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# VERIFICATION AND CERTIFICATION REPORT

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**Magma Fincorp Limited**

**Energy from renewables**

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**SGS Climate Change Programme**

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| <b>Date of Issue:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              | <b>Project Number:</b>                                                                                                      |  |
| 07/04/2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              | CCP.VOL0492 VCS MP1                                                                                                         |  |
| <b>Project Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |                                                                                                                             |  |
| Energy from renewables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                                                                                                                             |  |
| <b>Organisation:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              | <b>Client:</b>                                                                                                              |  |
| SGS United Kingdom Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              | Magma Fincorp Limited                                                                                                       |  |
| <b>Summary:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                                                                                                                             |  |
| <p>SGS United Kingdom Ltd has performed the Voluntary Emission Reduction verification of the VCS project "Energy from renewables". The verification includes confirming the implementation of the monitoring plan of the registered VCS PD<sup>1/</sup> with reference number VCS Ref No. VCSR160 and the application of the monitoring methodology as per AMS I D Version 14, dated 31/07/2009. A site visit was conducted on 12/05/2009 to verify the data submitted in the monitoring report.</p> <p>The project activity is the installation of two Wind Energy Generators (WEGs), with capacity of 1.25 MW each. The location of the WEGs are in Ranjangaon village, Sakri taluk, and Dhandane village, Nandurbar Taluk of Dhule district, Maharashtra, India. Other than the two WEGs, the project activity consists of the transformers, the metering equipments for each generator and the corresponding substations for both the WEGs to the point of evacuation.</p> <p>The project activity is transforming wind energy into electricity and is not consuming any fuel for its continuing operation and has no emissions directly related to the electricity production. Since, the operation of the WEGs does not emit any kind of GHG emissions or any kind of air pollutants, the electricity produced that is being exported to the grid is a clean energy. Overall, the project activity is reducing the GHG emissions that would have occurred in the power plants (fossil fuel based) in the connected electricity system.</p> <p>SGS confirms that the project is implemented in accordance with the validated and registered VCS PD<sup>1/</sup>. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 9,593 tCO<sub>2</sub>e during period 01/04/2006 to 31/03/2009.</p> |              |                                                                                                                             |  |
| <b>Subject:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              | <b>Indexing Terms</b>                                                                                                       |  |
| VCS 2007.1 Verification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                                                                                                                             |  |
| <b>Voluntary Team:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | <input checked="" type="checkbox"/> No Distribution (without permission from the Client or responsible organisational unit) |  |
| Ashok Kumar Gautam – Lead Assessor<br>Ravikant Soni – Technical Expert<br>Tridip Kumar Goswami – Assessor & Local Assessor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                                                                                             |  |
| <b>Technical Review:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | <input type="checkbox"/> Limited Distribution                                                                               |  |
| Date: 26-04-2011<br>Name: Kaviraj Singh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                                                                                                                             |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                                                                                                                             |  |
| <b>Revision Number:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Date:</b> | <b>Number of Pages:</b>                                                                                                     |  |
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## Abbreviations

|                  |                                                            |
|------------------|------------------------------------------------------------|
| AMS              | Approved Methodology Small-scale                           |
| AUxy             | Auxiliary Consumption by the project activity              |
| BE               | Baseline Emissions                                         |
| BEy              | Baseline emissions                                         |
| BM               | Build Margin                                               |
| CAR              | Corrective Action Request                                  |
| CDM              | Clean Development Mechanism                                |
| CEA              | Central Electricity Authority                              |
| CER              | Certified Emission Reduction                               |
| CL               | Clarification Request                                      |
| CM               | Combined Margin                                            |
| CRM              | Customer relationship management                           |
| DGR              | Daily Generation Reports                                   |
| DOE              | Designated Operational Entity                              |
| EF grid,y        | Emission factor for the grid                               |
| EGBL,y           | Net electricity generated by the project activity          |
| EGgross,y        | Gross electricity generated by the project activity        |
| ER               | Emission Reduction                                         |
| ERy              | Emission Reduction in the year y                           |
| ESHQ             | Environment Safety Health Quality                          |
| GHG              | Greenhouse Gas(es)                                         |
| Gol              | Government of India                                        |
| HT               | High Tension                                               |
| JMR              | Joint Meter Reading Statement                              |
| kW               | Kilo watt                                                  |
| kWh              | kilo watt hour                                             |
| MIS              | Management Information Systems                             |
| MoEF             | Ministry of Environment & Forests                          |
| MP               | Monitoring Plan                                            |
| MR               | Monitoring Report                                          |
| MSEB             | Maharashtra State Electricity Board                        |
| MSEDCL           | Maharashtra State Electricity Distribution Company Limited |
| MSETCL           | Maharashtra State Electricity Transmission Company Limited |
| MW               | Mega Watt                                                  |
| MWh              | Mega Watt hour                                             |
| NEWNE            | North East West North-East                                 |
| O&M              | Operation and Maintenance                                  |
| OFC              | Optical Fibre Connectivity                                 |
| OM               | Operating Margin                                           |
| PDD              | Project Design Document                                    |
| PE               | Project Emissions                                          |
| PP               | Project Participant                                        |
| PPA              | Power purchase agreement                                   |
| QA / QC          | Quality Assurance / Quality Control                        |
| SV               | Site Visit                                                 |
| tCO <sub>2</sub> | Tonnes of Carbon Dioxide                                   |
| UNFCCC           | United Nations Framework Convention on Climate Change      |
| VCS              | Voluntary Carbon Standard                                  |
| WEG              | Wind Energy Generator                                      |

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## **1. Introduction**

### **1.1 Objective**

Magma Fincorp Limited has commissioned an independent verification by SGS United Kingdom Ltd. of its reported greenhouse gas emission reductions from the Energy from renewable as per VCS2007.1 requirements. The verifiers have reviewed the GHG data collected to date for the period between 01/04/2006 to 31/03/2009.

