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# VALIDATION REPORT

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## **BP Energy India Private Limited. “40 MW GRID CONNECTED WIND POWER PROJECT”**

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Date of issue: 08/09/2007		Project No.: CDM.Val0851	
Project title 40 MW Grid Connected Wind Power Project		Organisational unit: SGS Climate Change Programme	
Revision number 3.0; 21/07/2008		Client: BP Energy India Private Limited.	
<p><b>Summary</b></p> <p>SGS India Pvt. Ltd., an affiliate of SGS United Kingdom Ltd. has made a validation of the CDM project activity "40 MW Grid Connected Wind Power Project" by BP Energy India Private Limited in the Maharashtra, India at Dhule District of Maharashtra state in India, on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria. The project falls under large scale category and scope 1. Energy Industries (Renewable/ Non-renewable sources).</p> <p>The scope of validation is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the project. The information in this document is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.</p> <p>The overall validation process, from Contract Review to Validation Report &amp; Opinion, was conducted using internal procedures (UK.PP.12 issue 3 dated 19/01/2007).</p> <p>The first output of the validation process is a list of Corrective Actions Requests and New Information Requests (CARs and NIRs), presented in Annex 3 of this document. Taking into account this output, the project proponent revised its project design document.</p> <p>In summary, it is SGS's opinion that the proposed CDM project activity correctly applies the baseline and monitoring methodology as mentioned in approved methodology adopted for the proposed project activity and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.</p>			
Subject: CDM validation		Indexing terms	
Work carried out by Mr. Sanjeev Kumar – Team Leader Mr. Vikrant Badve – Assessor Mr. Jimmy Sah – Local Assessor			
Technical review Mr. Siddharth Yadav		<input checked="" type="checkbox"/> No distribution without permission from the Client or responsible organisational unit	
Authorized signatory Irma Lubrecht		<input type="checkbox"/> Limited distribution	
Date of final decision: 21-07-2008	Number of pages: 50	<input type="checkbox"/> Unrestricted distribution	



## Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CERC	Central Electricity Regulatory Authority
CFE	Consent for Establishment
CFO	Consent for Operation
CO <sub>2</sub>	Carbon Dioxide
COP/MOP	Conference of parties serving as the meeting of parties to Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environment Impact Assessment
GEF	Grid Emission Factor
GHG	Green House Gas(es)
GWh	Giga watt hour
I	Interview
IPCC	Intergovernmental Panel on Climate Change
ISHC	International Stakeholder Consultation
kWh	Kilo watt hour
MEDA	Maharashtra Energy Development Agency
MNES	Ministry of Non Conventional Energy Sources
MoEF	Ministry of Environment and Forest
MoV	Means of Verification
MP	Monitoring Plan
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MW	Mega watt
MT	Metric Tonne
NIR	New Information Request
NGO	Non Government Organisation
NOC	No Objection Certificate
PDD	Project Design Document
PPA	Power Purchase Agreement
Rs.	Rupees
UNFCCC	United Nations Framework Convention for Climate Change
WTG	Wind Turbine Generator



## Table of content

1	Introduction.....	5
1.1	Objective .....	5
1.2	Scope .....	5
1.3	GHG Project Description .....	5
1.4	The names and roles of the validation team members.....	6
2	Methodology.....	7
2.1	Review of CDM-PDD and additional documentation.....	7
2.2	Use of the validation protocol .....	7
2.3	Findings.....	7
2.4	Internal quality control .....	8
3	Determination Findings .....	9
3.1	Participation requirements.....	9
3.2	Baseline selection and additionality .....	9
3.3	Application of Baseline methodology and calculation of emission factors .....	9
3.4	Application of Monitoring methodology and Monitoring Plan.....	9
3.5	Project design.....	9
3.6	Environmental Impacts .....	9
3.7	Local stakeholder comments.....	9
4	Comments by Parties, Stakeholders and NGOs .....	9
4.1	Description of how and when the PDD was made publicly available .....	9
4.2	Compilation of all comments received.....	9
4.3	Explanation of how comments have been taken into account.....	9
5	Validation opinion .....	9
6	List of persons interviewed.....	9
7	Document references .....	9

Annex 1: Local assessment

Annex 2: Validation Protocol

Annex 3: Overview of findings

Annex 4: Statement of Competence of Validation Team



## 1 Introduction

### 1.1 Objective

BP Energy India Private Limited has commissioned SGS to perform the validation of the project: "40 MW Grid Connected Wind Power Project" by BP Energy India Private Limited in the Maharashtra, India with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess 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 seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

### 1.2 Scope

The scope of the validation 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. SGS has 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 proposed CDM project activity is an electricity generation project through wind turbines and exporting the same to the grid. The project will result in replacing exported amount of electricity from Western regional grid which is dominated by fossil fuel based power plants. The project activity is located in Dhule District of Maharashtra state in India. The project activity has been successfully commissioned on 20<sup>th</sup> Nov. 2007. The Project activity involves operation of 32 Wind Turbine Generators (WTG) of S70 model by Suzlon; specifications of the same have been provided in the PDD and same has been cross-checked with the technical specification sheet of S70 model WTG as listed by Suzlon.

#### Baseline Scenario:

Under the baseline scenario, there would have been more direct off-site emissions through burning of fossil fuel in the coal based power plant for meeting growing electrical energy requirements.

#### With Project Scenario:

The project activity will generate and export the electricity to the Western regional grid. Thus project activity replaces electrical energy from fossil fuel based power plants and contributes to conservation of fossil fuel, a non-renewable natural resource and consequently reduces GHG emissions.

#### Leakage:

As per the methodology ACM0002 Version 6.0 dated 19th May 2006; applicable for the project activity, no leakage is to be considered for the project activity.

#### Environmental & Social Impacts:



There are no negative environmental and social impacts expected with the project activity, the same has been cross-checked during the discussion with the project proponents and while checking the comments from the local stakeholders received in local stakeholder consultation.

#### **1.4 The names and roles of the validation team members**

<b>Name</b>	<b>Supplier</b>	<b>Role</b>
Mr. Sanjeev Kumar	SGS India	Team Leader / Lead Auditor
Mr. Vikrant Badve	SGS India	Assessor
Mr. Jimmy Sah	SGS India	Local Assessor

Statement of Competence of team members are attached at Annex IV.

## 2 Methodology

### 2.1 Review of CDM-PDD and additional documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

### 2.2 Use of the validation protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

<b>Checklist Question</b>	<b>Means of verification (MoV)</b>	<b>Comment</b>	<b>Draft and/or Final Conclusion</b>
<i>The various requirements are linked to checklist questions the project should meet.</i>	<i>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.</i>	<i>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.</i>	<i>This is either acceptable based on evidence provided (Y), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>New Information Request (NIR)</b> is used when the validation team has identified a need for further clarification.</i>

The completed validation protocol for this project is attached as Annex 2 to this report

### 2.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

- I. mistakes have been made with a direct influence on project results;



- II. validation protocol requirements have not been met; or
- III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

**Observations** may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

#### **2.4 Internal quality control**

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.





### 3 Determination Findings

#### 3.1 Participation requirements

The host Party for this project is India while the Annex 1 party is United Kingdom. India has ratified the Kyoto protocol on 26th Aug 2002 and United Kingdom has ratified the Kyoto protocol on 31<sup>st</sup> May 2002. A Letter of Approval from DNA was not submitted by the project proponent. CAR (01) was raised asking project proponent to submit the Letter of approval from host country DNA and Annex 1 participant. Project proponent has received the Host country approval for the present project. The reference number of the LoA from Indian DNA is 4/8/2007 – CCC, the name mentioned on the LoA is same as that mentioned in the section A.1 of the PDD version 3. Project Proponent has identified United Kingdom of Great Britain and Northern Ireland as Annex 1 Participant country. The Letter of Approval from the Annex 1 country DNA dated 3<sup>rd</sup> April 2008 has been submitted with the reference number of the same is BPGM/01/2008, thus CAR (01) is closed.

