Voluntary Carbon Standard 2007.1
Final Validation Report

Report No: 53605708-08/632

Validation Report:

Name of Validation company:	Date of the issue:
TÜV NORD CERT GmbH	2009-11-10
Report Title:	Approved by:
“15 MW Grid Connected Renewable Energy Wind Turbine Project in Karnataka”	Mr. Eric Krupp
Client:	Project Title:
Mineral Enterprises Limited	“15 MW Grid Connected Renewable Energy Wind Turbine Project in Karnataka”
Summary:	

Mineral Enterprises Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the validation of the project – “15 MW Grid Connected Renewable Energy Wind Turbine Project in Karnataka”, with regard to the relevant requirements of VCS 2007.1 Standard as well as criteria for consistent project operations, monitoring and reporting.

The project activity generates electricity which will be supplied to the Southern Grid of India and then distributed to connected end users.
The review of the VCS PD and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

A risk based approach has been followed to perform this validation. In the course of the validation 6 Corrective Action Requests (CAR) and 12 Clarification Requests (CR) were raised and successfully closed out. 1 FAR has been raised.

The validation is based on the VCS PD, proof of title, additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and supporting documents made available to the validators by project proponent.
As a result of the validation, the validators confirm that:

- The project fulfils criteria of VCS 2007.1 provided.
- The project additionality is sufficiently justified in the PD.
- The monitoring plan is transparent, adequate and inline with applied baseline and monitoring methodology of AMS I D version 13.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 322750 t CO2e (total) is most likely to be achieved within the 10 years renewable crediting period which will be renewed once.

No restrictions or uncertainties were identified related to the validation.

Work carried out by:	Number of pages:
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1 Introduction

1.1 Objective

The purpose of this validation is to have an independent third party assessment of the project design, in particular the project's baseline, the additionality, the monitoring plan (MP) and the project’s compliance with

-The requirements of VCS 2007.1 program guidelines;

-Requirements of the CDM Approved methodology, AMS ID, version 13 which is approved by VCSA;

-To assess the project’s compliance with other relevant rules, including the project country (India) legislation and

-Other relevant rules, of VCS sustainability criteria are validated in order to confirm that the project design as documented is sound and reasonable and meet the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of Verified emission reductions (VERs/VCUs[1]) without any double counting.

1.2 Scope and Criteria

The validation scope is given as an independent and objective review of the project design, the project’s baseline study and monitoring plan (based AMS ID. /Version 13: “Grid connected renewable electricity generation”) which are included in the VCS PD and other relevant supporting documents.

The items covered in the validation are described below:

- VCS 2007.1 & Project Country Criteria
  - To meet the requirements of VCS 2007.1 guidelines requirements, in particular,
  - Project country requirements / criteria
- VCS Project Description
  - Project design
  - Project boundaries and Predicted VCS project GHG emissions
- Project Baseline
  - Baseline methodology
  - Baseline GHG emissions
- Monitoring Plan
  - Monitoring methodology
  - Indicators/data to be monitored and reported
  - Roles and Responsibilities
- Project Additionality
- Background investigation and follow up interviews
- Draft validation reporting with CARs, CRs & FARs, if any
  Final validation reporting

- The information included in the VCS PD/PD3/ and the supporting documents were reviewed against the requirements and criteria mentioned above. The TÜV NORD CERT GmbH JI/CDM CP has employed a risk-based approach in the validation, focusing on the identification of significant risks for project

[1] As per VCS, Verified Emission Reductions (VERs) are considered to be VCUs only after successful registration in an approved VCU Registry

implementation and the generation of VERs. The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

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

1.3 VCS project Description

The project activity is located in the Chitradurga District, Karnataka. The project activity involves the installation of 20 wind mills of 600 KW capacity (5 windmills) and 800 KW capacity (15 windmills), tuned to an aggregated capacity of 15 MW. Five wind mills of 600 KW capacity are located in Elladekere village, Vanivilas sagar Taluk of Chitradurga district (N13^0 51’ 21” and E76^0 29’ 33”)[2] and three windmills are located in Mathighatta and berebahalli villages of Holalkere Taluk Chita durga district (N14^0 05’ 22” N and E76^0 20’ 35” E)[3]. Remaining 13 wind mills are located at kitthadalhill village Hiriyur Taluk of Chitradurga District. The proposed project would generate energy from wind resources thereby displacing fossil fuel based electricity generation that would have otherwise been provided by the operation and expansion of the fossil fuel based power plants in Southern grid.

The estimated electricity supplied to the grid from the project activity is about 34821 MWh per year. The estimated GHG emission reduction is 322750 tCO2e for the ten year crediting period.

1.4 Level of assurance

The validation report is based on VCS PD/PD1-PD4/, financial spreadsheet/xls1 to xls 3/, supporting documents made available to the validation team and information collected through performing interviews and during the on-site assessment. The validation opinion is assured provided the credibility of all above.

2 Methodology

The validation of the project was carried out from March-November 2009.

Preparations:	20/03/2009 to 7/04/2009
On-site validation:	15/04/2009
(Draft) Reporting:	18/05/2009
(Final) Reporting:	10/11/2009

The validation consisted of the following three phases:

- a desk review of the project design and the baseline and monitoring methodology
- follow-up interviews
- the resolution of outstanding issues and the issuance of the final validation report and opinion.

[2] http://www.satsig.net/maps/lat-long-finder.htm

[3] http://www.satsig.net/maps/lat-long-finder.htm

2.1 Review of Document

The draft PD/PD1/ submitted by the Mineral Enterprises Limited in April 2009 and supporting background documents related to the project design and baseline were reviewed on 13/04/2009. Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

The documents that were considered during the validation process are given in chapter 5 of this report. They are listed as follows:

- Documents provided by the project proponent (Table 5-1)
- Background investigation and assessment documents (Table 5-2)
- Websites used (Table 5-3).

