil is not generated or handled at site of the project activity. The clarification request is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2/3/4	Summary of project owner response	Validation team conclusion
Rules.		not take place at the project proponent's wind mill site*.	

- 1- GUIDELINES FOR COMPLETING CDM-PDD, CDM-NMB and CDM-NMM – Version 04 – July 8th, 2005
- 2- APPROVED CONSOLIDATED METHODOLOGY ACM0002 – Version 02 – 3 December 2004 & version 04 dated 28/11/2005

* Lorry receipts (LR) for gear unit dispatched to M/s Suzlon for gear box overhauling.

APPENDIX B : EXPLANATION OF HOW DUE ACCOUNT WAS TAKEN OF THE 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.

BVQI published the project documents on the UNFCCC CDM website (<http://cdm.unfccc.int>) on 27/10/2005 and invited comments within 25/11/2005 by Parties, stakeholders and non-governmental organizations. The table below describes how due account of the comments received for the CDM project Grid-connected electricity generation from renewable sources at Supa, Taluka Parner, Dist. Ahmednagar by M/s Bajaj Auto Ltd. (BAL) using wind power was taken by BVQI :

Sr. No.	Details of the commenter	Date of the comment	Comment	Response by the project participants	Explanation on how due account is taken by the DOE
1	<p>Mr. Axel Michaelowa</p> <p>Programme International Climate Policy</p> <p>Hamburg Institute of International Economics</p> <p>Neuer Jungfernstieg 21</p> <p>20347 Hamburg</p> <p>Germany</p> <p>Tel. +49 40 42834 309</p> <p>Fax +49 40 42834 451</p> <p>a-michaelowa@hwwa.de</p>	11/11/2005	<p>This project raises principal issues about project organization and bundling linked with additionality determination. Most wind projects in India are planned and operated by the turbine manufacturers (here Suzlon) who then sell entire wind turbines to industrial electricity consumers (such as Sun-n-sand hotels in a project validated by RW TÜV and Baja Auto in your validation at Supa) who can reduce their electricity supply cost (SEB electricity tariff for industrial consumers being at least twice as high as wind electricity generation cost) and can depreciate 80% of the wind turbine investment in the first year.</p> <p>Thus wind turbine investment is very attractive to industrial electricity consumers and certainly business-as-usual in India. As the wind turbine manufacturers get a good profit from this business model as well, the projects would not be additional from that side as well. The question is of course whether the CDM project can be proposed by the formal owner of the turbine (who has nothing to do with the operation of the project and just</p>	<p>This project is not a small-scale project. Hence unbundling does not provide the project proponent any advantage.</p> <p>As mentioned under Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project Activities, the following results into debundling of large CDM project:</p> <p>Quote:</p> <p>“ A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:</p> <ul style="list-style-type: none"> ▪ With the same project participants; ▪ In the same project category and technology/measure; and ▪ Registered within the previous 2 years; and ▪ Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point ” 	<p>The cost analysis, considering various benefits available for windmills, referenced by Bajaj Auto Limited [BAL] from the official MERC database indicates that the cost of wind power is in the range of grid tariff. BAL have also confirmed that the cost of wind power for BAL is also in the same range.</p> <p>Two projects currently under validation from BAL are both non-small scale projects. Hence bundling – debundling issues are not of critical nature.</p> <p>The additionality arguments provided BAL in the PDD and the response to the comment are also sound enough to prove additionality of the project activity and associated emissions reductions.</p> <p>The comment is therefore considered to be duly accounted for.</p>

			<p>receives its electricity) or the operator of the turbines, which has an impact on monitoring. At Supa, owners submit projects which generates an issue about unbundling.</p> <p>Bajaj Auto's grid electricity purchase rate seems rather low in an Indian industrial context. As it has an important impact on the additionality test, this should be checked.</p>	<p>The identified CDM project is being promoted by Bajaj Auto. The project proponent further confirms that it has not registered any small scale CDM activity or applied for registration another small scale CDM project activity within 1km of the respective project boundaries of this project in the same project category and technology/measure. Hence the above criteria of unbundling cases are not applicable for these CDM projects.</p> <p>Bajaj Auto is the owner of windpower installation and accordingly it has right on all proceeds thereon. It has procured the services of Suzlon for supply and installation of wind turbines and in absence of in-house knowledge / expertise has retained Suzlon for the operations and maintenance of the same. The O & M agreement with Suzlon would enable Bajaj Auto to diligently carry out monitoring following the Monitoring & Verification protocol.</p> <p>As per Maharashtra Electricity Regulatory Commission (MERC) Order in 2003 (Page 143-6), Electricity Board tariff to industrial consumers is Rs. 3.34 per KWH, cost of thermal is Rs. 3.24 per KWH and the cost of power generated using wind turbines of</p>	
--	--	--	---	--	--