#### 3.2 Baseline selection and additionality

The project has applied baseline as mentioned in the large scale methodology ACM0002 version 06 dated 19<sup>th</sup> May 2006 for “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”. The project activity generates electricity from wind using wind turbine generators and supplies it to western regional grid; thus replaces electricity from fossil fuel based thermal power plant, and contributes to conservation of fossil fuel, and fall under the category ACM0002.

The present CDM project activity will generate and feed the electricity to the Western regional grid. The emission reductions achieved because of the project activity will be direct function of the net electricity feed to the grid and grid emission factor for the Western regional grid.

**The project activity has used version 03 of the tool for demonstration and assessment of additionality.**

The project proponent has adopted the Investment analysis as main barrier to justify the additionality of the project. Also project proponent has described the technological barriers, Regulatory barriers and barriers due to prevailing practises associated with the project. In order to get all the related documents on the basis of which the project was shown additional, CAR (04) was raised.

There are a total of 32 Wind Turbine Generators (WTGs) of 1.25 MW capacity involved in the project activity. While considering the financial analysis of the project activity the project proponent has submitted IRR calculation sheets which mention the IRR values for both with and without CDM benefits. The project has been financed 100% equity by BP Energy without any debt thus the Project IRR and Equity IRR are viewed as equivalent for the project activity. The same was discussed with the project proponent and found acceptable after having a review of letter given by Mr. Tom Tidesley dated 3<sup>rd</sup> July 2007 mentioned as reference (2) in section 7 of this report. An excel sheet involving the calculations for IRR values for the project has been provided. The IRR values without CDM benefits and with CDM benefit have been mentioned. The IRR value without CDM benefits is 10.10% and with considering CDM benefits IRR value improve to 10.98%. The Net electricity generated by the project activity and PLF are two major assumptions used while calculating the IRR for the project activity. Gross Generation of Electricity is assumed 97.6 GWh which gives a PLF of 27.85% is based on the study carried out by Garrad Hassan and Partners Ltd specifically for the project activity. The report on ‘Wind Resource study by Garrad Hassan and Partners Ltd’ by Garrad Hassan and partners was reviewed by validator during validation and mentioned as reference (6) in section 7 of this report. The figure of 97.6 GWh is the maximum output expected from the project activity which was cross-checked with the report and is acceptable. To be on conservative side the maximum output has been used for

calculations. The calculations for IRR values were checked and found satisfactory. The IRR for the project activity has been compared with the benchmark value of 14% which is the post tax return on equity (ROE) for projects in public and private sector in India.

The benchmark of post tax equity IRR of 14%; used by the project proponent was accepted by DOE after considering the following points which itself clarify the suitability of the benchmark.

1. Project activity sector and type i.e. policy for power sector and more specifically on the renewable energy generation projects –

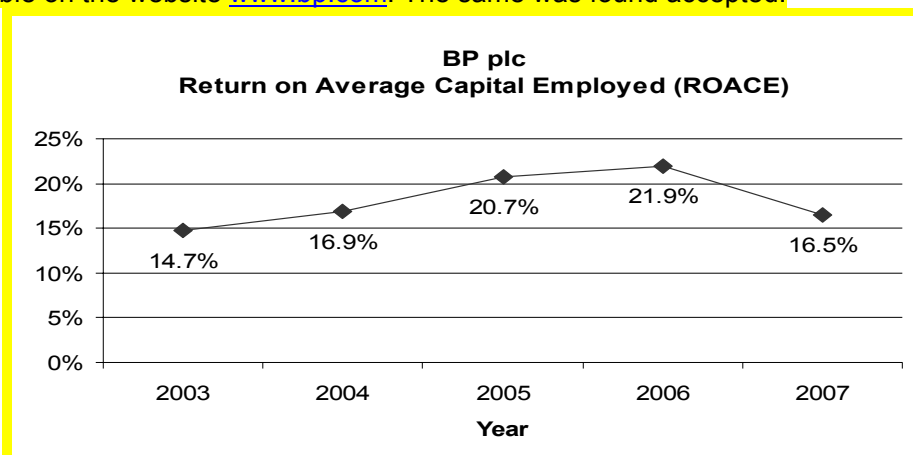
The present project activity is a renewable wind power project and in India there were no separate guidelines available for tariff and returns from renewable energy projects but the same were covered under notifications from CERC (Central Electricity Regulatory Commission).

2. National policy at the time of investment decision taken by the project proponent i.e. before 28<sup>th</sup> December 2006 –

At the time of investment decision of the underlying project activity, CERC notification of 26<sup>th</sup> March 2004 was latest available reference and hence was considered for demonstration of additionality. CERC does not specify separate benchmark for renewable energy generation projects. However, CERC's order dated 29<sup>th</sup> March 2004 on page 51/120, prescribes the benchmark for central power utility companies as 14% post tax Return on equity. And also CERC's notification of 26<sup>th</sup> March 2004 prescribes the benchmark for central power utility companies as 14% post tax return on equity. (Refer page 20 of the notification: [http://cercind.gov.in/13042007/Terms\\_and\\_conditions\\_of\\_tariff.pdf](http://cercind.gov.in/13042007/Terms_and_conditions_of_tariff.pdf)). Nevertheless, the Maharashtra state electricity regulatory commission (MERC) order dated 24<sup>th</sup> November 2003, prescribes 16% post tax equity return (higher than the selected benchmark) for wind power projects (refer page 48 of Order: [http://www.mercindia.org.in/pdf/Detail\\_Wind\\_Energy\\_Order.pdf](http://www.mercindia.org.in/pdf/Detail_Wind_Energy_Order.pdf)). Order by MERC was relevant for this project since the project activity is located in the state of Maharashtra.

3. Return on average capital employed (ROACE) i.e. project proponent's Internal benchmark for the investment –

As illustrated in the chart below, the company ROACE over the last five years has been no less than 14.7%. This was validated from the BP Plc. audited balance sheet and also the details available on the website [www.bp.com](http://www.bp.com). The same was found accepted.



Source: BP Annual Financial and Operating Information Book (2003 – 2007); [www.bp.com](http://www.bp.com)



4. Benchmark used for the project activity –

Based on the three different benchmarks available (i.e. 14% as mentioned in CERC notification dated 26<sup>th</sup> March 2004 and CERC order dated 29<sup>th</sup> March 2004, 16% as mentioned in MERC order dated 24<sup>th</sup> November 2003 and 14.7% as ROACE for the investor company) for the project activity; project proponent has selected CERC derived post tax equity benchmark of 14% as benchmark for the project activity. This was validated and accepted by DOE since CERC was constituted as a central nodal body formed under the Electricity Regulatory Commissions Act, 1998, to determine the terms and conditions of tariff, to regulate tariff and returns to provide guidelines/notifications related to power sector. Post tax equity return has long been an established benchmark in the Indian power sector (electricity generation), whether for conventional fossil fuel fired power generation, hydro power generation or non-conventional/renewable power generation. As per CERC order dated 29<sup>th</sup> March 2004 attached as Annexure 1 and notification dated 26<sup>th</sup> March 2004 (which was referred under point a); Equity IRR was preferred for tariff determination and considered as most suitable approach for calculating the returns. Thus post tax return on equity is comparable with IRR demonstrated by the project participant. The same is conservative, objective and also consistent with the national policy available at the time of project consideration.

The IRR values considering the CER revenue has been made taking into account only 75% of revenue from CDM and considering the sharing 25% of CDM revenue with MSEDCL. The PPA for the project activity was checked and it mentions that CDM benefits would be shared but the share of MSEDCL has not been mentioned. Thus the assumption that 25% of revenue would be shared with the MSEDCL was acceptable.

Project proponent has submitted excel spreadsheet giving the detailed calculations for investment analysis and sensitivity analysis for all the project activity, which shows the sensitivity analysis for change Annual gross electricity production. The sensitivity analysis w.r.t Gross Electricity production was carried out for a change in 5% both with and without CER revenue. The range of +/- 5% was found realistic as if the change in annual energy generation is equal to or more than 10% then the plant load factor for the same will increase to 30% which is not a correct representation the project situation and only exaggerate the returns from project activity. Thus a normal variation of +/- 5% to the base value was accepted by the DOE.