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the project has resulted in emission reductions as declared by the organisation or GHG project's GHG assertion
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

### **1.2 Scope and Criteria**

This engagement covers verification of emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the Energy from renewables.

SGS' approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. SGS's examination includes assessment, on a test basis, of evidence relevant to the amounts and disclosures in relation to the project's GHG emission reductions for the defined reporting period.

### **1.3 VCS Project Description**

The project activity is the installation of two Wind Energy Generators (WEGs), with a capacity of 1.25 MW each. The locations of the WEGs are in Ranjangaon village, Sakri taluk, and Dhandane village, Nandurbar Taluk of Dhule district, Maharashtra, India. Other than the two WEGs, the project activity consists of the transformers, the metering equipments for each generator and the corresponding substations for both the WEGs to the point of evacuation.

The project activity is transforming wind energy into electricity and is not consuming any fuel for its continuing operation and has no emissions directly related to the electricity production. Since operation of WEGs does not emit any kind of GHGs or any kind of air pollutants, the electricity produced that is being exported to the grid is a clean energy. Overall, the project activity is reducing the GHG emissions that could have been envisaged, had the same electricity was produced from a fossil fuel based power plant.

### **1.4 Level of Assurance**

The parameters and values presented in the monitoring report were assessed through review of detailed project documentation and production records, interviews with personnel at site, check of log book, observation of established monitoring and reporting practices and assessment of the reliability of measuring equipment. All the information has found up to satisfactory level.

### **1.5 Project Activity and Period Covered**

This engagement covers emissions and emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the following project and period:

|                                           |                                                                                                                                          |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Title of Project Activity:                | Energy from renewables                                                                                                                   |
| VCS Ref No                                | VCSR160                                                                                                                                  |
| Monitoring Period Covered in this Report: | 01/04/2006 to 31/03/2009                                                                                                                 |
| Project Participants:                     | Magma Fincorp Limited                                                                                                                    |
| Location of the Project Activity:         | Location of the WEGs are in Ranjangaon village, Sakri taluk, and Dhandane village, Nandurbar Taluk of Dhule district, Maharashtra, India |

## 2. Methodology

### 2.1 General Approach

SGS' approach to the verification is a two-stage process.

In the first stage, SGS completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

At the end of this stage, SGS produced a Periodic Verification Checklist which, based on the risk assessment of the parameters, data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

Using the Periodic Verification checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the monitoring report. This verification report describes the findings of this assessment.

### 2.2 Verification Team for this Assessment

| Name                 | Role                          |
|----------------------|-------------------------------|
| Ashok Kumar Gautam   | Lead Assessor                 |
| Tridip Kumar Goswami | Assessor & Local Assessor     |
| Ravikant Soni        | Technical Expert (TA1.2 Wind) |

| Technical Review Team | Role                          |
|-----------------------|-------------------------------|
| Kaviraj Singh         | Technical Reviewer            |
| Ramkrishna Patil      | Technical Expert (TA1.2 Wind) |

### 2.3 Means of Verification

#### 2.3.1 Review of Project Documentation

The validated VCS PD, the monitoring report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached in section 1 of this report.

### 2.3.2 Onsite Inspections

As part of the verification, the following on-site inspections have been performed by members of the assessment team.

|                                                                                                                                                                                                                 |                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Location:</b> Location of the WEGs are in Ranjangaon village, Sakri taluk, and Dhandane village, Nandurbar Taluk of Dhule district, Maharashtra, India                                                       |                                                        |
| <b>Date:</b> 12/05/2009                                                                                                                                                                                         |                                                        |
| <b>Coverage:</b>                                                                                                                                                                                                | <b>Source of Information / Persons Interviewed</b>     |
| Assessment of Project Boundary                                                                                                                                                                                  | Subha V<br>Srinivasan Dhenuka,<br>Ranganathan Akumalla |
| Plant Operations                                                                                                                                                                                                | Srinivasan Dhenuka,<br>Ranganathan Akumalla            |
| Monitoring and measuring system <ul style="list-style-type: none"> <li>Collection of measurements</li> <li>Observations of established practices</li> <li>Data Verification of monitoring parameters</li> </ul> | Subha V<br>Srinivasan Dhenuka,<br>Ranganathan Akumalla |
| Monitoring & reporting documentation                                                                                                                                                                            | Ranganathan Akumalla                                   |
| Quality Assurance – Management and operating system                                                                                                                                                             | Srinivasan Dhenuka,<br>Ranganathan Akumalla            |

### 2.3.3 Review of Monitoring Results and Verification of the Correct Application of Monitoring Methodology

#### Electricity supplied by machine to the grid by the project activity located at Dhule, Maharashtra, $EG_{BL,y}$

Total electrical energy supplied by the project activity is measured (in kWh) by energy meter installed at the nearest substation of MSEB Grid. For calculation of emission reductions electrical energy supplied (in kWh) is converted into MWh by dividing the value of  $EG_{BL,y}$  with a standard conversion factor of 1000.