2.2 Follow-up Interviews

On 15/04/2009, the TÜV NORD JI/CDM CP performed validation visit.
During this visit, as well as earlier and after, interviews with the project proponent, the consultant, project stakeholders and with local authorities were carried out to confirm selected information and to resolve issues identified in the document review.
The key interviewee and main topics of the interviews are summarised in Table 2-1.

Table 2-1 Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Projects & Operations Personnel /IM01/ 2. Consultants /IM02/	- Desk review findings - General aspects of the project - Project design, Commissioning and implementation - Technical equipment and operation of the project - Performance of the project - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring and measurement equipment - QA/QC Testing and calibration procedures - Monitored data management - Data quality, archiving and reporting procedures - Data uncertainty and residual risks - GHG calculation - Procedural aspects of the verification - Apportioning of energy to the bundled

Interviewed Persons / Entities	Interview topics
	proponents

A detailed list including the functions or designations of the interviewed persons is given in chapter 5 (see Table 5-4). This table also includes reference codes to be used in the validation protocol.

2.3 Resolution of any material discrepancy

A few discrepancies were found during the validation and the validation report containing a set of CARs & CRs were submitted to the project proponent. The project design document was revised addressing the CARs & CRs issued by TÜV NORD JI/CDM CP.

After reviewing the revised and resubmitted project documentation/PD3/; resolving the CARs & CRs raised and outstanding concerns, TÜV NORD JI/CDM CP issues this final validation report and opinion.

6 CARs and 12 CRs were found during Validation. One FAR has been raised. Please refer to Section 3, table 3.

3 Validation Findings

The findings of validation are summarised in table 3:

Table 3: Summary of CAR, CR and FAR issued

Validation topic	No. of CAR	No. of FAR	No. of CR
D- Project Design	-	-	05
B- Baseline and additionality	04	01	06
M- Monitoring plan	01	-	-
C- Calculation of GHG emissions	01	-	
E- Environmental Impact	-	-	-
L- Local Stakeholder Comments	-	-	01
SUM	**06**	**01**	**12**

For an in depth analysis/evaluation of all CARs and CRs can be referred to the below sections from 3.1 to 3.6.

3.1 Project Design

The proposed project utilizes wind power for electricity generation. Total installed capacity is 15 MW (5*0.6 MW & 15*0.8 MW) with estimated electricity supplied to the grid of about 34821 MWh per year. This project is equipped with the WTGs developed by Enercon make. The project employs 600 kW (E-40) and 800 kW (E-48) turbines of Enercon make for power generation.
Supporting documents like purchase orders/PO1-PO3/ of the WTGs by the investor were made available to the TÜV NORD JI/CDM CP. It was found that the purchase order/PO/ issued by the suppliers of the WTGs specifies the technical details for the respective WTG. Information was also collected through performing interviews with the PP and during the on-site assessment.

Technical details and equipment specifications used in the project are as detailed below:

Table 3-1: Technical details of the wind turbines

Turbine model	Enercon E 40	Enercon E-48
Rated power	600	800
Rotor diameter	48m	48m
Hub height	74.85 m	56.85 m
Turbine Type	Gearless horizontal axis wind turbine with variable rotor speed	Gearless horizontal axis wind turbine with variable rotor speed
Power regulation	Independent electromechanical pitch system for each blade.	Independent electromechanical pitch system for each blade.
Design lifetime	20years	20years
Cutin windspeed	2.5 m/s	2.0 m/s
Rated wind speed	12 m/s	14 m/s
Extreme Wind Speed	59.5 m/s	59.5 m/s
Rated rotational speed	31.5 rpm	31.5 rpm
Operating range rot. speed	16.0 - 31.5 rpm	16.0 - 31.5 rpm
Orientation	Upwind	Upwind
No of Blades	3	3
Blade Material	Glass Fibre reinforced Epoxy	Glass Fibre reinforced Epoxy
Gear box type	Gear less	Gear less

Generator type	Synchronous generator	Synchronous generator
Braking	Aerodynamic	Aerodynamic
Output Voltage	400 V	400 V
Yaw System	Active yawing with 4 electric yaw drives with brake motor and friction bearing	Active yawing with 4 electric yaw drives with brake motor and friction bearing
Tower	74 m concrete	56 m concrete

The project duration is: 20 years.
Start date of the project is 30/09/2004
Crediting period for the project activity: 28th March 2006 to 27th March 2016.

Proof of title was also submitted to DOE. Purchase order copies of the wind mills/PO/ of the investor Mineral Enterprises Limited are treated as proof of title. Refer to Table 5-1.
The emission reduction has not been double counted. The project has not applied for carbon benefits under any other mechanism. There is no rejection history for the project activity. However the Project was withdrawn from CDM on 9th September 2007, vide project number 1796 CDM UNFCCC project activities.

However, following CRs were raised and successfully closed out.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
CR D1 a) Under section 1.2, please use updated version of the methodology. More over mention correct category of the methodology.	/PD 1/	AMS-I.D Version 13 Sectoral Scope: 01 EB 36 has been used for this Project. The methodology is acceptable under VCS 2007.1, methodology classification, under the website of VCS www.v-c-s.org. It has been incorporated through out the PD.	/PD 2/ /PD 3/	The required changes have been made by using the updated version 13 of the methodology AMS ID which has been verified from http://cdm.unfccc.int/index.html website and found to be correct.
b) As there is no separate KPTCL grid please do make necessary changes in the grid name. The above changes in the grid name have to be incorporated throughout the PDD. .	/PD 1/	Required changes have been made. Now the grid name has been changed to southern grid.	/PD 2/ /PD 3/	The revised grid name has been verified from CEA data base version 4 /cea/ and found to be correct. CR D1 is closed.
CR D2 Please provide precise geographical coordinates under section 1.5	/PD 1/	The precise geographical coordinates have been added in the PD.	/PD 2/ /PD 3/	The geographical coordinates of Chitradurga District, where the Project facility is located have been included in the PD as per the requirement. The coordinates were verified from http://www.satsig.net/maps/lat-long-