The IRR value increases to 11.79 % due to 5 % increase in the gross electricity considering CER price as \$ 10, while the IRR value is 10.91 % considering 5% increase in generation without CDM revenue. For decrease in 5 % of generation the IRR values fall down to 10.15% considering CDM revenue, while without considering CDM revenue it falls to 9.26%. Thus by analysing the sensitivity analysis w.r.t Gross Electricity production it is clear that the IRR values does not cross the benchmark of 14 % even after an increase in 5% of generation. The financial analysis sheet given by the project proponent along with assumptions used for the calculation and the financial calculations have been discussed during the discussion with project proponent. The assumptions include the plant run hours, electricity revenue and the discount factor for the project activity. The plant run hours was based on the report from Garrad Hassan and Partners Ltd which mentions the gross generation at 97.6 GWh for the project activity. The electricity revenue is based on the PPA which mentions Rs. 3.50 per kWh which is considered as the grey revenue in the calculations the CER price or the green revenue is considered as \$10 per CER. The discount rate for the project activity has been considered as 10% which was accepted after discussion with the project proponent who mentioned that it was a generic value used within the company for all the projects. The financial figures given in the PDD are checked with excel spreadsheet figures and found correct also it was checked during the discussion with the project proponent and found satisfactory and thus accepted.



The project proponent has mentioned the Technological barriers as Grid reliability and Lack of Wind Resource Study data. The Grid Reliability study, was cross-checked with the report prepared by Mott MacDonald, which mentions the requirement of additional equipment to achieve the correct power factor and maintain voltage regulation (this additional equipments were not required for a coal based power plant because of the constant power generation from these plants); if the outage from the grid increases while the project proponent has submitted the Wind Resource study data prepared by Garrad Hassan and Partners Ltd. The study mentions uncertainty with the assumptions used due to the lack of wind data available to them. The technological barriers were accepted after cross-checking the reports for the respective barriers.

The current duration of the PPA is for 13 years, this was cross-checked with the PPA signed for the project activity which was signed on 17<sup>th</sup> September 2007, and the same is also mentioned as reference (19) under section 7 of this report. In support of Common Practice analysis the project proponent mentioned that the project is unique in the sense that it represents a FDI in the wind sector and it does not have any subsidy to absorb the fiscal subsidies enjoyed by the domestic investors, this was accepted based on the discussion with the project proponent and the Audit report of the company submitted to the DOE.

As per the study from Emerging Energy Research the involvement of foreign investors in Indian wind sector is less than 3.5% (Including BP Energy India Pvt. Ltd.) which shows near absence of foreign investors in the wind sector of India the same was cross-checked with the CDM pipeline analysis which can be referred at (<http://cd4cdm.org/>) and also data base available with wind power India an association of wind power developers in India, which is available at <http://www.windpowerindia.com/statpriv.html>. Thus it can be concluded that **no such project activity (i.e. project activity with foreign direct investment (FDI) was in existence in the region and hence** project activity is not a common practice followed in the region.

The investment decision for the project activity was taken on 2<sup>nd</sup> May 2006 and same was checked with a internal memo letter which clarify the project proponents intentions to go ahead with the project activity with the help of CDM funds. This demonstrates that the funds from CDM were in consideration of the project proponent from the initial stage of the project activity. The project proponent has executed a validation contract with DOE on 28<sup>th</sup> November 2006 i.e. a month before the contract for erection and commissioning was signed. This indicates that seriousness of the project proponent for CDM consideration.

Thus based on the above discussions it can be concluded that the CER revenue plays an important role for the project activity. The investment analysis clearly shows that the CER revenue provide a boost to the IRR values thus promoting the project activity and can be further concluded that the project is additional and is itself not a baseline scenario.

### **3.3 Application of Baseline methodology and calculation of emission factors**

The present project activity is generating wind power and supplying it to Western grid. The project has applied baseline methodology as mentioned in the large scale methodology ACM0002 version 06 dated 19<sup>th</sup> May 2006 for "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".

Project proponent has not provided excel spreadsheet for calculation of baseline emission as well as project emissions for the project activity, also it was not clear whether the GEF value would be calculated ex-ante or ex-post. CAR (03) was raised for the same. In response to CAR (03) Project



proponent provided the excel spread sheets for baseline calculations and mentioned that the GEF values have been calculated based on ex-ante approach. The local assessor cross-checked the grid emission factor value used by the project proponent from CEA website and checked the calculations and the data used for calculation purpose. Thus CAR (03) was closed.

The baseline emission calculations and emission reductions were as per the Methodology ACM0002 version 06 dated 19<sup>th</sup> May 2006. The emission reduction figures would further be checked during verification. As per methodology ACM0002 version 06 dated 19<sup>th</sup> May 2006, no leakage is to be considered.

### **3.4 Application of Monitoring methodology and Monitoring Plan**

The present CDM project activity uses monitoring methodology ACM0002 version 06 dated 19<sup>th</sup> May for “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

The PDD version 1 had mentioned “Amount of electricity supplied to the grid” under the parameters available at validation, the project proponent was asked to clarify the same as the start date of operation for the project activity is mentioned as 30/09/2007. In response the project proponent clarified that no electricity would be generated before the commissioning of the project activity and the calculation of emission reductions would be done only after the project becomes operational. The same was discussed with the project proponent and was accepted, thus CAR (05) was closed.

During review of version 1 of the PDD it was found that project proponent was not clear on QA/QC procedure as required in the monitoring methodology. The project management, training and monitoring procedures, procedure for emergency preparedness and internal audits procedures were not discussed in the PDD. NIR (06) was raised and the project proponent was asked to clarify the same. In response the project proponent revised the PDD and mentioned same under Section B.7.2 of the revised PDD. The same was cross-checked with the copy of QA/QC procedure documents provided by the project proponent which are mentioned under the Section B.7.2 of the PDD and found acceptable. Hence NIR (06) was closed out.

### **3.5 Project design**

The Project Design Document (PDD) was designed as per version 3.1 of guidelines laid for preparing PDD of large scale CDM project activity hence the format of the present PDD was checked against it.

It was found that section C.1.1 of version 01 of the PDD indicated 30/09/2007 as project activity starting date; but evidence for the same was not provided. CAR (10) was raised asking project proponent to provide an evidence for the starting date of the project activity. In response project proponent provide the work order between BP Energy India Private Ltd and Suzlon Wind farm Services Ltd which was dated on 28/12/2006 and same is checked with the original copy of work order which was provided for reference by project proponent during the validation process and found acceptable. Thus 28/12/2006 was considered as earliest start date at which implementation of project activity begins and it is accepted as start date for the project activity. Thus 28/12/2006 was accepted as the start date for the project activity hence CAR (10) was closed out.

Operational lifetime of the project activity was mentioned as 25 years which was found acceptable after reviewing the project technology details mentioned in the purchase order of the project activity component. Project proponent has assured that project technology will not be substituted or replaced by more efficient technology during the crediting period the same was discussed with project proponent and was accepted.





Project proponent in the PDD mentioned that project activity has not received any public funding from parties listed in Annex 1. CAR (02) was raised and the project proponent was asked to provide any documentary evidence for supporting the same. In response the project proponent submitted a letter from the Business Unit Controller which mentions that no ODA was used for the project activity. The letter was checked and it mentioned that no ODA would be used for the project activity, this was acceptable and hence, CAR (02) was closed.

During the review of PDD version 1 it was observed that the PDD template version 3.1 has been used but the Table under section A.4.4 was not according the template, thus CAR (09) was raised and the project proponent was asked to clarify the same. In response the project proponent correct the same in the revised PDD. The revised PDD was checked and the Table was as per the PDD template version 3.1, thus CAR (09) was closed.