The metering is carried out at the sub station via a common meter for a group of windmills that is inclusive of the WEGs forming not a part of this project activity. The primary monitoring is done through a main meter, which is located at the sub station.

However, each WEG is equipped with an integrated electronic meter called controller meter. This meter is connected to the Central Monitoring Station (CMS) of the wind farm maintained by Suzlon (Technology provider). The generation data of individual machine is monitored at real-time in the CMS. The snapshot of generation on the last day of every calendar month is kept as record, both in electronic as well as in the printed (paper) form.

JMRs have been taken at the feeder level by the local electricity utility. Against the net electricity generation from the project activity the invoices are raised. The verified values were cross checked with the monthly JMR sheets and sales receipts and were found consistent, as a cross check.

## 2.3.4 Determinations of the Reductions in GHG Emissions

### Calculation of grid emissions factor ( $EF_{y, grid,y}$ ):

$$\begin{aligned}
 EF_{y, grid,y} &= W_{OM} * EF_{OM,y} + W_{BM} * EF_{BM,y} \\
 &= (0.75 * 0.9992) + (0.25 * 0.5977) \\
 &= 0.8988 \text{ tCO}_2/\text{MWh}
 \end{aligned}$$

The grid emission factor is fixed ex ante and verified from registered VCS PD<sup>1/</sup> page 25.

### Calculation of baseline emissions ( $BE_y$ ):

$$BE_y = (EG_{BL,y} * EF_{CO2})$$

### Emission Reductions ( $ER_y$ ):

$$ER_y = BE_y - PE_y - LE_y$$

The project activity does not contribute to any project emissions or leakage, which is in accordance with the applied methodology.

Hence,  $PE_y$  and  $LE_y = 0$ ,

Therefore, the above equation reduces to  $ER_y = BE_y$

| 2006 – 07    | Machine K-484 (kWh) | Machine K-270 (kWh) | Total (kWh) | Total (MWh) |
|--------------|---------------------|---------------------|-------------|-------------|
| Apr 2006     | 34,038              | 55,239              | 89,277      | 89          |
| May 2006     | 401,553             | 86,416              | 487,969     | 488         |
| Jun 2006     | 338,654             | 51,449              | 390,103     | 390         |
| July 2006    | 418,643             | 196,045             | 614,688     | 615         |
| Aug 2006     | 439,886             | 442,954             | 882,840     | 883         |
| Sep 2006     | 139,126             | 96,088              | 235,214     | 235         |
| Oct 2006     | 35,640              | 20,850              | 56,490      | 56          |
| Nov 2006     | 15,383              | 19,546              | 34,929      | 35          |
| Dec 2006     | 34,740              | 37,071              | 71,811      | 72          |
| Jan 2007     | 32,044              | 82,039              | 114,083     | 114         |
| Feb 2007     | 123,517             | 38,124              | 161,641     | 162         |
| Mar 2007*    | 81,685              | 83,130              | 164,815     | 165         |
| <b>Total</b> |                     |                     |             | 3303.86     |

| 2007 – 08 | Machine K-484 (kWh) | Machine K-270 (kWh) | Total (kWh) | Total (MWh) |
|-----------|---------------------|---------------------|-------------|-------------|
| Apr 2007* | 230,899             | 192,631             | 423,530     | 424         |
| May 2007* | 509,656             | 322,599             | 832,255     | 832         |
| Jun 2007* | 245,556             | 263,657             | 509,212     | 509         |
| Jul 2007* | 265,236             | 294,895             | 560,130     | 560         |
| Aug 2007* | 231,024             | 277,140             | 508,164     | 508         |
| Sep 2007* | 123,058             | 81,018              | 204,075     | 204         |
| Oct 2007* | 50,920              | 48,378              | 99,297      | 99          |
| Nov 2007* | 12,458              | 18,113              | 30,572      | 31          |
| Dec 2007* | 36,141              | 35,824              | 71,965      | 72          |
| Jan 2008* | 50,806              | 54,553              | 105,359     | 105         |
| Feb 2008* | 71,197              | 70,951              | 142,148     | 142         |
| Mar 2008* | 105,382             | 84,150              | 189,531     | 190         |

|              |  |  |  |         |
|--------------|--|--|--|---------|
| <b>Total</b> |  |  |  | 3676.24 |
|--------------|--|--|--|---------|

| <b>2008 – 09</b> | <b>Machine K-484 (kWh)</b> | <b>Machine K-270 (kWh)</b> | <b>Total (kWh)</b> | <b>Total (MWh)</b> |
|------------------|----------------------------|----------------------------|--------------------|--------------------|
| Apr 2008*        | 203,040                    | 182,680                    | 385,720            | 386                |
| May 2008*        | 432,056                    | 398,365                    | 830,421            | 830                |
| Jun 2008         | 243,216                    | 294,472                    | 537,688            | 538                |
| Jul 2008         | 252,417                    | 315,683                    | 568,100            | 568                |
| Aug 2008         | 270,667                    | 248,040                    | 518,707            | 519                |
| Sep 2008         | 143,388                    | 111,495                    | 254,883            | 255                |
| Oct 2008         | 38,282                     | 28,129                     | 66,411             | 66                 |
| Nov 2008         | 15,604                     | 44,465                     | 60,069             | 60                 |
| Dec 2008         | 32,329                     | 39,004                     | 71,333             | 71                 |
| Jan 2009         | 37,712                     | 36,812                     | 74,524             | 75                 |
| Feb 2009         | 63,667                     | 57,941                     | 121,608            | 122                |
| Mar 2009         | 112,975                    | 91,104                     | 204,079            | 204                |
| <b>Total</b>     |                            |                            |                    | 3693.543           |