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
				finder.htm and found to be OK.
CR D3 In section 1.6, the project start date and crediting period start date have to be mentioned as per the guidance given in VCS 2007.1	/PD 1/	The project start date is 30th September 2004 and the crediting period starts from 28th March 2006 to 27th March 2016.		The start date of the Project has been verified from the commissioning certificate/CR1/ and found to be correct. More over the crediting period start date has been mentioned as per VCS guidelines/VCS/ and hence verified to be OK. CR D3 is closed.
CR D4 Under section 1.14, please do mention all issues referred in the request of review of the CDM Project which has been withdrawn.	/PD 1/	All the reviews have been forwarded to DOE separately. The reviews and the respective responses are: 1. The PP and DOE are requested to provide a clear definition of the actual predicted IRR of the project activity taking account of the use of the available tax shelter arising from the project implementation. R1: The tax calculations are included. 2. The DOE is requested to explain how it has validated that the project activity is additional given this predicted IRR and possible increases in these with reasonable	/PD 2/ /PD 3/	The review querries have been considered in our validation process and the assessment of the same are: 1. Tax calculations have been included in the IRR calculations and verified to be correct. 2. Only PLF has been subjected to variation. The given explanation in respect to increase in PLF as it is the major parameter constituting more than 20% of total Project revenues which are in

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
		variations in the plant load factor and tax shelter. R2: PLF has been subjected to variation as it constitutes more than 20% of total project revenues. 3. The DOE is requested to justify the appropriateness of the applied 16% benchmark, which the Board has rendered unsuitable for Indian CDM projects (EB 40, paragraph 40).		accordance with annex 45 EB 41 were found to be OK. 3. The bench mark has been changed to RBI PLR 10.75 % which has been verified to be correct. CR D4 is closed.
CR D5 The following documents need to be submitted. 1.Purchase Orders of each wind Mills 2.Copy of Commissioning certificates of each wind mills 3. Power Purchase Agreement 4. Synchronization letter from State Government 5. Operation & Maintenance contract	/PD 1/	All the documents have been submitted.	/PD 2/ /PD 3/	The following documents purchase orders for all the wind mills /PO1-PO3/, Commissioning certificates of all the wind mills from KPTCL /CR1-CR3/, Power Purchase Agreements /PPA1-PPA3/, Synchronization letters from Karnataka Power Transmission Corporation Limited /SNR/ and operation maintenance agreements /OM/ were found to be in order and verified to be OK. CR D5 is closed.

3.2 Baseline

The proposed project adopts CDM approved methodology AMS I D/Version 13: grid-connected electricity generation from renewable sources, which is approved under VCS 2007.1.
The project satisfies all criteria for AMS ID. The application of baseline methodology is assessed as correct. There is no methodology deviation or revision.

The project participant used the methodology AMS ID for baseline identification. Accordingly, the energy baseline being considered is as directed in paragraph 9 of the AMS.I.D/Version 13, that provides that the applicable baseline is the energy (in kWh) produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh) calculated in a transparent and conservative manner.

A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the approved methodology ACM0002 has been calculated.

The project proponent has calculated the Simple Operating Margin (OM) based on weighted average operating margins based on the latest three year statistics data (year of 2005-06, 2006-07, 2007-08) as per Central Electricity Authority guidelines version 4.0 October 2008 and the Operating Margin Emission Factor is 0.9981 tCO2/MWh. The value for Build Margin (BM) for 2007-2008 is directly used, i.e., 0.7133 tCO2/ MWh and a weightage factor of 75% & 25% is used for OM and BM to arrive at the Combined Margin value of 0.9269 tCO2/MWh.

The calculation of EFy is current and publicly available and published by the Central Electricity Authority on its web-site[/cea/]. The validation team is convinced of the result of the emission coefficient calculation. It is deemed to be adequate, transparent and conservative.

The additionality has been assessed using project test. The implementation barrier, investment barrier, common practice approach have been established to demonstrate the additionality.

Step as per VCS 2007.1	**Argument**	**Assessment**
Step 1: Regulatory Surplus	• Local or National Legislation does not require the production of the underlying service or product with the chosen technology. - There is no legal requirement on the choice of a particular technology for power generation. - The applicable Environmental Regulations do not restrict the use of wind energy for power generation. • The implementation of project activity is a voluntary initiative and it is not	Validation team has checked all the National Regulations and Local legal requirements. It was found that there is no legal requisite in India and at the local level which restricts the implementation of wind power generating projects. Hence the argument is appropriate for this project activity. ☒ Step passed ☐ Step not passed

Step as per VCS 2007.1	Argument	Assessment
	mandatory or a legal requirement. For power generation, the Electricity Act 2003 does not restrict or empower any authority to restrict the fuel choice, the applicable environmental regulations do not restrict the use of wind energy and there is no legal requirement on the choice of a particular technology. • Project Proponents have been issued with all required regulatory clearances before commissioning.	☐ Not applicable
Step 2: Investment Barrier	The project faces capital or investment return constraints that can be overcome by the additional revenues associated with the generation of VCU. So the PP has chosen Benchmark Analysis to demonstrate the additionality of the projects in the bundle. Local commercial lending rate i.e., Prime Lending Rate (PLR) of the Reserve bank of India has been considered as the benchmark for the project activity. The RBI Prime lending rate at the time of investment i.e., during May 2004 was 10.25%-11%. Hence 10.75% is taken as benchmark. Since the Project IRR is chosen as the financial indicator to demonstrate the additionality, local commercial prime lending is one of the appropriate benchmarks as per the Guidance on Investment Analysis EB 41, Annex 45, and version 2. The investment analysis was carried out with the inputs prevailing at the time of investment and the Project IRR with 26.5% PLF has been arrived at 9.75% which is less than the benchmark 10.75%. From the financial analysis calculations, it is clear that the Project is financially unattractive.	**Investment Barrier:** Various elements have been checked during the additionality assessment. Validation team has checked the identified financial indicator (Project IRR), which is most suitable for the project type and decision context. In order to verify the relevant benchmark value of RBI Prime lending rate, validation team has referred necessary web link http://www.rbi.org.in/Scripts/WSSView.aspx?Id=7543/rbi/ and found that the lending rate value prevailing at the time of investment has been correctly applied. Project proponents have demonstrated through the investment analysis that the financial returns of the project activity are below the requisite benchmark. TUV-Nord considers the benchmark chosen is appropriate for the project. Using the investment analysis, the project proponents have demonstrated that the Project IRR for the Project activity is 9.75% which is lower than