### **3.6 Environmental Impacts**

In state of Maharashtra MEDA (Maharashtra Energy Development Authority) is authorized government agency to keep an eye on wind mill projects. In order to check whether the project developer has obtained the necessary government approvals for establishing the proposed project activity, CAR (07) was raised and the project proponent was asked to submit the NOC from MEDA. In response the project proponent submitted the Clearance from MEDA as a proof that MEDA allows the establishment of the project activity and is as per their procedures. Thus CAR (07) was closed.

The PPA for the project activity has been signed on 17<sup>th</sup> September 2007 for a period of 13 years.

AS per the MoEF notification S.O.1533 dated 14<sup>th</sup> September 2006, EIA was not required to be carried out for the specific project activity. The project proponent has mentioned the Impacts under Section E of the PDD; they were discussed with the project proponent and found acceptable.

### **3.7 Local stakeholder comments**

The project activity involves setting up of 32 MW wind energy based power project for electricity generation and exporting the same to Western regional grid, the project proponent identified the local residents residing nearby the proposed project activity as the local stakeholders for the project activity. Project proponent in version 01 of the PDD mentions that the local stakeholders were informed about the meeting by the notices posted at the site office, village school and by verbal communication with the site workers. NIR (08) was raised and the project proponent was asked to submit a copy of the notice that was posted to inform the local stakeholders. In response the project proponent submitted the copy of notice, which was checked and it mentioned about the project activity and the date for the meeting was clearly mentioned as 10<sup>th</sup> March 2007. Thus NIR (08) was closed.

The summary of local stakeholders' comments is discussed under section E.2 of the PDD. The PDD also mentions under Appendix B and Appendix C the Stakeholders Meeting Questionnaire and the summary of stakeholders comment; the same was discussed with the project proponent and found acceptable.



#### **4 Comments by Parties, Stakeholders and NGOs**

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

##### **4.1 Description of how and when the PDD was made publicly available**

The PDD and the monitoring plan for this project were made available on the SGS website <http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=256> from 25<sup>th</sup> April 2007 to 24<sup>th</sup> May 2007 and Comments were invited through the UNFCCC CDM homepage.

##### **4.2 Compilation of all comments received**

The project was up loaded for International stakeholder consultation (ISHC) for a period of 30 days and no comments were received.

##### **4.3 Explanation of how comments have been taken into account**

No adverse comment was received for the project activity.



## 5 Validation opinion

SGS has performed a validation of the project: “40 MW Grid Connected Wind Power Project” by BP Energy India Private Limited in the Maharashtra, India”. The Validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

By installing wind power plant the project activity will lead to displacement of carbon-intensive electricity by the electricity from a renewable source and thus the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment analysis, barrier analysis and common practice analysis associated with project activity demonstrates that the proposed project activity was 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. The project has already been commissioned on 20<sup>th</sup> November 2007. The project will likely achieve the estimated amount of emission reductions i.e. yearly average of 70,327 t CO<sub>2</sub> e).

The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.





## 6 List of persons interviewed

<b><i>Date</i></b>	<b><i>Name</i></b>	<b><i>Position</i></b>	<b><i>Short description of subject discussed</i></b>
23/02/2007	Mr. Charles Donovan	Project Proponent	About the description of the project, additionality and baseline.
04/04/2007	Mr. Mark	Project Proponent	About the technology of the project activity and operation and monitoring.

## 7 Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1/ Host country approval from Indian DNA dated 04/10/2007
- /2/ Letter of Approval from Annex 1 country DNA dated 03/04/2008
- /3/ PDD version 1 dated 15<sup>th</sup> March 2007
- /4/ PDD version 2 dated 01<sup>st</sup> August 2007
- /5/ PDD version 3 dated 01<sup>st</sup> December 2007
- /6/ PDD version 4 dated 11<sup>th</sup> January 2008
- /7/ PDD version 5 dated 31<sup>st</sup> March 2008
- /8/ Calculation spread sheet for IRR
- /9/ Calculation spread sheet for Emission reductions
- /10/ Modalities of Communication dated 03/04/2008
- /11/ CDM Consideration letters (Memo dated 02/05/2006, 01/10/2006 and 23/11/2007)

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):



- /1/ Work order between BP and Suzlon
- /2/ Letter of Undertaking for no use of ODA
- /3/ Wind Tariff Structure by MERC
- /4/ Nagda Hills wind project – PDD, Reference no 0112
- /5/ Grid Reliability study by Mott MacDonald
- /6/ Wind Resource study by Garrad Hassan and Partners Ltd
- /7/ Clearance from MEDA
- /8/ Copy of notice for intimating the local stakeholders
- /9/ The Organization Chart for the project activity
- /10/ Procedure for WTG health monitoring by Suzlon
- /11/ Procedure for Employee Competence Identification and Up gradation by Suzlon
- /12/ Procedure for Internal Quality Audits by Suzlon
- /13/ Procedure for On-site Emergency plan by Suzlon
- /14/ BP Energy, Audit Report
- /15/ BP Energy, Directors report
- /16/ BP Energy, Balance Sheet
- /17/ National Tariff Policy
- /18/ Foreign Wind Farm Ownership by Emerging Energy Research
- /19/ PPA for the project activity



## Annex 1: Local Assessment

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
12.1 To get copy Host Country Approval (HCA) letter from Project Proponent. Approval letter from DNA of Annex 1 country	PDD	DR	Host country approval from the Indian DNA has been submitted.  Letter of Approval from United Kingdom of Great Britain and Northern Ireland; Annex 1 country DNA has been submitted.	Pending	Y
12.2 No ODA has been used for this project.	PDD Annex 2	DR	The project proponent has submitted a letter from Business unit controller which mentions that no ODA would be used for the project activity.	Y	Y
12.3 A copy of the public notice posted at the site office and the school to invite the local stakeholder needs to be submitted.	PDD E.1	DR	The same has been submitted and was checked and the date of public meeting mentioned is the same as mentioned in the PDD.	Y	Y
12.4 The regulatory approval (consent to establish and operate the project) from the Pollution Control Board is required to to verify that local/legal requirements have been met.	PDD	DR	The project proponent has submitted the Clearance from MEDA, which was checked and found acceptable.	Y	Y
12.5 MoM of stakeholder consultation meeting  Due account of stakeholder comments received required to be verified.	PDD Section E	DR, Inter view	The PDD under Appendix B and Appendix C mentions the Stakeholder meeting questionnaire and the summary of stakeholders comments, the comments were discussed with the project proponent and are accepted.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
12.6 Project design engineering documents from the technology supplier are required to be checked. Copy of offer made/ specifications given by technology supplier.	PDD A.4	DR	The project proponent has submitted the work order with suzlon. The technical specifications were checked with the Technical specification sheet of S70 WTG model by suzlon.	Y	Y
12.7 It is required to be checked whether the project technology used is likely to be substituted by other or more efficient technologies within the project period.		DR	The project technology would not be substituted during the crediting period, this was accepted based on the discussion with the project proponent	Y	Y
12.8 EIA report for the project activity, if applicable	PDD D.1	DR	EIA is not required for this project activity as per MoEF notification S.O.1533 dated 14 <sup>th</sup> September 2006.	Y	Y
12.9 MoM of board meeting in which CDM was considered for the project activity.	PDD	DR	The project proponent has submitted an internal letter of communication date 2 <sup>nd</sup> May 2006, which describes about setting up a wind farm and CDM required by BP for the same.	Y	Y