\* For period between 01/03/2007 to 31/05/2008, 0.2% error is applied conservatively in line to EB52 Annex60 for delayed calibration and only corrected net electricity supplied to grid has been considered

| <b>Parameter</b>                | <b>Reported Value</b>         | <b>Verified Value</b>         |
|---------------------------------|-------------------------------|-------------------------------|
| EG <sub>BL,V</sub> (monitored)  |                               |                               |
| 01/04/2006 – 31/03/2007         | 3320.14 MWh                   | 3303.860 MWh                  |
| 01/04/2007 – 31/03/2008         | 3700.807 MWh                  | 3676.240 MWh                  |
| 01/04/2008 – 31/03/2009         | 3709.121 MWh                  | 3693.543 MWh                  |
| EF <sub>V</sub> (fixed ex ante) |                               |                               |
| 01/04/2006 – 31/03/2009         | 0.8988 tCO <sub>2</sub> e/MWh | 0.8988 tCO <sub>2</sub> e/MWh |

Thus, the total emission reductions verified:

For the year 01/04/2006 – 31/03/2007 = 3303.860 MWh \* 0.8988 tCO<sub>2</sub>e/MWh = 2969.59 tCO<sub>2</sub>e

For the year 01/04/2007 – 31/03/2008 = 3676.240 MWh \* 0.8988 tCO<sub>2</sub>e/MWh = 3304.29 tCO<sub>2</sub>e

For the year 01/04/2008 – 31/03/2009 = 3693.543 MWh \* 0.8988 tCO<sub>2</sub>e/MWh = 3319.84 tCO<sub>2</sub>e

Total emission reductions verified for the monitoring period 01/04/2006 to 31/03/2009 = 9,593 tCO<sub>2</sub>e (conservatively rounded down).

The vintage wise breakup of VERs is presented below;

For the year 2006 (April to Dec) = 2863.32 MWh \* 0.8988 tCO<sub>2</sub>e = 2573.62 tCO<sub>2</sub>e

For the year 2007 (Jan to Dec) = 3679.74 MWh \* 0.8988 tCO<sub>2</sub>e = 3307.44 tCO<sub>2</sub>e

For the year 2008 (Jan to Dec) = 3730.37 MWh \* 0.8988 tCO<sub>2</sub>e = 3352.95 tCO<sub>2</sub>e

For the year 2009 (Jan to Mar) = 400.21 MWh \* 0.8988 tCO<sub>2</sub>e = 359.72 tCO<sub>2</sub>e

The total VERs for the period 1<sup>st</sup> April 2006 to 31<sup>st</sup> March 2009 = 9593 tCO<sub>2</sub>e (rounded down)

### 2.3.5 Review of Additional Data from Other Sources if Appropriate

As mentioned in section 2.3.4 of this report, the grid emission coefficient (0.8988 t CO<sub>2</sub>/MWh) was calculated ex-ante as per AMS ID Version 14 dated 31/07/2009 and is fixed throughout the crediting period. The same was verified with the validation report of the VCS registered project activity and found consistent.

## 2.4 Reporting of Findings

As an outcome of the verification 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 team shall raise a Clarification Request (CL) specifying what additional information is required.

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

- I. the verification is not able to obtain sufficient evidence for the reported emission reductions or part of the reported emission reductions. In this case these emission reductions shall not be verified and certified;
- II. the verification has identified misstatements in the reported emission reductions. Emission reductions with misstatements shall be discounted based on the verifiers ex-post determination of the achieved emission reductions

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

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

Corrective Action Requests and Clarification Requests are detailed in Periodic Verification Checklist. The Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and Observations.

## **2.5 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. Verification Findings

#### 3.1 *Remaining Issues, including any Material Discrepancy, FAR's from Previous Validation*

It has been verified that there are no issues pending from the previous validation report<sup>/2/</sup>.

#### 3.2 *Project Implementation*

The project is implemented and equipment installed as described in the VCS PD<sup>/1/</sup> and corresponding validation report<sup>/2/</sup>. It was confirmed during site visit and additionally verified from the commissioning certificates<sup>/9/</sup> issued for project activity's wind mill no. K-270 and K-484.

#### 3.3 *Completeness of Monitoring*

The monitoring of the project activity is found to be in conformity with monitoring methodology described in AMS I D Version 14<sup>/3/</sup>; 31/07/2009 and monitoring plan included in the registered VCS PD<sup>/1/</sup> of project activity.

The required monitoring systems have been installed and operational. The meters comply with appropriate quality standards applicable for the used technology.