<table>
<tr><th>Step as per VCS 2007.1</th><th>Argument</th><th>Assessment</th></tr>
<tr><td></td><td>More over, sensitivity analysis has been carried out with the increase and decrease in PLF by 10% and the same is provided as below:

<table><tr><td>PLF</td><td>Project IRR</td><td>Benchmark</td></tr><tr><td>23.85% (-10%)</td><td>7.77%</td><td>10.75%</td></tr><tr><td>26.50% (actual)</td><td>9.75%</td><td>10.75%</td></tr><tr><td>29.15% (+10%)</td><td>11.66%</td><td>10.75%</td></tr></table></td><td>benchmark PLR of 10.75%.

Thus, the established investment barrier has been assessed to be appropriate and sufficient. The arguments with supporting spreadsheets /XLS3/ provide proof for the non-viability of the project. The input data and assumptions for calculation of IRR like (profit after tax, project cost, net cash flow, additional depreciation, interest on term loan) are verified with references /PO, LSL, PPA1-PPA3, O&M/ provided by PP. Thus the investment analysis calculations are found to be OK.

The estimated annual electricity is based on the PLF of 26.5% which is considered as per KERC Tariff Order for Karnataka dated 18th January 2005 /KERC/.
Though the order was released subsequent to the start date of the project activity, the PLF mentioned in the order is based on the last 3 years (2003-2005) wind power generation details in Karnataka including the Project site Chitradurga, as "IWPA has stated that in Karnataka, over the last three years the PLF achieved is 23%. However it is stated that the PLF could be improved by 3% due to technological advancement. Based on the above statement, the PLF of 26.5% considered by commission rule is deemed to be acceptable. More over for considering the PLF of 26.5%, information on wind velocity, air density, quality, capacity and age of machines, height of the hub,</td></tr>
</table>

Step as per VCS 2007.1	Argument	Assessment
		and length of blades were obtained from manufacturers / developers of KW series machines in Karnataka. Hence the PLF of 26.5% considered for this project activity is acceptable. The Plant load factor is sensitive to the electricity generation. Hence the sensitivity analysis has been carried out by the PP for the above variable. The calculation has been reviewed and it is concluded that the project activity has IRR less than the benchmark value, clearly indicating that the project is financially not feasible without carbon benefits. Though with 10% increase in PLF, the Project IRR crosses the benchmark, it is not considered to be a real case scenario. From the KERC order, we could analyze that the average PLF reported by different Institutes over the period 2003-05 did not cross 28%. Hence assuming the PLF as 29.15% may not be considered as a valid option. Thus the argument given by PP stating that 10% increase in PLF as not a real case scenario is deemed to be acceptable. ☒ Step passed ☐ Step not passed ☐ Not applicable
Step 3 Common Practice	Common practice analysis has been carried out with the publicly available data. As of 31.03.06, Karnataka contributed only 11% to the total installed capacity of wind power of India. The trend of annual addition in the installed capacity of wind power has shown that Karnataka has one of the	From the analysis done on the Common Practice scenario, it has been found that the scope of existing and upcoming wind energy projects of similar or higher scale is low. The web site http://www.inwea.org/installedca

Step as per VCS 2007.1	Argument	Assessment
	lowest annual capacity additions in wind power. Based upon the Central Electricity Authority, CEA (a Government of India organization, and a statutory body which works at a policy level to regulate and reform the Indian power sector) database, the region-wise installed capacity as on 31st March 2006 for various grids it has been observed that fossil fuels (mainly coal and gas) have a majority share in power generation, and accordingly influence the electricity generation system via various grids in India. Prior to the initiation of the project activity the said power would have been generated from the power plants connected to the southern regional grid, as described in the subsequent paragraphs. It can be observed that after analyzing the conditions prior to project initiation fossil fuels contribute more than 50% of the total power generation capacity in the country, thus having major implications on the GHG emissions resulting out of the sector. More over, at the current scenario, approximately 75% of the wind power projects in Karnataka have considered Carbon credit revenue as an important factor in the financial viability of the project. Hence, it is evident that there is no project of comparable capacity in the region that has come up without considering carbon credit benefits. Thus the project activity is not a common practice. Hence it has been sufficiently demonstrated that the development of wind power project without VCS revenues is not a viable option.	pacity.htm/inwea/ was checked in respect to Karnataka’s lowest annual capacity additions in wind power and verified to be correct. CO2 Baseline Database/CEA1/ was checked and thus the argument stating fossil fuels contribute more than 50% of the total power generation capacity in the country has been verified to be OK. More over, the following web site http://cdm.unfccc.int/Projects/registered.html was checked in order to verify the current scenario of wind power Projects and thus the argument stating 75% of the wind power projects in Karnataka have considered carbon credit revenue is deemed to be acceptable and verified to be OK. As a result of existence of the analysis of the barriers, the project activity has been concluded as not a common practice scenario in the region. OK ☒ Step passed ☐ Step not passed ☐ Not applicable

Thus the validation team arrived at the opinion that the project activity is assessed to be additional.