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
12.10 Quality Assurance (QA) and Quality Control (QC) procedures for data monitoring.	PDD B.7	DR	<p>The project proponent has submitted various QA/QC procedures such as</p> <ul style="list-style-type: none"> <li>• Standardized Cards for Recording Instrument Outputs</li> <li>• Complete BP / Suzlon Organizational Charts and Reporting Hierarchies</li> <li>• Procedure for Certifying Site Workers</li> <li>• On-site Emergency Plan</li> <li>• Procedure for Internal Quality Audits</li> <li>• Procedure for Capturing WTG Generation and Errors</li> <li>• Procedure for WTG Health Monitoring</li> </ul> <p>The documents were checked and are acceptable.</p>	Y	Y
12.11 Power purchase agreement between MSEDCL and Project proponent.	PDD D.4		<p>The PPA for the project activity has not yet been signed. The same would be checked during the time of verification.</p>	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
12.12 Financial analysis for the project activity.	PDD B.5	DR	The project proponent has submitted the excel sheet and PPA to support the claim that 25 % of CERs would be shared with MEDCL. It has been observed MSEDCL has mentioned that the CDM benefits would be shared, but it has not mentioned the share. Thus the assumption of 25% is acceptable.	Y	Y
12.13 Calculation spreadsheet for baseline and project emission reductions during project crediting period.	PDD B.6	DR	The same has been submitted and checked for the GEF values which were cross-checked with CEA values and found acceptable.	Y	Y
12.14 Training module / material used for training programme for the employees.	PDD B.7	DR	Suzlon is an ISO certified company and they have proper training measures before being appointed at the site, same was discussed with the project proponent and found acceptable.	Y	Y
12.15 Modalities of communication	PDD	DR	The Modalities of Communication has been submitted and the name of the person indicated matches with the same mentioned under Annex 1 of the PDD.	Y	Y

## Annex 2: Validation Protocol

**Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)**

REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	PDD	DR	Project will assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3.  Project proponent has identified BP Gas marketing ltd. as the other party (buyer of CER).	Y	Y
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	PDD	DR	The project activity is likely to contribute to sustainable development.  Letter of approval (LoA) from Host Country (India) Designated National Authority (DNA) to be submitted by the project proponent.  Project proponent has identified BP Gas marketing ltd. as buyer of CERs but does not mention which country the participant belongs as Project proponent has to submit the LoA from that country also.	CAR1	Y CAR 1 closed



REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	PDD	DR	<p>Project is bilateral project activity. Both the project participants has ratified the protocol and are allowed to participate.</p> <p>India has ratified the protocol on 26<sup>th</sup> August 2002 while United Kingdom of Great Britain and Northern Ireland has ratified protocol on 31<sup>st</sup> May 2002.</p> <p>Following is web-link is referred;</p> <p><a href="http://maindb.unfccc.int/public/country.pl?country=IN">http://maindb.unfccc.int/public/country.pl?country=IN</a></p> <p><a href="http://maindb.unfccc.int/public/country.pl?country=GB">http://maindb.unfccc.int/public/country.pl?country=GB</a></p>	Pending CAR1	Y CAR 1 closed
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	PDD	DR	<p>As per section B.4 of the PDD; the project activity will generate electricity from wind energy generators and will displace equivalent amount of electricity from the western regional grid. The baseline mentioned section B.4 in the PDD is correct.</p>	Y	Y
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available	PDD	DR/ UNFCCC Web-site	<p>Yes, the project is listed on UNFCCC website from 25<sup>th</sup> April 2007 to 24<sup>th</sup> May 2007.</p> <p><a href="http://cdm.unfccc.int/Projects/Validation/DB/6EMUL2Q30KIARSY3QVTBUR9QB50GC1/view.html">http://cdm.unfccc.int/Projects/Validation/DB/6EMUL2Q30KIARSY3QVTBUR9QB50GC1/view.html</a> which was linked to SGS climate change website as given below;</p> <p><a href="http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=256">http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=256</a></p> <p>Number of comments received – NIL</p>	Pending	Y No comments received.

REQUIREMENT	Ref	MoV	Comment	Draft finding	Concl
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	PDD	DR	Project has used current version (version 3.1) of PDD applicable and followed the guidelines, except pending closure of some CARs/ NIRs.	Pending	Y
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	PDD	DR	No ODA has identified in the PDD.  Section A.4.5 and Annex 2 mentions that there will be no public fund sourcing involved for the implementation of the project activity from the Annex 1 country.  Evidence needs to be provided for fund availability and no ODA utilization for the project activity.	CAR2	Y CAR2 closed
1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?	PDD	DR	Not relevant as the project is not an AR project.	Not Applicable	Not Applicable
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects	PDD	DR	This is not a SSC project. Hence table 9, 10 and 11 are not applicable.	Not Applicable	Not Applicable
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment?	PDD	DR	The version of PDD used by project proponent present all the information, except pending closure of some CARs/ NIRs.	Pending	Y All CARs/ NIRs closed
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	PDD	DR	The PDD uses reliable information and can be verified in an objective manner.	Discussions	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology?	PDD	DR	Project meets all the applicability criteria listed in methodology ACM0002 version 06 dated 19 <sup>th</sup> May 2006.	Y	Y
2.2 Is the project boundary consistent with the approved methodology?	PDD	DR	The project boundary of the present project activity is consistent with the methodology ACM0002 version 06 dated 19 <sup>th</sup> May 2006.	Y	Y
2.3 Are the baseline emissions determined in accordance with the methodology described?	PDD	DR	<p>The grid emission factor (GEF) values were referred from the CEA database and same was accepted. As per ACM0002 for the wind energy projects the weights for W<sub>OM</sub> is 0.75 and W<sub>BM</sub> is 0.25 because of the non-dispatchable nature which was considered while calculating the GEF value and hence combined margin for the project activity is considered.</p> <p>But it was not clear from the PDD whether GEF value will be calculated ex-ante or ex-post. Please mention same in the PDD.</p> <p>Please provide a detailed excel spreadsheet giving the emission reduction calculations. The assumptions used in the calculations are mention clearly and the calculations are easily traceable.</p>	Y  CAR3	Y  CAR3 close d



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.4 Are the project emissions determined in accordance with the methodology described?	PDD	DR	Pending closure of CAR 3	Pending	Y CAR3 closed
2.5 Is the leakage of the project activity determined in accordance with the methodology described?	PDD	DR	It is mentioned in PDD that there is no leakage due to project activity as project is using renewable energy to generate electricity.  Same was cross-checked with the applied methodology and found correct.	Y	Y
2.6 Are the emission reductions determined in accordance with the methodology described?	PDD	DR	Pending closure of CAR3.	Pending	Y CAR3 closed

**Table 3      Additionality (Ref: PDD Section B5 and AM)**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality?	PDD	DR	PDD follow all the steps required to determine additionality as per the methodology, ACM0002 version 06 dated 19 <sup>th</sup> May 2006 and tool for demonstration and assessment of additionality version 03.	Y	Y
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence?	PDD	DR	<p>The discussion on additionality needs to provide evidence regarding-</p> <ol style="list-style-type: none"> <li>1. A copy of annual balance sheet or letter from company CA will require to submit in support to the investment barriers mentioned in the PDD.</li> <li>2. Evidence for RBI rules required to submit.</li> <li>3. Evidence for all other assumptions used in Investment barrier.</li> <li>4. Excel spreadsheet giving the financial and sensitivity analysis.</li> <li>5. A CA certificate authenticating the financial and sensitivity analysis.</li> <li>6. Evidence for barriers mentioned under technological barrier, regulatory barrier and barriers due to prevailing practise.</li> </ol>	CAR4	Y CAR4 close d
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD	DR	The selected baseline scenario for the project activity represents the most likely scenario among other possible scenarios.	Y	Y



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario?	PDD	DR	Pending closure of CAR4.	Pending	Y CAR 4 close d