#### 3.4 *Accuracy of Emission Reduction Calculations*

The calculation of emission reductions was checked following the equations in spreadsheet<sup>/8/</sup>, all the verified values are used in the calculation (in the ER spreadsheet) and the final output are the consistent as mentioned in MR version 1.3<sup>/4.4/</sup> dated 29/09/2010. The calculation and applied equation are as per registered VCS PD<sup>/1/</sup>.

CAR#01 was raised as the verification team observed that in the MR Version 1.0<sup>/4.1/</sup> there were inconsistencies in monitoring period mentioned. The PP submitted the revised the monitoring period and the verification team found that the monitoring period was consistent throughout the monitoring report version 1.3<sup>/4.4/</sup> dated 29/09/2010. Thus, CAR#01 was closed out.

CAR#03 was raised requesting the PP to provide the copies of the JMR sheets and the subsequent invoices raised for the entire monitoring period. The same JMR sheets<sup>/6/</sup> and Monthly invoices<sup>/7/</sup> raised were provided to the verification team and found consistent with the reported date in the MR Version 1.3, thus, CAR#03 was closed out.

CAR#06 was raised as the monitoring report Version 1.0<sup>/4.1/</sup> lacked the information on type and sources of data used. Thus, verification team requested the PP to provide source and type of all internal & external data used. In its response the PP stated that all the data in the MR are based on the JMR / invoices from the Maharashtra State Electricity Distribution Company Limited (generation data). The emission factor has been referred from the CEA Database and the same has been indicated in the monitoring report. The revised monitoring report version 1.3<sup>/4.4/</sup> has been verified along with the JMR sheets. The PP's response is found to be satisfactory and the value mentioned for the emission reduction calculation is as per the JMR sheets<sup>/6/</sup> and invoices<sup>/7/</sup>. The emission factor is from the CEA database and this has been crossed checked with the validation report<sup>/2/</sup>. Thus, CAR#06 was closed out.

CAR#07 was raised as the verification team observed that the results of the calculations were directly presented in the MR, however the PP needed to calculate the same in a specific format along with the data sources mentioned. In response, the PP mentioned that the emission reduction calculations have been elaborated in the monitoring report indicating the data source. This has been found to be satisfactory in the monitoring report version 1.3 dated 29/09/2010. Thus CAR#07 was closed out.

CAR#08 was raised as the calibration of the energy meters were not found from 01/03/2007 till 31/05/2008. In response, the PP revised the MR applying EB52 Annex60 conservatively, i.e. applying the maximum permissible error (as the reported error in the later calibration records was below the standard error for meters) for this period. The revised exported and imported figures have been used in the calculations. It was

found meeting the requirements stipulated in EB52 Annex60 and, therefore, CAR#08 was closed out satisfactorily.

The details of the reported and the verified values for all parameters are listed above in section 2.3.4.

### **3.5 Quality of Evidence to Determine Emission Reductions**

Critical parameters used for the determination of the emission reductions are already discussed in section 2.3.3 above. All the data recorded are in compliance with the monitoring report.

### **3.6 Management and Operational System**

The project activity has an operational and management structure and this has been included in the MR Version 1.3<sup>4,4/</sup> and found consistent on ground by the verification team.

CL#02 was raised as the monitoring report was silent on data archiving and details about data maintenance during emergency situation. In its response the PP has provided the revised monitoring report, which includes sufficient information and procedures for emergency situation and data maintenance. Thus, CL#02 was closed out.

CAR#05 was raised requesting the PP to provide details on data uncertainty and also detail on qualification and training of staff involved in the project. The PP has replied that the details on data uncertainty and training details of the staff involved have been included in the revised MR Version 1.3<sup>4,4/</sup>. The training of personnel is taken care by the O&M providers (Suzlon), this can be verified from the certificate<sup>11/</sup> provided by the Suzlon, the O&M provider. Thus, CAR#05 was closed out.

CAR#04 was raised as the verification team observed that the monitoring report lacked meter details. The PP was requested to provide the meter details and also to provide flow diagram for meters with clear identification used in the project monitoring. In response, the PP provided the monitoring report version 1.3 dated 29/09/2010, which contained an Appendix in the MR having details of meter calibration that has been carried out so far. The PP's response was verified from the calibration certificates<sup>5/</sup> provided by the PP for each meter. Appendix 2 of the monitoring report includes the block diagram of the metering system followed for the project activity. The two WEGs (K-270 and K-484) are connected to the common main meter and check meter. This is in line with the meter systems observed during site visit. Thus CAR#04 was closed out.

#### 4. Verification Conclusion

SGS United Kingdom Ltd has been contracted by Magma Fincorp Limited to examine the greenhouse gas (GHG) emission reductions reported from the project activity “Energy from renewables” for the period, 01/04/2006 to 31/03/2009 equating to 9,593 tonnes of CO<sub>2</sub> equivalents. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported for the period and the verification testing conducted against the GHG Assertion.

The management of the Magma Fincorp Limited is responsible for the preparation of the GHG emissions data, calculation and determination of the reported GHG emissions reductions on the basis set out within the project Monitoring Report Version 1.3 dated 29/09/2010. The development and maintenance of records and reporting procedures are in accordance with the monitoring report.

It is SGS responsibility to express an independent GHG verification opinion on the GHG emissions from the project for the period 01/04/2006 to 31/03/2009.