However, following CARs and CRs issues were raised and consequent upon the satisfactory response received from the project promoter, the issues have been closed out. One FAR has also been raised.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
CAR B1 1. The additionality has to be demonstrated based on one of the following tests, (project test, performance test, and technology test). Please do refer VCS 2007.1 and make changes accordingly.	/PD 1/	The Additionality details are furnished as per the standard VCS 2007.1. The Additionality has been demonstrated based on the project test. Under Project test, details on regulatory surplus, implementation barrier and common practice are added.	/PD 2/	Required changes in additionality arguments have been made. As per VCS requirement, the additionality arguments are covered under Project test including regulatory surplus, implementation barrier and common practice are in line with the guidelines of VCS[/vcs/] and found to be OK.
CAR B2 VCS PD states, "As RBI had left the discretion of using the BPLR rates to Indian foreign Banks depending on their Bank operation factors, the project proponent had taken in to consideration both RBI BPLR rates, and as well HSBC Indian unit"	/PD 2/	Necessary revisions have been made. The RBI prime lending rate prevailing at the time of investment i.e during 2004 has been taken as benchmark. The RBI PLR during April – May 2004 is 10.25% to 11%. So 10.75% is considered as benchmark.	/PD 3/	Required changes have been made. The RBI PLR 10.75% used as benchmark has been checked from the web site http://www.rbi.org.in/Scripts/WSSView.aspx?Id=7

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
(P.16). This is not acceptable. PP has to choose only one benchmark (per financial indicator) and justify its usage, based on its conformity with Additionality Tool, Annex 45 of EB 41 and the suitability of the same to the financial indicator selected.				543 and found to have applied correctly. Thus the chosen benchmark RBI PLR for Project IRR is in accordance with annex 45 of EB 41 and verified to be appropriate. CAR B2 is closed.
CAR B3 1. PLF of 23% is not acceptable as it is not in conformity with Annex 11 of EB 48 since the machinery supplier has given a generation estimation of 28% PLF and KERC has recommended 26.5%.	/PD 2/	We have rectified and used 26.5 % as PLF, which is recommended and given by KERC vide their office order dated 18.1. 2005.	/PD 3/	1. The KERC order dated 18th January 2005[/kerc/] was verified in respect to the PLF used in the project activity and found to have applied correctly. Though the KERC order was released subsequent to the start date of the Project activity, as per the IWPA study, the PLF mentioned in the order is based on the last 3 years (2003 -

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
2. Tariff given in the VCS PD is at variance with tariff assumed in the worksheet.	/PD 2/	We have reviewed & corrected accordingly.	/PD 3/	2005) wind power generation details in the regions of Karnataka including Chitradurga as 23% which could be increased by 3% due to technological advancement . Hence the chosen PLF of 26.5% as mentioned in the order is deemed to be acceptable. 2. The tariff rate has been changed to INR 3.40. Thus the revised tariff rate has been verified from KERC order dated 18 January 2005 /KERC/ and found to be correct.
CAR B4 1. Provide basis for O& M cost and its escalation of 5%.	/XLS 1/	As per KERC order 2005, O& M cost is considered as 1.25% of total capital cost with annual escalation of 5%	/XLS 2/	The KERC order dated 18th January 2005 /KERC/ was verified in respect to the chosen O&M cost and its escalation

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
				and found to be in line with the order. Hence considering O & M cost as 1.25% of capital cost with annual escalation of 5% are deemed to be acceptable.
2. Provide basis for administrative cost and its escalation	/XLS 1/	Administrative expenses are taken as 5% of the revenue with escalation of 5% which is effective from final stage of implementation. The reference letter has been submitted.	/XLS 2/	2. The reference letter from Mineral Enterprises Limited stating the estimated administrative expenses as 5% of revenue with annual escalation of 5% from final stage of implementation has been verified and found to be OK.
3. Provide basis for Insurance expenses.	/XLS 1/	Insurance expenses are based on the insurance premium receipts. The receipts have been submitted to the PP.	/XLS 2/	3. The Insurance premium receipts / INS/ were verified and the insurance expenses were found

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
				to have applied correctly.
CR B1 1. The loan amount given in 'IRR calculations' worksheet (Cell D14) differs from the debt amount given in 'Loan Funds' worksheet (Cell C10).	/XLS 1/	The difference was due to exchange difference, the same is rectified by adding to equity.	/XLS 2/	1. Necessary changes in IRR calculations have been made. Loan sanction letter /LSL/ has been verified in respect to the amount of loan mentioned and found to have applied correctly.
2. Only repayment schedule for the loans have been furnished. The interest calculation has not been given. Either interest computation should be given or documents evidencing the payment of interest as projected in the 'IRR calculations' worksheet should be furnished.	/XLS 1/	2. Interest calculations have been included in the revised IRR sheet.	/XLS 2/	2. Required interest calculations have been furnished. These calculations were done based on the interest rate of 7% which has been verified to be correct from loan sanction letter /LSL 1/.
3. Interest has not been provided in 2004-05. Since 5 WEGs commenced	/XLS 1/	Wind mills installed in the 1st phase on 30.9.2004, is funded by inter unit, with in the company. Hence the	/XLS 2/	3. As the first loan sanction letter from HSBC bank was dated on

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
generation on 28.10.2004, interest in respect of loan availed to part finance these 5 WEGs should be accounted for in 2004-05 to be in conformity with accepted accounting principles.		interest has not been included.		29th July 2005, it has been verified and concluded that the first phase wind mills which were commissioned during October 2004 would have been funded by own source. Hence the clarification given in respect to non-application of interest date are during 2004-05 are deemed to be acceptable. As all the above 3 clarifications have been successfully addressed, CR B1 is closed.
CR B2 1. Project cost details should be given separately for 5 WEGs commissioned on 30.09.2004, 3 WEGs commissioned on	/XLS 1/	The Project cost details have been sent. More over the rate of depreciation confirms to company’s act & IT act. & Schedule XIV and Appendix I of IT Rules attached along with the	/XLS 2/	Project cost details have been verified from purchase orders and found to be

