"12 MW Wind Electricity Generation Farm at Radhapuram by M/s Surana Industries Limited"

Monitoring Report

Version 02, Dated 23/02/2011

For the period

21/04/2006 to 15/12/2008 (Including both days)

Project Location

Village Erakandurai, Sankaneri wind zone

Dist. Tirunelveli, Tamil Nadu, India

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1. Title of the project activity

Title: 12 MW Wind Electricity Generation Farm at Radhapuram by M/s Surana Industries Limited

Version no: 02

Date of completion of the Monitoring report: 29/06/2010

2. Introduction

The purpose of this document is to calculate Green House Gas emission reductions achieved by VCS project **"**12 MW Wind Electricity Generation Farm at Radhapuram by M/s Surana Industries Limited**"** for periodic verification.

This monitoring report covers emission reductions for the period of 21/04/2006 to 15/12/2008. The start date of the project activity is 03/03/2006. The crediting period is divided into 3 vintages:

1. 21 April 2006 to 31 December 2006,
2. 01 January 2007 to 31 December 2007,
3. 01 January 2008 to 15 December 2008.

3. Reference

Project activity uses CDM- one of the GHG programs approved by the VCS Board.

The project is categorized in the Sectoral Scope 01: Energy industries (renewable - / non-renewable sources).

Baseline and monitoring methodology: AMS-I.D Version 13 "Grid connected renewable electricity Generation**"**

Project Description (PD): 12 MW Wind Electricity Generation Farm at Radhapuram by M/s Surana Industries Limited, India; Version 02; dated 28/10/2009

4. General Description of the project activity

4.1 Project Details:

Project Proponent

Surana Industries Limited (SIL) is a Public Limited Company is one of the leading manufacturers of steels with a large market share in Tamil Nadu and in South India. SIL is a part of Chennai based Surana group. The Surana Group comprises of Surana Industries and Surana Corporation, dedicated to steel manufacturing, jewellery

manufacturing and power generation. Surana Industries Limited has an integrated steel Manufacturing plant at Gummidipoondi, Tamil Nadu; an integrated steel manufacturing plant is under implementation at Raichur, Karnataka and they also generate power for captive consumption.

Purpose of the project activity

The purpose of the project activity is renewable electricity generation by using a zero carbon intensive source i.e. wind energy in a 12 MW wind farm by M/s Surana Industries Limited.

Description of the project

The project activity of SIL involves generation, operation and maintenance of wind energy generators at Radhapuram, Tirunelveli in the state of Tamil Nadu. The project consists of 8 wind turbines each with a capacity of 1.5 MW and aims at generating 12 MW of electricity from wind energy. Out of the 12 MW of the power generated at the wind farm, 3MW (from two turbines of 1.5 MW each) is proposed to be sold to the Tamil Nadu Electricity Board (TNEB) grid. The rest 9 MW (from 6 turbines of 1.5 MW) is proposed to be used for captive consumption after wheeling and banking with TNEB, in SIL's factory at Gummidipoondi.

The entire energy generated is evacuated through external overhead lines and these lines run through 12 km and are connected to the Kottaikarungulam substation.

Baseline scenario

In the absence of the project activity equivalent amount of electricity would have been generated by the operation of grid connected fossil fuel based power plants or fossil fuel based captive power plant. The Project activity will thus reduce the anthropogenic emissions of greenhouse gas (GHG) into the atmosphere associated with the equivalent amount of electricity generation from the fossil fuel based grid connected power plant.

4.2 Location of the project activity:

The project activity is located in the Village Erakandurai , Sankaneri wind zone at Tirunelveli in the state of Tamil Nadu, India. It is located 20 km away from NH7 highway. The nearest railway station is Vallioor and nearest airport is Tuticorin. The closest National Highway is NH-12 and the nearest towns are Tirunelveli and Nagercoil.

4.3 Project boundary

As per the approved small-scale CDM methodology AMS I.D Version13, Project Boundary is *"The project boundary encompasses the physical, geographical site of the renewable generation source".*

The project boundary encompasses the physical, geographical site of the 12MW project sited at the project location. It includes the wind turbine installations, transformers, transmission lines, metering equipment and connected grid sub-stations.