The verification approach was based on the requirements as defined in Voluntary Carbon Standard 2007.1 (VCS). Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Our examination includes assessment, on a test basis, of evidence relevant to the amounts and disclosures in relation to the project’s GHG emission reductions for the period 01/04/2006 to 31/03/2009. We planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that the amount of GHG emission reductions for the period 01/04/2006 to 31/03/2009, prepared on the basis of the Monitoring Report version 1.3 dated 29/09/2010, are fairly stated. We conducted our verification with regard to the client’s GHG project’s VCS PD<sup>1/</sup> and monitoring report which included baseline applied and baseline GHG emissions or removals, Monitoring and Verification Plan, GHG Emission reduction. This assessment included collection of evidence supporting the reported data, checking whether the provisions of the Monitoring and Verification Plan in the PD<sup>1/</sup> were consistently and appropriately applied.

SGS have verified whether the information included in the monitoring report representing the project baseline is current and the emission reduction achieved has been determined by correctly subtracting emissions for the monitoring period 01/04/2006 to 31/03/2009 from the baseline figures for the comparable period.

**Reporting Period:** From 01/04/2006 to 31/03/2009.

Verified emissions in the above reporting period:

**Project Emissions:** = 0 t CO<sub>2e</sub>

Leakage Emissions: = 0 tCO<sub>2e</sub>

**Baseline Emissions:** = 9,593 tCO<sub>2e</sub>

**Emission Reductions:** = 9,593 – 0 – 0  
= 9,593 tCO<sub>2e</sub>

Based on process and procedures conducted, in our opinion, Magma Fincorp assertion on GHG emission reductions for the “Energy from renewables” during the reporting period 01/04/2006 to 31/03/2009 is materially correct and is a fair representation of the GHG data and information and the emission reductions are fairly stated. The GHG emission reductions were calculated correctly on the basis of approved UNFCCC approved small scale methodology AMS-I.D. version 14, dated 31/07/2009. The current voluntary GHG emission reduction project activity is found compliant with the requirements of the VCS 2007.1.

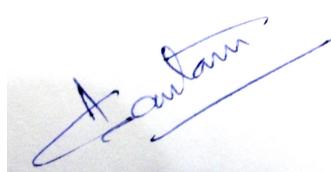
SGS confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have seen and evaluated, we confirm the following:

|                                                    |                                                                               |
|----------------------------------------------------|-------------------------------------------------------------------------------|
| Project Title:                                     | Energy from renewables                                                        |
| VCS Reference Number:                              | VCSR160                                                                       |
| Registered and Approved PDD Used for Verification: | VCS PD, Version 1.4 dated 16/11/2009                                          |
| Methodology Used for Verification:                 | UNFCCC Approved Small Scale Methodology AMS-I.D. version 14, dated 31/07/2009 |
| Applicable Period:                                 | 01/04/2006 to 31/03/2009                                                      |
| Total GHG Emission Reductions Verified:            | 9,593 t CO <sub>2</sub> e                                                     |

**Signed on behalf of the Verification Body by Authorized Signatory**

**SGS United Kingdom Limited**

Signature:



**Lead Assessor**  
**Ashok Kumar Gautam**

Signature:



**Technical Reviewer**  
**Kaviraj Singh**

## 5. Document References

- /1/ VCS PD Version 1.4 dated 16/11/2009
- /2/ Validation Report of the VCS registered project activity dated 31/12/2009
- /3/ AMS I D Version 14 dated 31/07/2009
- /4/ Monitoring Report covering monitoring period 01/04/2006 to 31/03/2009
  - 4.1 Version 1.0 dated 22/02/2010
  - 4.2 Version 1.1 dated 11/05/2010
  - 4.3 Version 1.2 dated 10/08/2010
  - 4.4 Version 1.3 dated 29/09/2010
- /5/ Calibration certificates of energy meters for the period 01/04/2006 to 31/03/2009
  - Meter S. No. 4725786 and S. No. 4738064 dated 28/03/2006 (Covering period 28/03/2006 to 27/02/2007)
  - Meter S. No. 4725786 and S. No. 4738064 dated 27/05/2008 (Covering monitoring period 07/06/2006 to 05/06/2009)
  - Meter S. No. 4860902 and S. No. 4860904 dated 07/05/2006 (Covering monitoring period 07/05/2006 to 06/05/2008)
  - Meter S. No. 4860902 and S. No. 4860904 dated 27/05/2008 by MSETCL (Covering monitoring period 27/05/2008 to 26/05/2009)
  - Meter S. No. 4961766 and S. No. 4890563 dated 28/11/2008 by MSETCL (Covering period 28/11/2008 to 27/11/2009)
  - \* For period between 01/03/2007 to 31/05/2008, 0.2% error is applied conservatively in line to EB52 Annex60 for delayed calibration.*
- /6/ Joint Meter Reading (Monthly) Records by MSEDCL for the period 01/04/2006 to 31/03/2009
- /7/ Electricity Invoices (Monthly) for the period 01/04/2006 to 31/03/2009
- /8/ Spreadsheet for ER calculation (for MR Version 1.3 dated 29/09/2010)
- /9/ Commissioning Certificates issued for K-270 & K-484 by MSEDCL
  - K-270 commissioned on 31/03/2006 vide Certificate No. SE/DHL/Tech/Wind/3010
  - K-484 commissioned on 29/03/2006 vide Certificate No. SE/DHL/Tech/Wind/3058
- /10/ Undertaking dated 29/05/2009 given by proponent for:-
  - 1. The project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction as per clause 1.12 of VCS PD template
  - 2. Project has not created another form of environmental credit as per clause 1.13 of VCS PD template.
  - 3. Proponent has not involved in any other GHG program for the reported period 01/04/2006 to 31/03/2009 as per clause 8.2 of VCS PD template
- /11/ Certificate on training by Mr. Nitin Jain from Learning and Development Centre, Satara, Suzlon Infrastructure Services Ltd.