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
28.10.2005 and 12 WEGs commissioned on 31.3.2006 – with details, such as land cost, civil works, WEG cost, transformers, electrical items etc. Depreciation provided – both book and IT – should conform to Schedule XIV of Companies Act and Sec. 32 of IT Act read with Appendix of IT Rules.		calculations.		correct. More over the revised depreciation rate calculations are found to be in line with schedule XIV of Companies Act and Sec 32 of IT Act. Hence the rate of depreciation and its calculations are deemed to be acceptable.
2. Book depreciation for 2005-06 does not appear to be correct. Out of 15 WEGs commissioned during this year, only 3 were commissioned in October. Rest was commissioned on the last day of the year. Moreover, there is no algorithm to check the value also.	/XLS 1/	2. Depreciation for the year 2005-06 is provided, at 50% of Normal rate as per Income tax and Companies act. Algorithm is also available, in the IRR sheet.	/XLS 2/	2. Necessary corrections in book depreciation rate during 2005-06 have been made which are found to be in line with Income tax and Companies act. More over the provided algorithm for depreciation calculations are verified to be OK.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
3. Algorithm should be used in the ‘SV’ worksheet. Direct data input renders verification impossible.	/XLS 1/	Salvage value calculation have been provided with algorithm.	/XLS 2/	3. The required algorithm for salvage value calculation has been verified and found to be OK.
4. Tax computation does not conform to IT Act and the ruling given on Sec. 80IA.	/XLS 1/	The tax computation has been carried out in conformance with the IT Act, 1961. The provisions contained in section 80-IA of the Act, provides for 100% deduction (tax holiday) in respect of profits derived by an assessee from its undertaking(s) engaged in, inter-alia, generation of power. The ruling Sec.80 IA, Chapter VIA, IT Act, 1961 specifies that the deduction may be claimed by the assessee for any ten consecutive assessment years out of fifteen years beginning from the year in which the undertaking or the enterprise develops and begins to operate any infrastructure facility. The same 10 years tax holiday has been applied in the IRR computations. Please find the evidence in support of it.	/XLS 2/	4. The clarifications given for tax computations are verified and thus the calculations are found to be in accordance with IT act section 80-IA. Thus tax computation calculation is deemed to be acceptable. All the above 4 clarifications have been successfully addressed and CR B2 is closed.
CR B3				

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
Cash flow statement, forming the basis of IRR is not acceptable for the following reasons: a.Tax shield enjoyed on account of accelerated depreciation, has not been accounted for.	/XLS 1/	a. Yes it is considered indirectly, however the company is enjoying the benefit of 80 IA for the first 15 years, for this project, therefore company will not be paying any taxes for the first 15years, hence question of savings on depreciation does not arise, and later years, there is no depreciation impact as it was fully depreciated in the first 8 years itself.	/XLS 2/	a. The clarification given in respect to the tax shield has been verified from section 80 IA of IT act and found to be OK.
b.Since cash generation takes place in the same financial year as the investment takes place, the cash outflow should be netted out with cash inflow of 2004-05 and 2005-06 (the two years in which investment had taken place). Though this is done for project IRR, this principle has not been followed for project IRR	/XLS 1/	Required corrections have been made. Cash outflow is shown separately to calculate IRR, however year wise data can be obtained from Operating Exp Proj.	/XLS 2/	b. Necessary changes have been made in cash flow calculations. The cash flow calculations are verified to be OK. The above 2 clarifications have been successfully addressed. CR B3 is closed.
CR B4 It has been stated in the ‘IRR calculations’ worksheet, loan from banks and group companies. Clarify	/XLS 1/	Loans have been taken from “EOU Units” and “SOS EOU “ with in the company .There is no loan taken from group companies.	/XLS 2/	The required clarifications have been successfully addressed.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
whether the company has taken any loan from group companies also. If so the details thereof may be furnished along with terms.				Loans sanction letters/LSL/ from banks have been verified and acceptable that the loan was taken only from banks and not group Companies. CR B4 is closed.
CR B5 Clarify whether MAT is applicable to this project activity as per IT Act.	/XLS 1/	MAT is applicable which has been included in the calculations.	/XLS 2/	Section 115JB of the IT Act, 1961 has been checked and the applied MAT rate is found to be correct. CR B5 is closed.
CR B6 Sensitivity analysis may be restricted to 10% variation on either side only. Sensitivity analysis is not required for financial indicator/s with VCS benefits. PP is advised to go through the Additionality Tool - Step 2 (d) in this regard.	/XLS 1/ /PD 2/	Necessary corrections have been. Sensitivity calculations are done for PLF with +/-10% increase.	/XLS 2/ /PD 2/	Sensitivity analysis calculations are in accordance with annex 45 of EB 41 and verified to be OK. CR B6 is closed.
FAR B1 It is noted that IRR crosses benchmark when PLF increases	/PD 4/			During every VCS Verification period, the

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
to 10%. In future during every verification, it has to be ensured that the PLF does not increase to 10%.				verification team has to check the PLF of the wind mills and hence the PLF needs to be revalidated during each verification.

3.3 Monitoring Plan

The proposed project uses CDM approved methodology AMS I D Version 13: Grid Connected Renewable electricity Generation, which is approved under VCS 2007.1.

The project satisfies all criteria for AMS I D. The application of monitoring methodology is assessed to be correct.

The monitoring plan provides detailed information related to the collection and archiving of all relevant data needed to:

- Estimate or measure emissions occurring from GHG sources, sinks and reservoirs
- Determine the baseline emissions
- Estimate changes in emissions from the site

The parameters to monitor are electricity exported to the grid, electricity imported from the grid, and net electricity delivered.

As per the requirements of the methodology, monitoring shall consist of metering the electricity generated by the renewable technology.

The Delivered energy is metered by the MEL and BESCOM at the high voltage side of the step up transformer installed at the receiving station.

Metering equipment is electronic trivector meter of accuracy class 0.2% required for the project (both main and check meters). The Main Meters and check meters at the project site are owned by Mineral Enterprises Limited, maintained by Enercon (India) Limited and it will be under the custody of BESCOM. The metered units can be cross verified by the SCADA (Supervisory Control & Data Access System).