**Table 4 Monitoring methodology (PDD Section B and AM)**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	PDD	DR	The project meets all the applicability criteria listed in approved monitoring methodology.	Y	Y
4.2 Does the PDD provide for the monitoring of the baseline emissions as required in the monitoring methodology?	PDD	DR	The monitoring plan of the baseline emissions is as per the approved methodology. Reference given for baseline emission factor is found valid and correct.	Y	Y
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring methodology?	PDD	DR	Please clarify how the data regarding 'Amount of electricity supplied to the grid' will be available during validation as the project is in construction stage and not yet commissioned.  Since project is under construction phase and all calibration certificates regarding the project activity will be made available once project starts operation. Same will be taken care during the project verification.	CAR5	Y CAR5 closed
4.4 Does the PDD provide for the monitoring of the leakage as required in the monitoring methodology?	PDD	DR	It is mentioned in the PDD that there is no leakage due to project activity. Same was cross-checked with the methodology ACM0002 version 06 dated 19 <sup>th</sup> May 2006 and same was found correct.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA) Procedures as required in the monitoring methodology?	PDD	DR	<p>Section B.7.2 mentions about the monitoring plan for the project activity. The same was covering all the aspect when checked against the methodology ACM0002 version 06 requirement.</p> <p>Suzlon Windfarm services Ltd (SWSL). is appointed as maintenance and operation contractor for the project activity. SWSL is an ISO certified company hence QA and QC aspect will be followed. A copy of an ISO certificate is required to be provided.</p> <p>Also PDD mentions the joint meter reading will be taken for the monthly amount of electricity export to the grid.</p>	Y          Discu ssion	Y          Evide nce provid ed



**Table 5 Monitoring plan (PDD Annex 4)**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts	PDD	DR	The project proponent claims that project will leads sustainable development. Need to check HCA	Pending Closure of CAR 1	Y CAR 1 closed
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD	DR	Not applicable	Not applicable	NA
5.1.2 Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	PDD	DR	Not applicable	Not applicable	NA
5.1.3 Will it be possible to monitor the specified sustainable development indicators?	PDD	DR	Not applicable	Not applicable	NA
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD	DR	Pending closure of CAR1	Pending	Y CAR 1 closed
5.2 Project Management Planning	PDD	DR	The PDD mentions the project management planning applied for the project activity. It is not clear on issues like authority and responsibility of project management, data reporting, training, emergency preparedness etc.  The same needs to verify during the verification site visit as the project is not yet commissioned.	NIR6	Y NIR6 closed

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.2.1 Is the authority and responsibility of project management clearly described?	PDD	DR	The authority and responsibility of project management is not clear in PDD.	Pending NIR6	Y NIR6 closed
5.2.2 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD	DR	The authority and responsibility for registration, monitoring, measurement and reporting is clear in PDD.	Pending NIR6	Y NIR6 closed
5.2.3 Are procedures identified for training of monitoring personnel?	PDD	DR	Procedure identified for training of monitoring personnel is not clear in PDD.	Pending NIR6	Y NIR6 closed
5.2.4 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR	No specific procedure for emergency preparedness is identified in the monitoring plan given in the PDD.	Pending NIR6	Y NIR6 closed
5.2.5 Are procedures identified for calibration of monitoring equipment?	PDD	DR	PDD mentions that the electricity export meters will be calibrated by MSEDCL in presence of company representative. The calibration and testing will be done once in a year. Evidence regarding the same will be verified during the project activity verification.	Y	Y
5.2.6 Are procedures identified for maintenance of monitoring equipment and installations?	PDD	DR	SWSL is appointed as operation and maintenance contractor for the project activity. SWSL has own operation manual and it will be followed for the project activity. SWSL will report to two managers from project proponent.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.2.7 Are procedures identified for monitoring, measurements and reporting?	PDD	DR	PDD mentions that monthly Electricity export readings will be taking by a joint team. And the based on these readings monthly invoices will be prepared and same data will be considered for the emission reduction calculations.	Y	Y
5.2.8 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD	DR	PDD mentions that SWSL will be responsible for day-to-day record handling. This was accepted as SWSL is awarded operation and maintenance contract for the project activity.	Y	Y
5.2.9 Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD	DR	No specific procedure is identified for dealing with possible monitoring data adjustments and uncertainties in the monitoring plan given in the PDD.	Pending NIR6	Y NIR6 closed
5.2.10 Are procedures identified for review of reported results/data?	PDD	DR	PDD mentions that two managers from project proponent side (one commercial and one technical will review the reported data. This was accepted.	Y	Y
5.2.11 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD	DR	No specific procedure is identified for internal audits of GHG project compliance with operational requirements where applicable.	Pending NIR6	Y NIR6 closed

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.2.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD	DR	PDD mentions that two managers from project proponent side (one commercial and one technical will review the reported data before the same was submitted for the verification. This was accepted.	Y	Y
5.2.13 Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD	DR	PDD mentions that dual metering system and secondary monitoring each wind turbine generator is equipped with an integrated electronic meter and these meters will be connected to central monitoring system. This gives adequate accuracy in data monitoring.	Y	Y

**Table 6 Environmental Impacts (Ref PDD Section D and relevant local legislation)**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD	DR	Project proponent has hired a consultant to undertake the EIA at the project site. The details of the same are summarized in section D.1 and the conclusion is given in section D.2.  A copy of EIA is required to submit.	Discu ssion	Y
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD	DR	EIA is not required for this project activity as per MoEF notification S.O.1533 dated 14 <sup>th</sup> September 2006.  No Objection Certificate from Maharashtra Energy Development Agency (MEDA) for project activity is required to submit.	Y  CAR7	Y  Y CAR7 close d
6.3 Will the project create any adverse environmental effects?	PDD	DR	No adverse environmental effects due to project activity are identified due to project activity as per the EIA report.  To be verified during discussion with the project proponent.	Discu ssion	Y Evide nce provid ed
6.4 Are transboundary environmental impacts considered in the analysis?	PDD	DR	No transboundary environmental impact identified from project activity.  To be verified during discussion with the project proponent.	Discu ssion	Y
6.5 Have identified environmental impacts been addressed in the project design?	PDD	DR	Extract from EIA are given in section D.1 of the PDD.	Y	Y



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.6 Does the project comply with environmental legislation in the host country?	PDD	DR	Pending closure of CAR1	Pending	Y CAR 1 close d

**Table 7 Comments by local stakeholders (Ref PDD Section E)**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	PDD	DR	As per Section E.1 of the PDD Local population is considered as a relevant local stakeholder for the project activity. This was accepted by the validator.	Y	Y
7.2 Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	Local stakeholders were informed through the public posting of written notices at village school and site office.  A copy of notice is required to submit to the DOE.	Y  NIR8	Y  Y NIR8 close d
7.3 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?	PDD	DR	Stakeholder consultation process is not required as per regulation/laws in host country. But project proponent consulted the local stakeholders as a part of CDM requirement. PDD also mentions the summary of the comments from local stakeholders on the project activity in the PDD section E.2 as well as in Appendix 3.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.4 Is a summary of the stakeholder comments received provided?	PDD	DR	<p>PDD mentions the summary of the local stakeholder consultation in section E.2 and in Appendix 3.</p> <p>Evidence regarding the summary of local stakeholder is required to be discussed.</p>	<p>Y</p> <p>Discu ssion</p>	<p>Y</p> <p>Y Evide nce provid ed</p>
7.5 Has due account been taken of any stakeholder comments received?	PDD	DR	<p>During local stakeholder consultation a more thorough explanation regarding the wind turbine was provided to the local stakeholders. Section E.3 mentions details about the same.</p> <p>Same will be cross-checked during the discussion with the project proponent.</p>	<p>Y</p> <p>Discu ssion</p>	<p>Y</p> <p>Y Evide nce provid ed</p>



**Table 8 Other requirements**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>8.1 Project Design Document</b>					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	PDD	DR	The PDD template for version 3.1 has not been applied correctly. Table given in section A.4.4. is not as per the template.	CAR9	Y CAR9 close d
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	PDD	DR	Pending closure of CARs/ NIRs	Pendi ng	Y All CARs/ NIRs close d
<b>8.2 Technology to be employed</b>					
8.2.1 Does the project design engineering reflect current good practices?	PDD	DR	The project reflects current good practice for project design engineering.  Documents regarding the technical specification of the project activity are required to be checked and discussed with the project proponent.	Discu ssion	Y Evide nce provid ed
8.2.2 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?	PDD	DR	The recent available technology is being used for the project.	Y	Y
8.2.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	Not likely during the crediting period.  To be discussed with the project proponent.	Discu ssion	Y
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR	The initial training requirement and maintenance efforts will be under scope of SWSL.  To be discussed with the project proponent.	Discu ssion	Y Evide nce provid ed