| First MR                        | Final MR                        | Main changes and reason for Revision (non-exhaustive)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MR Version 1.0 dated 22/02/2010 | MR Version 1.3 dated 29/09/2010 | <p>The end date of monitoring period is changed from 31/12/2009 to 31/03/2009</p> <p>Description of monitoring plan (Section 4) inserted</p> <p>Formulae applied (Section 5) is updated with detailed explanation and approach</p> <p>Calculations and results (Section 6) is updated to reflect the impact due to missed out calibration and conservative approach applied. The apportioning mechanism is explained</p> <p>Section 7 is updated to reflect the correctly applied values for VER determination</p> <p>Appendix 1 and 2 are added in detailed manner regarding the calibration and line diagram of the project activity.</p> |

## Statement of Competence

Name: Gautam, Ashok

### Status

|                  |       |                      |   |
|------------------|-------|----------------------|---|
| - Lead Assessor  | x     | - Expert             | x |
| - Assessor       | x     | - Financial Expert   |   |
| - Local Assessor | India | - Technical Reviewer | x |

### Scopes of Expertise

|                                                                                                                                   |          |
|-----------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>1. Energy Industries (renewable / non-renewable)</b>                                                                           | <b>x</b> |
| Technical Area(s): <i>TA 1.1 Thermal energy generation from fossil fuels and biomass including thermal electricity from solar</i> |          |
| <b>2. Energy Distribution</b>                                                                                                     |          |
| Technical Area(s):                                                                                                                |          |
| <b>3. Energy Demand</b>                                                                                                           |          |
| Technical Area(s):                                                                                                                |          |
| <b>4. Manufacturing</b>                                                                                                           |          |
| Technical Area(s):                                                                                                                |          |
| <b>5. Chemical Industry</b>                                                                                                       |          |
| Technical Area(s):                                                                                                                |          |
| <b>6. Construction</b>                                                                                                            |          |
| Technical Area(s):                                                                                                                |          |
| <b>7. Transport</b>                                                                                                               |          |
| Technical Area(s):                                                                                                                |          |
| <b>8. Mining/Mineral Production</b>                                                                                               |          |
| Technical Area(s):                                                                                                                |          |
| <b>9. Metal Production</b>                                                                                                        |          |
| Technical Area(s):                                                                                                                |          |
| <b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>                                                                     |          |
| Technical Area(s):                                                                                                                |          |
| <b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b>                             |          |
| Technical Area(s):                                                                                                                |          |
| <b>12. Solvent Use</b>                                                                                                            |          |
| Technical Area(s):                                                                                                                |          |
| <b>13. Waste Handling and Disposal</b>                                                                                            | <b>x</b> |
| Technical Area(s): <i>TA 13.1: Waste handling and disposal</i>                                                                    |          |
| <b>14. Afforestation and Reforestation</b>                                                                                        |          |
| Technical Area(s):                                                                                                                |          |
| <b>15. Agriculture</b>                                                                                                            |          |
| Technical Area(s):                                                                                                                |          |

Approved Member of Staff by:

Siddharth Yadav

Date:

28/03/2011

## Statement of Competence

Name: Goswami, Tridip

### Status

|                  |                                     |                      |                          |
|------------------|-------------------------------------|----------------------|--------------------------|
| - Lead Assessor  | <input checked="" type="checkbox"/> | - Expert             | <input type="checkbox"/> |
| - Assessor       | <input checked="" type="checkbox"/> | - Financial Expert   | <input type="checkbox"/> |
| - Local Assessor | <input checked="" type="checkbox"/> | - Technical Reviewer | <input type="checkbox"/> |

### Scopes of Expertise

|                                                                                                       |                          |
|-------------------------------------------------------------------------------------------------------|--------------------------|
| <b>1. Energy Industries (renewable / non-renewable)</b>                                               | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>2. Energy Distribution</b>                                                                         | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>3. Energy Demand</b>                                                                               | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>4. Manufacturing</b>                                                                               | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>5. Chemical Industry</b>                                                                           | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>6. Construction</b>                                                                                | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>7. Transport</b>                                                                                   | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>8. Mining/Mineral Production</b>                                                                   | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>9. Metal Production</b>                                                                            | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>                                         | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b> | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>12. Solvent Use</b>                                                                                | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>13. Waste Handling and Disposal</b>                                                                | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>14. Afforestation and Reforestation</b>                                                            | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |
| <b>15. Agriculture</b>                                                                                | <input type="checkbox"/> |
| <i>Sub scope(s):</i>                                                                                  |                          |