Net electricity supplied to grid will be calculated based on the measured values of “export” and “import” on the meter at the delivery point, where joint reading is taken by project proponent representative and BESCOM officials. The reading recorded in this certificate, issued by BESCOM, will be used to calculate actual GHG emission reductions by the project activity.

The data relevant to establishing the net electricity generated from the project including the electricity share certificate from BESCOM, the invoice to BESCOM and the monthly metering sheets available with the project proponent shall be archived for the entire crediting period plus two years. The monitoring data shall also be archived by Enercon (India) Limited as a backup arrangement for the entire crediting period plus two years.

Thus the frequency, responsibility and authority for registration, monitoring, measurement and reporting activities are clearly mentioned under monitoring plan.

The on-site visit was carried out on 15/04/2009. One member of the Validation team attended the site visit.

Before and during the on-site visit the validation team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

During the onsite-visit the above informations was verified from the joint meter reading/JMR/ reports which have been duly signed by the representatives of BESCOM submitted by the PP. This was found to be in line with the monitoring plan /PD3/ & the Power purchase agreements/PPA1-PPA4/ signed for the project and found to be ok.

The meters are calibrated at least once in a year by the BESCOM officials.

Responsibilities related to monitoring are clearly defined in the monitoring plan and were assessed and found to be OK.

However, following CAR was raised and successfully closed out.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
CAR M1 Under section 3.4 & 3.4, 1. Complete details of monitoring equipments have to be given. 2. Proof of back up arrangements for data archiving & storage have to be provided.	/PD 1/	1. The complete monitoring plan is explained in detail in the Section 3 of the PD. The calibration certificates for the meters monitoring energy generation from the project have been provided. 2. As mentioned in section 3.3. of the PD, the data relevant to establishing the net electricity generated from the project including the electricity share certificate from erstwhile	/PD 2/ & /PD 3/ s	Necessary informations under monitoring plan and data storage have been correctly included in the PD. The added informations were found to meet the requirements under monitoring and verified to be OK.

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
		KPTCL and now BESCOM, the invoice to BESCOM and the monthly metering sheets are available with the project proponent and shall be archived for the entire crediting period plus two years.		CAR M1 is closed.

3.4 Calculation of GHG Emissions

GHG emission reduction achieved by the project activity is calculated as the difference between the baseline emission and the project emission.
The project category applicable to the proposed project is AMS ID. Accordingly, the energy baseline being considered is as directed in paragraph 9 of the AMS.I.D/Version 13, which provides that the applicable baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh) calculated in a transparent and conservative manner as:

A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system'.

The methodology also states that the calculations must be based on data from an official source (where available) and made publicly available.

Thus, as per the publicly available CEA publication of the CO2 Baseline Database, Version 4.0 dated October 2008, the simple operating margin emission factor for the southern regional grid is calculated based on weighted average of latest three years statistics data (year of 2005-06, 2006-2007, 2007-08) as 0.9981 kg CO2e/kWh and the Build Margin emission factor for the Southern Grid is 0.7133 kg CO2e/kWh. As specified in the methodology, the combined margin emission factor is calculated as 0.9269(in t CO2e/MWh) of the current generation mix using the tool to calculate the emission factor for an electricity system has been considered to estimate the baseline emissions.

The tool to calculate the emission factor requires that for intermittent sources for power generation like wind as in the case of proposed CDM project the weights to be used for calculating the emission factor for Combined Margin. Thus the weights 0.75 % for OM and 0.25% for BM have been added.

The validation team has checked the underlying input values as well as the computation in the emission reduction spreadsheet[/ER/]. The estimation of the emission reduction was realized in a transparent and conservative manner and is well documented under section 4.2 - 4.4 of the PD.

As per the final PD/PD3/ this project is expected to reduce emissions of 322750 tCO2e over a 10 years crediting period.

Thus the emission reduction calculations /ER/ are found to be OK.

Following CAR was raised and was subsequently closed out in view of the satisfactory response received from the project promoters:

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
CAR C1 1. In Section 4.1, the formula used as per point 10, of the methodology AMS I D pertains to addition of renewable energy generation units at an existing renewable power generation facility, where the existing and new units share the use of common and limited renewable resources. Please use appropriate formula for calculation of Emission Reduction.	/PD 1/	Formula revisions have been made as per the methodology AMS ID.	/PD 2/ & /PD 3/	1. The formula ERY= EGY.EFY used in the ER calculations are found to be appropriate and thus the calculations are verified to be correct.
2. Please provide calculation details of the baseline emission factor. The chosen value of operating margin emission factor and build margin emission factor (in tCO2/GWh) used in the calculation needs to be provided along	/PD 1/	The operating margin and build margin emission factors are selected from CEA database. The weighted average of last 3 years O & M is taken as Operating Margin emission factor and the build margin emission factor is chosen from the latest year data. The calculations are given in PD.	/PD 2/ & /PD 3/	2. The simple Operating margin emission factor calculation and build margin emission factor value are found to be correct

CAR/CR	Reference	*Summary of project owner response*	*Revised sections (as applicable)*	Conclusion
with the reference.				which were verified from www.cea.nic.in. Thus the combined margin emission factor calculation is found to be OK. The above 2 clarifications are successfully addressed. CAR C1 is closed.

3.5 Environmental Impact

Wind power is one of the cleanest sources of renewable energy, with no associated emissions and waste products. In India, as per the provisions under the EIA Notification of 1994, wind power projects do not require an Environmental Impact Assessment. This has been verified from the website http://envfor.nic.in/legis/eia/so1533.pdf and concluded that EIA is not necessary.

3.6 Comments by stakeholders

A stakeholder consultation meeting of the project was conducted on 28/12/2006 at Chitradurga, Karnataka. Stakeholders meeting notification was published in the local daily and information was also given to the local Gram Panchayats and farmers in the villages. A summary of the stakeholder comments have been included in the VCS PD. All comments were positive and it has been verified that all comments sufficiently have been addressed. Invitation notice for stakeholders meeting /SHC 1/ and minutes of meeting and attendance sheet for stakeholders meeting conducted on 28/12/2006/SHC 2/ were verified and found to be in order.