5. Monitoring methodology & Monitoring Plan:

5.1 Project Start Date

The start date of this project activity is 03 March 2006.

5.2 Monitoring Period

The monitoring period is from 21 April 2006 to 15 December 2008.

5.3 Monitoring Methodology:

AMS-I.D Version 13 "Grid connected renewable electricity Generation**"**

5.4 Monitoring Plan

This project activity uses renewable energy i.e. wind, as a source for power generation. No other fossil/non fossil fuels are involved and no fuel preparation or combustion takes place. Therefore, the net electricity generated by the project activity is monitored to claim the emission reductions. The officially authenticated energy meter readings i.e. TNEB statements/meter cards are noted by the TNEB personnel on a monthly basis. Therefore, the TNEB statements / Joint meter readings denote the actual number of units exported to the grid and hence the Emission Reductions are calculated based on these statements.

5.5 Structuring for Monitoring

The project activity is operated and managed by the project proponent with the O & M contractor. The project activity essentially involves generation of electricity from wind, the employed WTG only converts wind energy into electrical energy and does not use any other input fuel for electricity generation. The generated electricity from the proposed project activity is fed into the evacuation facilities maintained by the state power utility (TNEB).

5.6 Monitoring Procedure

a. The electricity generation measurements are required by the utility and the investors to assess electricity sales revenue and / or wheeling charges.
b. The project activity has therefore envisaged two independent measurements of generated electricity from the wind turbines.

c. The primary recording of the electricity fed to the state utility grid is carried out at the individual WTG level through the connected meters. All project WTGs are connected to a meter, as per the TNEB prescribed standards.

The secondary monitoring, done at the individual WTGs through in built software in each machine provided the backup data. However, no meters were failed during this monitoring period. Hence the primary data is used for the emission reduction calculations. Each machine has software which records the details of generation, faults and all other details about the machine and reflects these on a monitor attached to that particular machine and also at Central Monitoring System (CMS). Each machine has a SCADA system interconnected via optic fiber cables to all the machines and finally to the SCADA system (at site office) which is being monitored in the site office.

The generation data of individual machine is monitored as a real-time entity at CMS the generation and all the details about the machine is also recorded and kept both electronically and manually. The SCADA system keeps all the data and takes 10 minutes average as the reading.

The wind mill supervisor has been allocated with the responsibility for safe operation of the wind farms and employees working in the farms and generation unit. The project team has been entrusted with the responsibility of storing, recording the data related to the project activity which is measured from the meters. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner.

Data Archiving: All the monitoring data is stored and recorded and kept under safe custody of the project head. It is also to be noted that there is no change in the project boundary.
The responsibility matrix for the project team looking after the various aspects related to it is presented in the table below:

Roles and responsibilities

Designation	Responsibilities
Project Head:	• VCS Registration • Project Execution, Internal Audit
Project Executer and Controller:	• Operation • Verification of data • Site visit whenever necessary to independently check the authenticity of data and take corrective actions wherever required. • Storage of data
Site Main Controller	• Operation, Monitoring and Verification of Data • Data Recording • Storage of data

Operation and Maintenance Contractor	• Operation and Maintenance • Storage of data • Data Recording

5.7 Measurement Frequency

Frequency of measurement by TNEB	- Once in every month
Calibration of the Energy Meter	- This is carried out at least once in year

5.8 Monitoring Parameter

With respect to the project activity the only parameter that requires a continuous monitoring is the amount of net electricity (EGy in MWh) supplied to grid by project activity. The same is monitored properly as explained above and used for emission reduction calculations. Net electricity supplied to the grid is measured by the two way meter (import & export) located in the meter yard near each WTG. The meter is on the HT side i.e, after the step up transformer and is owned and managed by the TNEB. The procedures adopted for metering and meter reading are as per the provisions of the PPA and wheeling banking arrangement. Sales records (credit reports) from TNEB for the WTGs under wheeling & banking agreement, and invoices for the WTGs under Power Purchase agreement is used further to double check this data and hence consistency is maintained.