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>8.3 Duration of the Project/ Crediting Period</b>					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR	Project activity starting date is mentioned in section C.1.1 of the PDD version 05 as 28/12/2006.  Evidence for the same is required to submit.	CAR 10	Y CAR 10 Close d
8.3.2 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)?	PDD	DR	The project has selected fixed crediting period for 10years.  Crediting period starting date is considered as date of start of commercial operation of the project activity or the date of registration with CDM-EB which ever occurs later.	Y	Y
8.2.3 Does the project's operational lifetime exceed the crediting period	PDD	DR	The project's operational life time (20 years) which exceeds the fixed crediting period of 10 years	Y	Y

**Table 9 Additional requirements for SSC projects**

**Table 10 Additional requirements for AR projects**

**Table 11 Additional requirements for SSC AR projects**

**Table 12 Additional information to be verified by local assessors / site visit**



### Annex 3: FINDINGS OVERVIEW

Date: 15th May 2007

Raised by: Vikrant Badve

No.	Type	Issue	Ref
1	CAR	Letter of Approval from Indian DNA; for the project activity is required to submit by the project proponent.  Project proponent has identified BP Gas marketing Ltd. as buyer of CERs but does not mention which country the participant belongs as Project proponent has to submit the LoA from that country also.	1.2
Date: [25/06/2007] [Response from project developer] Confirmation of host country approval (India) has not yet been received. Letter of Approval from the United Kingdom of Great Britain and Northern Ireland government as the receiving country will be requested after DNA approval.			
Date: [13/12/2007] [Comments from Local Assessor] The letter of Approval from Indian DNA and Annex 1 country DNA has been submitted the same was cross-checked against the name of the project proponent and project activity. These details are found acceptable. Thus CAR can be closed.			
[Acceptance and close out] OK Vikrant Badve (17 <sup>th</sup> December 2007)			

Date: 15th May 2007

Raised by: Vikrant Badve

No.	Type	Issue	Ref
2	CAR	No ODA has identified in the PDD.  Section A.4.5 and Annex 2 mentions that there will be no public fund sourcing involved for the implementation of the project activity from the Annex 1 country.  Evidence needs to be provided for fund availability and no ODA utilization for the project activity.	1.7
Date: [03/07/2007] [Response from project developer] Please see our letter dated 3 July 2007 [ISSUES 2 & 5 BP Letter 030707].			
Date: [9 <sup>th</sup> July 2007] [Comments from Local Assessor] The letter from Business unit controller was submitted by the project proponent. This was accepted that no diversion of ODA was there for this project activity. This was checked with the revised version of the PDD annex 2 and section A.4.5 and found correct. CAR can be closed.			
[Acceptance and close out] OK, Vikrant Badve (4 <sup>th</sup> September 2007)			

Date: 15th May 2007

Raised by: Vikrant Badve

No.	Type	Issue	Ref
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3	CAR	<p>The baseline emission factor determined is in accordance with approved methodology.</p> <p>But it was not clear from the PDD whether GEF value will be calculated ex-ante or ex-post. Please mention same in the PDD.</p> <p>Please provide a detailed excel spreadsheet giving the emission reduction calculations. The assumptions used in the calculations are mention clearly and the calculations are easily traceable.</p>	2.3
<p>Date: [22/06/2007] [Response from project developer]  The GEF value has been calculated based on the ex-ante approach. The same has been mentioned in the section B.6.1. of the PDD.  A detailed excel spreadsheet giving the emission reduction calculations is provided for reference to SGS [ISSUE 3 BP CER Calculation Sheet].</p>			
<p>Date: [9<sup>th</sup> July 2007] [Comments from Local Assessor]  The excel spreadsheet given by the project proponent mentions the values only. It is no way giving any clue regarding how the mentioned value is arrived. Kindly put the formulae so that cross-checking the excel spreadsheet is easy.</p> <p>Date: [4<sup>th</sup> September 2007] [Comments from Local Assessor]  The excel sheet incorporating the formulas has been submitted for the IRR calculation and sensitivity analysis, along with a different sheet for calculation of emission reductions. The sheets have been checked and found acceptable. Thus CAR can be closed.</p>			
<p>[Acceptance and close out] OK Vikrant Badve (4<sup>th</sup> September 2007)</p>			

Date: 15th May 2007

Raised by: Vikrant Badve

No.	Type	Issue	Ref
4	CAR	<p>The discussion on additionality needs to provide evidence regarding-</p> <ol style="list-style-type: none"> <li>1. A copy of annual balance sheet or letter from company CA will require to submit in support to the investment barriers mentioned in the PDD.</li> <li>2. Evidence for RBI rules required to submit.</li> <li>3. Evidence for all other assumptions used in Investment barrier.</li> <li>4. Excel spreadsheet giving the financial and sensitivity analysis.</li> <li>5. A CA certificate authenticating the financial and sensitivity analysis.</li> <li>6. Evidence for barriers mentioned under technological barrier, regulatory barrier and barriers due to prevailing practise.</li> </ol>	3.2



<p>Date: [25/06/2007] [Response from project developer]</p> <ol style="list-style-type: none"> <li>1. A copy of the audited accounts of BP Energy India Private Ltd have already been provided in confidence to SGS.</li> <li>2. The reference in the PDD to "FDI rules" is limited in scope and only concerns the fiscal policy allowing for accelerated depreciation and a 10 year tax holiday for wind power projects.</li> <li>3. Investment barriers               <ol style="list-style-type: none"> <li>3a) Tariff structure for wind energy investment – A copy of the renewable energy sources and associated regulatory framework is provided to SGS [ISSUE 5.3a Wind Tariff Structure]</li> <li>3b) Higher cost of wind farm plant &amp; equipment – A copy of the Nagda Hills PDD is provided to SGS [ISSUE 5.3b Nagda Hills PDD]. Please see the detailed analysis on page 26.</li> </ol> </li> <li>4. A hard-coded version of the project financial model can be obtained from our PDD consultants Asia Carbon.</li> <li>5. Please see our letter dated 3 July 2007 [ISSUES 2 &amp; 5 BP Letter 030707].</li> <li>6. Technical barriers               <ol style="list-style-type: none"> <li>6a) Grid reliability study – a copy of this study is provided to SGS in confidence [ISSUE 5.6a Grid Reliability Study].</li> <li>6b) Wind resource study – a copy of this study is provided to SGS in confidence [ISSUE 5.6b Wind Resource Study]</li> <li>6c) A copy of the National Tariff Policy for India is provided to SGS [ISSUE 5.6c National Tariff Policy]. Please refer to Section 5.3.c for confirmation of the quote used in our PDD.</li> </ol> </li> </ol>	
<p>Date: [9<sup>th</sup> July 2007] [Comments from Local Assessor]</p> <p>The documents apart from financial and sensitivity analysis were submitted by the project proponent and same were accepted.</p> <p>Kindly submit the remaining document. So that the additionality of the project activity can be checked.</p>	
<p>Date: [4<sup>th</sup> September 2007] [Comments from Local Assessor]</p> <p>The excel sheet for financial and sensitivity analysis have been submitted which was checked for values and assumptions and found acceptable. Thus CAR can be closed.</p>	
<p>[Acceptance and close out] OK Vikrant Badve (4<sup>th</sup> September 2007)</p>	

Date: 15th May 2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
5	CAR	Please clarify how the data regarding 'Amount of electricity supplied to the grid' will be available during validation as the project is in construction stage and not yet commissioned.	4.3
<p>Date: [22/06/2007] [Response from project developer]</p> <p>No electricity will be generated before commissioning of the project and the calculation of CERs will only begin once the project becomes operational.</p>			
<p>Date: [9<sup>th</sup> July 2007] [Comments from Local Assessor]</p> <p>The explanation given by the project proponent was accepted. CAR can be closed.</p>			
<p>[Acceptance and close out] OK, Vikrant Badve (4<sup>th</sup> September 2007)</p>			