CAR/CR	Reference	Summary of project owner response	Revised sections (as applicable)	Conclusion
CR L1 In section 6, under stakeholders comments provide necessary supporting documents like invitation notice and attendance sheet.	/PD 1/	The stakeholders comments and invitation notices are submitted.	/PD 2/ & /PD 3/	The required documents /SHC 1- SHC 2/ have been verified and found to be OK.

4 Validation conclusion

Mineral Enterprises Limited has commissioned the TÜV NORD JI/CDM Certification Program to carry out the validation of the project – “15 MW Grid Connected Renewable Energy Wind Turbine Project in Karnataka”, with regard to the relevant requirements of VCS 2007.1 Standard as well as criteria for consistent project operations, monitoring and reporting.

The project activity generates electricity which will be supplied to the Southern Grid of India and then distributed to connected end users.

The review of the VCS PD and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

A risk based approach has been followed to perform this validation. In the course of the validation 6 Corrective Action Requests (CAR) and 12 Clarification Requests (CR) were raised and successfully closed out. 1 FAR has been raised.

The validation is based on the VCS PD, proof of title, additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and supporting documents made available to the validators by project proponent.

As a result of the validation, the validators confirm that:

The project fulfils criteria of VCS 2007.1 provided.

- The project additionality is sufficiently justified in the PD.
- The monitoring plan is transparent, adequate and inline with applied baseline and monitoring methodology of AMS ID Version 13.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 322750 t CO2e (total) is most likely to be achieved within the 10 years renewable crediting period which will be renewed once.

No restrictions or uncertainties were identified related to the validation.

Mr. Ma. Paa. Puratchikkanal
Verification Team Leader
Bangalore, 2009-11-10

Mr. Eric Krupp
Final approval
Essen, 2009-11-11

5 References

Table 5-1: Documents provided by the project proponent

Reference	Document
/PD1/	VCS PD for Mineral Enterprises Limited dated at 30/04/2009, Version 1
/PD2/	VCS PD for Mineral Enterprises Limited dated at 05/06/2009, Version 2
/PD3/	VCS PD for Mineral Enterprises Limited dated at 02/09/2009, Version 3
/PD4/	VCS PD for Mineral Enterprises Limited dated at 10/11/2009, Version 4
/LOAN 1/	Loan sanction letter from HSBC dated 20th July 2005
/LOAN 2/	Loan sanction letter from Standard Charted Bank dated 21st March 2006
/PO 1/	Purchase orders for 5 Nos of Enercon make 600 KW wind mills dated 28th May 2004
/PO2/	Purchase orders for 3 Nos of Enercon make 800 KW wind mills dated 30th December 2004.
/PO3/	Purchase orders for 12 Nos of Enercon make 800 KW wind mills dated 22nd August 2005.
/INS /	Insurance Premium receipts
/CR 1/	Commissioning Certificates of 3 NOs, 600 KW (1.8 MW) wind energy converter by Mineral Enterprises Limited from KPTCL dated 30/09/2004.
/CR 2/	Commissioning Certificates of 3 NOs, 800 KW (2.4 MW) wind energy converter by Mineral Enterprises Limited from KPTCL dated 17/09/2005.
/CR 3/	Commissioning Certificates of 5 NOs, 800 KW (4 MW) wind energy converter by Mineral Enterprises Limited from KPTCL dated 31/03/2006.
/XLS1/	Financial calculation sheet corresponding to VCS /PD1/
/XLS2/	Financial calculation sheet corresponding to VCS/PD2/
/XLS3/	Financial calculation sheet corresponding to VCS/PD3/
/ER/	Emission reduction calculation sheet corresponding to VCS/PD3/
/SHC 1/	Notice for local stake holders meeting
/SHC 2/	Minutes of meeting for local stake holders consultation dated 28/12/2006.

Reference	Document
/PPA1/	Power Purchase Agreements between Bangalore Electricity Supply Company Limited and Mineral Enterprises Limited dated 27th February 2006.
/PPA2/	Power Purchase Agreements between Bangalore Electricity Supply Company Limited and Mineral Enterprises Limited dated 4th April 2006.
/PPA3/	Power Purchase Agreements between Bangalore Electricity Supply Company Limited and Mineral Enterprises Limited dated 14th June 2006.
/JMR/	Joint meter reading reports for all the 20 WTGs
/CLR/	Calibration reports of the energy meters
/O&M/	Operation & Maintenance agreement for all the 20 WTGs between Mineral Enterprises Limited and Enercon
/SNR/	Synchronization letters from Karnataka Power Transmission Corporation Limited.
/CEA 1/	Baseline Database for the Indian Power Sector, Version 1.1, December 2006, Government of India, Ministry of Power, Central Electricity Authority

Table 5-2: Background investigation and assessment documents

Reference	Document
/AMS ID/	Grid connected Renewable Electricity Generation (version 13)
/IPPC-RM/	1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book

Table 5-3: Websites used

Reference	Link	Organisation
/vcs/	www.v-c-s.org	VCS website
/unfccc/	www.unfccc.int	UNFCCC website
/cea/	http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm	Central Electricity Authority
/rbi/	http://www.rbi.org.in/Scripts/WSSView.aspx?Id=7543	Reserve Bank of India
/enfor/	http://envfor.nic.in/divisions/ccd/cdm_iac.html	Ministry of Environment and Forests, GoI, India
/kerc/	http://www.kerc.org/order2005/Order%20on%20NCE%20Tariff%20(FINAL).doc	Karnataka Electricity Regulatory Commission

Table 5-4: Interviewed Persons

Reference		Name	Organisation / Function
/IM01/	☒ Mr. ☐ Ms.	Sanjay	Mineral Enterprises Limited
/IM02/	☒ Mr. ☐ Ms.	Prabhakar	Consultant