				<p>Rs. 4.10 per KWH without Sales tax incentives and Rs. 3.46/kwh with Sales tax incentives The cost of windpower is clearly higher than cost of grid and cost of Thermal. The cost of windpower generated by Bajaj Auto is in line with the same.</p> <p>Grid electricity purchase rate includes energy charges and fixed demand charges. We have considered energy charges and demand charges Separately while giving per unit cost of power in PDD.</p> <p>The PDD further demonstrates that through various other considerations the additionality tests are met and the project is additional.</p> <p>BAL hopes that the above replies clear the comments.</p>	
2	Mr. Perumal Arumugam e-mail - perumal_ak@yahoo.co.in	25/11/2005	<p>Technological barrier:</p> <p>i. The argument on technological barrier is debatable</p> <p>ii. The manpower expertise for the O&M will be provided by the manufacturer himself for the first two years over and above that after sales service, annual maintenance is being done by the manufacturer himself. The norms of jobs per MW for O&M as per the REEP study is</p>	<p>i. BAL has invested into Windpower project to meet its captive power requirement and not for sale to third parties. At the time the company made investment in the project, the windpower technology was in nascent stage in the state of Maharashtra, where our projects are located as shown in the table below at Appendix AA</p>	<p>The response by the project participants herewith strengthens the barrier analysis as presented in the PDD.</p> <p>It is verified that there were lightning stroke/s and corresponding failures at the wind mills. The relevant arguments in the PDD are therefore valid.</p>

			<p>0.3 so the manpower requirement would be hardly 15 – 20 people .This technology started its footprints from 1985 so availing manpower would not be a constraint.</p> <p>iii. The failure of machines due to lightning, catching fire etc may be very very very minimum. Along with the PDD if it could have mentioned with the number of such accidents and occurrences it would be effective.</p>	<p>below at Appendix AA.</p> <p>ii. The year 1985 might be true in World / India context, but not in Maharashtra context as shown above.</p> <p>iii. BAL is engaged in manufacture of two and three wheeler vehicles. It could have very well set up fossil fuel based captive power plants to meet its power requirements. In spite of having the experience of DG Sets, the company went with windpower.</p> <p>iv. It was a lack of knowledge, expertise and manpower in this area that forced us to tie up with the Turbine manufacturer to provide us with O & M Contract as well.</p> <p>v. The failure of machines due to lightening may be minimum at sea level. Our project is situated at high altitude, 1150 metres above sea level in heavy rainfall area. Lightening strikes occur quite often at the site. In the past four years, BAL has already incurred losses due to lightening and also in two cases due to fire. The insurance claims for the same were lodged and accepted by Insurance Company.</p>	<p>The comment is considered to be duly accounted for.</p>
--	--	--	---	--	--

				vi. Technological barriers have been further elaborated in PDD itself.	
3	Mr. Perumal Arumugam e-mail - perumal_ak@yahoo.co.in	25/11/2005	<p>Whether the financial analysis has taken the following into consideration:</p> <p>i. Tax holidays, accelerated depreciation, capital subsidy etc.</p> <p>ii. Why it has been done only for the crediting period when the entire life time of the facility is 20 years.</p> <p>iii. Does variable cost component has been taken care during computation?</p> <p>iv. Does the IRR consider all the benefits accruing from the project? In my opinion this should incase also include the value of tax breaks available to the project developer. To the best of my knowledge financial analysis in the PDD hasn't taken value of tax breaks into consideration, which in case of WE projects is very significant.</p>	<p>i. The windmill project in Maharashtra entitles BAL to sales tax incentives, capital subsidy, accelerated depreciation and certain income tax benefits.</p> <p>ii. Capital subsidy is restricted to Rs. 2 million for the entire project, which is insignificant keeping in mind the overall capital cost of the project.</p> <p>iii. BAL, for its core business of automobiles, has got two plants set up in the notified backward areas of Maharashtra. Any investment made by the company in backward area of Aurangabad entitles the company to unlimited sales tax benefits for a period of 18 years. Power plants (whether wind, coal or diesel) installed in the backward areas would also entail such benefits to the company. By investment in the windmill project, the company has compromised its sales tax benefits since sales tax incentives for windmill project are limited to the capital investment.</p> <p>iv. As regards, accelerated</p>	<p>It is true that the wind mill projects enjoy tax holidays, accelerated depreciation, capital subsidy, etc.</p> <p>However, the project participants, through documented evidence, have shown that in spite of these, the project was not the most financially attractive one.</p> <p>The comment is considered to be duly accounted for.</p>

				<p>depreciation and income tax benefits, the same have been taken on a stand alone basis. Automobile division would enjoy the benefits of the same.</p> <p>v. The income tax benefits and depreciation would be partially available, had the company invested in fossil fuel based power projects in the manufacturing plant itself.</p> <p>vi. IRR has been calculated for the entire lifetime of 20 years only. Whereas, Long term loans for investment proposal have repayment period of 10 years. Hence, Debt Service Coverage Ratio (DSCR) has been calculated for 10 years.</p> <p>vii. See below in Appendix BB the cost component structure of cost of grid and cost of wind power as taken in PDD.</p>	
--	--	--	--	---	--

Appendix AA

Windpower Installed capacity (in MW) in State of Maharashtra

Year	Maharashtra	BAL
1997	0.77	

1998	3.33	
1999	20.31	
2000	116.97	39.20
2001 & 2002	251.45	26.00
Total MW	392.83	65.20

Appendix BB

Sr.No.	Cost component	Cost of grid	Cost of windpower
1.a	Variable cost	These are charged as Energy Tariff and Fuel Cost Adjustment charges.	These are repairs of turbines, insurance cost, property taxes and other running expenses,
1.b	Fixed Cost	These are also included as Tariff.	These are related to initial investment in the project.
2	Fixed Demand Charges	These are payable by energy user as per Tariff.	These are payable by energy user as per Tariff.