Approved Member of Staff by: Siddharth Yadav Date: 07/10/2010

## Statement of Competence

Name: Ravikant  
Soni

### Status

|                  |       |                      |   |
|------------------|-------|----------------------|---|
| - Lead Assessor  | x     | - Expert             | x |
| - Assessor       | x     | - Financial Expert   |   |
| - Local Assessor | India | - Technical Reviewer |   |

### Scopes of Expertise

|                                                                                                       |   |
|-------------------------------------------------------------------------------------------------------|---|
| <b>1. Energy Industries (renewable / non-renewable)</b>                                               | x |
| Technical Area(s): TA 1.2 Energy generation from renewable energy sources                             |   |
| <b>2. Energy Distribution</b>                                                                         |   |
| Technical Area(s):                                                                                    |   |
| <b>3. Energy Demand</b>                                                                               |   |
| Technical Area(s):                                                                                    |   |
| <b>4. Manufacturing</b>                                                                               |   |
| Technical Area(s):                                                                                    |   |
| <b>5. Chemical Industry</b>                                                                           |   |
| Technical Area(s):                                                                                    |   |
| <b>6. Construction</b>                                                                                |   |
| Technical Area(s):                                                                                    |   |
| <b>7. Transport</b>                                                                                   |   |
| Technical Area(s):                                                                                    |   |
| <b>8. Mining/Mineral Production</b>                                                                   |   |
| Technical Area(s):                                                                                    |   |
| <b>9. Metal Production</b>                                                                            |   |
| Technical Area(s):                                                                                    |   |
| <b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>                                         |   |
| Technical Area(s):                                                                                    |   |
| <b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b> |   |
| Technical Area(s):                                                                                    |   |
| <b>12. Solvent Use</b>                                                                                |   |
| Technical Area(s):                                                                                    |   |
| <b>13. Waste Handling and Disposal</b>                                                                |   |
| Technical Area(s):                                                                                    |   |
| <b>14. Afforestation and Reforestation</b>                                                            |   |
| Technical Area(s):                                                                                    |   |
| <b>15. Agriculture</b>                                                                                |   |
| Technical Area(s):                                                                                    |   |

Approved Member of Staff by: Siddharth Yadav Date: 05/01/2011

## Statement of Competence

Name: **Kaviraj Singh**

### Status

|                  |                                     |                      |                                     |
|------------------|-------------------------------------|----------------------|-------------------------------------|
| - Lead Assessor  | <input checked="" type="checkbox"/> | - Expert             | <input checked="" type="checkbox"/> |
| - Assessor       | <input type="checkbox"/>            | - Financial Expert   | <input type="checkbox"/>            |
| - Local Assessor | <input type="checkbox"/>            | - Technical Reviewer | <input checked="" type="checkbox"/> |

### Scopes of Expertise

|                                                                                                       |                                     |
|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>1. Energy Industries (renewable / non-renewable)</b>                                               | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>2. Energy Distribution</b>                                                                         | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>3. Energy Demand</b>                                                                               | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>4. Manufacturing</b>                                                                               | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>5. Chemical Industry</b>                                                                           | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>6. Construction</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>7. Transport</b>                                                                                   | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>8. Mining/Mineral Production</b>                                                                   | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>9. Metal Production</b>                                                                            | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>                                         | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b> | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>12. Solvent Use</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>13. Waste Handling and Disposal</b>                                                                | <input checked="" type="checkbox"/> |
| Technical Area(s):                                                                                    |                                     |
| <b>14. Afforestation and Reforestation</b>                                                            | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>15. Agriculture</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |

Approved Member of Staff by: **Siddharth Yadav** Date: **08/04/2011**

## Statement of Competence

Name: Ramkrishna Patil

### Status

|                  |                                     |                      |                                     |
|------------------|-------------------------------------|----------------------|-------------------------------------|
| - Lead Assessor  | <input checked="" type="checkbox"/> | - Expert             | <input checked="" type="checkbox"/> |
| - Assessor       | <input checked="" type="checkbox"/> | - Financial Expert   | <input type="checkbox"/>            |
| - Local Assessor | <input checked="" type="checkbox"/> | - Technical Reviewer | <input checked="" type="checkbox"/> |

### Scopes of Expertise

|                                                                                                       |                                     |
|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>1. Energy Industries (renewable / non-renewable)</b>                                               | <input checked="" type="checkbox"/> |
| Technical Area(s): TA 1.2 Energy generation from renewable energy sources                             |                                     |
| <b>2. Energy Distribution</b>                                                                         | <input checked="" type="checkbox"/> |
| Technical Area(s): TA 2.1 Electricity distribution<br>TA 2.2 Heat distribution                        |                                     |
| <b>3. Energy Demand</b>                                                                               | <input checked="" type="checkbox"/> |
| Technical Area(s): TA 3.1 Energy Demand                                                               |                                     |
| <b>4. Manufacturing</b>                                                                               | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>5. Chemical Industry</b>                                                                           | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>6. Construction</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>7. Transport</b>                                                                                   | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>8. Mining/Mineral Production</b>                                                                   | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>9. Metal Production</b>                                                                            | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>                                         | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b> | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>12. Solvent Use</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>13. Waste Handling and Disposal</b>                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>14. Afforestation and Reforestation</b>                                                            | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |
| <b>15. Agriculture</b>                                                                                | <input type="checkbox"/>            |
| Technical Area(s):                                                                                    |                                     |

Approved Member of Staff by: Siddharth Yadav Date: 20/01/2011