Date: 15th May 2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
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6	NIR	<p>The PDD mentions the project management planning applied for the project activity. It is not clear on issues like authority and responsibility of project management, data reporting, training, emergency preparedness etc.</p> <p>The authority and responsibility of project management is not clear in PDD.</p> <p>The authority and responsibility for registration, monitoring, measurement and reporting is clear in PDD.</p> <p>Procedure identified for training of monitoring personnel is not clear in PDD.</p> <p>No specific procedure for emergency preparedness is identified in the monitoring plan given in the PDD.</p> <p>No specific procedure is identified for dealing with possible monitoring data adjustments and uncertainties in the monitoring plan given in the PDD.</p> <p>No specific procedure is identified for internal audits of GHG project compliance with operational requirements where applicable.</p> <p>The same needs to verify during the verification site visit as the project is not yet commissioned.</p>	5.2
<p>Date: [22/06/2007] [Response from project developer] Project management for the project activity involves a number of complex and over-lapping management tasks. A full set of project management documents are being provided in confidence to SGS as evidence that the issues raised above are being handled. These documents are named ISSUE 7 A-G. No changes have been made to the PDD.</p>			
<p>Date: [9<sup>th</sup> July 2007] [Comments from Local Assessor] The documents submitted by the project proponent are accepted. It was asked project proponent to include extract of this information in the PDD under section B.7.2</p> <p>Date: [4<sup>th</sup> September 2007] [Comments from Local Assessor] The Extracts of the same have been included under the section B.7.2 of the PDD and thus CAR can be closed.</p> <p>[Acceptance and close out] OK Vikrant Badve (4<sup>th</sup> September 2007)</p>			

Date: 15th May 2007

Raised by: Vikrant Badve

No.	Type	Issue	Ref
7	CAR	<p>EIA is not required for this project activity as per MoEF notification S.O.1533 dated 14<sup>th</sup> September 2006.</p> <p>No Objection Certificate from Maharashtra Energy Development Agency (MEDA) for project activity is required to submit.</p>	6.2
<p>Date: [25/06/2007] [Response from project developer] A copy of the NOC from Maharashtra Energy Development Agency is provided as requested [ISSUE 8 NOC BP Energy 40MW].</p>			



Date: [9 <sup>th</sup> July 2007] [Comments from Local Assessor] The NOC from MEDA is accepted by the DOE after cross-checking for the project activity capacity and location details.	
[Acceptance and close out] OK, Vikrant Badve (4 <sup>th</sup> September 2007)	

Date: 15th May 2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
8	NIR	Local stakeholders were informed through the public posting of written notices at village school and site office.  A copy of notice is required to submit to the DOE.	7.2
Date: [22/06/2007] [Response from project developer] A copy of local stakeholder notice is provided as requested [ISSUE 9 BP Energy Stakeholder Meeting].			
Date: [9 <sup>th</sup> July 2007] [Comments from Local Assessor] The notice dated 23 <sup>rd</sup> February 2007 for the local stakeholder consultation meeting on 10 <sup>th</sup> March 2007 was submitted by the project proponent. This was found accepted by the DOE. NIR can be closed.			
[Acceptance and close out] OK, Vikrant Badve (4 <sup>th</sup> September 2007)			

Date: 15th May 2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
9	CAR	The PDD template for version 3.1 has not been applied correctly. Table given in section A.4.4. is not as per the template.	8.1.1
Date: [22/06/2007] [Response from project developer] The table given in section A.4.4. is already as per the format. However, the outlines of the table had been hidden for better clarity which is why it is not visible in the PDF format of the PDD. The same has been revised and outlines have been made visible for the convenience of the DoE.			
Date: [9 <sup>th</sup> July 2007] [Comments from Local Assessor] The table A.4.4 in revised PDD is as per the approved PDD template. This was cross-checked and accepted. CAR can be closed.			
[Acceptance and close out] OK, Vikrant Badve (4 <sup>th</sup> September 2007)			

Date: 15th May 2007 Raised by: Vikrant Badve

No.	Type	Issue	Ref
10	CAR	Project activity starting date is mentioned in section C.1.1 of the PDD as 28/12/2006.  Evidence for the same is required to submit.	8.3.1
Date: [03/04/2008] [Response from project developer] A copy of the work order between BP Energy India Private Ltd and Suzlon Windfarm Services Ltd is provided in confidence to SGS [ISSUE 11 BP Energy Suzlon Work Order].			



<p>Date: [9<sup>th</sup> April 2008] [Comments from Local Assessor]</p> <p>The work order was dated on 28/12/2006 and same is checked with the original copy of work order and found accepted. Thus 28/12/2006 was considered as earliest start date at which implementation of project activity begins and it is accepted as start date for the project activity.</p>
<p>[Acceptance and close out] OK, Vikrant Badve (10<sup>th</sup> April 2008)</p>

## Annex 4: Statement of Competence of Validation Team

### Statement of Competence

Name: Sanjeev Kumar

SGS Affiliate: SGS India Pvt. Ltd.

#### Status

- |                           |                                     |
|---------------------------|-------------------------------------|
| - Product Co-ordinator    | <input type="checkbox"/>            |
| - Operations Co-ordinator | <input type="checkbox"/>            |
| - Technical Reviewer      | <input type="checkbox"/>            |
| - Expert                  | <input checked="" type="checkbox"/> |

Validation      Verification

- |                                      |                                     |                                     |
|--------------------------------------|-------------------------------------|-------------------------------------|
| - Local Assessor                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| - Lead Assessor                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| - Assessor<br>/Trainee Lead Assessor | <input type="checkbox"/>            | <input type="checkbox"/>            |

#### Scopes of Expertise

- |   |                                     |
|---|-------------------------------------|
| 1. Energy Industries (renewable / non-renewable)  | <input checked="" type="checkbox"/> |
| 2. Energy Distribution  | <input checked="" type="checkbox"/> |
| 3. Energy Demand  | <input checked="" type="checkbox"/> |
| 4. Manufacturing  | <input checked="" type="checkbox"/> |
| 5. Chemical Industry  | <input type="checkbox"/>            |
| 6. Construction   | <input type="checkbox"/>            |
| 7. Transport  | <input type="checkbox"/>            |
| 8. Mining/Mineral Production  | <input type="checkbox"/>            |
| 9. Metal Production   | <input type="checkbox"/>            |
| 10. Fugitive Emissions from Fuels (solid,oil and gas)   | <input type="checkbox"/>            |
| 11. Fugitive Emissions from Production and<br>Consumption of Halocarbons and Sulphur Hexafluoride | <input type="checkbox"/>            |
| 12. Solvent Use   | <input type="checkbox"/>            |
| 13. Waste Handling and Disposal   | <input type="checkbox"/>            |
| 14. Afforestation and Reforestation   | <input type="checkbox"/>            |



15. Agriculture



Approved Member of Staff by Siddharth Yadav Date: 16<sup>th</sup> May 2007





## Statement of Competence

Name: Vikrant Badve

SGS Affiliate:SGS India Pvt. Ltd.

### Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☒

### Validation

### Verification

- Local Assessor ☒
- Lead Assessor ☒
- Assessor ☐
- / Trainee Lead Assessor

### Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☒
3. Energy Demand ☒
4. Manufacturing ☒
5. Chemical Industry ☐
6. Construction ☒
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride ☐
12. Solvent Use ☐
13. Waste Handling and Disposal ☐
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by Siddharth Yadav Date: 09/07/2007



## Statement of Competence

Name: Jimmy Sah

SGS Affiliate: India

### Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

### Validation

### Verification

- Local Assessor ☒
- Lead Assessor ☐
- Assessor ☐
- / Trainee Lead Assessor

### Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☐
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☐
5. Chemical Industry ☐
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride ☐
12. Solvent Use ☐
13. Waste Handling and Disposal ☐
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by Siddharth Yadav Date: 23-05-2007