Data / Parameter:	Electricity Supplied to the grid (EGy)
Data unit:	MWh
Description:	Net electricity supplied to the grid by the Project
Source of data to be used:	Monthly records of Joint Meter Readings received from the Tirunelveli Electricity Distribution Circle for each project WTG
Value of data applied for the purpose of calculating emission reductions during 21/04/2006 – 15/12/2008	41,638
Description of measurement methods and procedures to be applied:	• The electricity is measured with the help of electronic meters (0.5 accuracy class) both by the operator and the TNEB representative (monthly reading). • Net electricity supplied to the grid is measured by the two way meter (import & export) owned by TNEB. • Daily reading at CMS is managed by O&M contractor as secondary monitoring • The WTGs which supplied electricity for the

	captive consumption, the electricity delivered for consumption (after deducting wheeling charges) and that sold to grid (in case banked units are not consumed) is be used for emission reduction calculations. Due to the increase in captive energy demand at their steel manufacturing unit, PP has switched the WTG 1909 also for captive use from July 2008 onwards. • 100% of the data is monitored
QA/QC procedures to be applied:	• This data is directly used for calculation of emission reductions. • Sales records (credit reports) from TNEB for the WTGs under wheeling & banking agreement, and invoices for the WTGs under Power Purchase agreement is used further to double check this data and to ensure the consistency. • The TNEB meter is also calibrated and adjusted once in a year, as per TNEB practice, as meter is owned by TNEB. The calibration certificate has been already provided to DOE. •
Any comment:	Data is archived properly during the crediting period. And the same is kept for +2 years.

5.9 Calibration of meters

As per the standards followed by TNEB, Calibration of the meters is done by the TNEB officials by once in a year

As per the monitoring procedure in the registered PD, "In case of failure of meters, it will be changed immediately. The WTG will be stopped during the time of meter failure".

During this monitoring period, all the meters worked properly and there was no failure of meters. Also, the meter's calibration report clearly states that all the results are satisfactory.

The details regarding the HTSC No of WTGs, meter serial number, make and type of meter, accuracy, fixed and periodical date of calibration of each WTG are provided below:

S. N.	HTSC No	Make	Meter Serial Number	Class	Test Result	Fixed Date of Calibration	Periodical Test Date of Calibration
1	1587	Premier	TNB 01258	0.5	Satisfactory	03.03.2006	19.06.2007 19.06.2008
2	1588	Premier	TNB 01259	0.5	Satisfactory	03.03.2006	19.06.2007 19.06.2008

3	1589	Premier	TNB 01261	0.5	Satisfactory	03.03.2006	19.06.2007 19.06.2008
4	1590	Premier	TNB 01267	0.5	Satisfactory	03.03.2006	19.06.2007 19.06.2008
5	1867	Premier	TNB 01260	0.5	Satisfactory	31.03.2006	19.06.2007 19.06.2008
6	1868	Premier	TNB 01270	0.5	Satisfactory	31.03.2006	19.06.2007 19.06.2008
7	1908	Premier	TNB 01269	0.5	Satisfactory	28.04.2006	19.06.2007 19.06.2008
8	1909	Premier	TNB 01268	0.5	Satisfactory	28.04.2006	19.06.2007 19.06.2008

HTSC No. 1908 was not in full operation during the period, May 2006 and July 2008. The WTG was commissioned in April 2006 itself, but due to some damage, improper fitting and material fault in the tower and blades, WTG was stopped and PP conveyed the same to the WTG supplier. GE had initially tested the WTG with their O&M team. However to resolve this kind problem, GE needed clearance and technical support from their Germany team. So it took almost two years to complete the whole cycle. After so many techniques and tests, GE has resolved the problem and the machine becomes operational successfully from Aug 2008 onwards.

Due to the increase in captive energy demand at their steel manufacturing unit, PP has switched the WTG 1909 also for captive use from July 2008 onwards.

As mentioned in the above table, the project consists of 8 wind turbines each with a capacity of 1.5 MW and generating 12 MW of electricity. Out of which 6 WTGs (HTSC No. 1587, 1588, 1589, 1590, 1867, 1908) are used for captive purposes after wheeling and banking with TNEB in SIL's factory and 2 WTGs (HTSC No. 1868, 1909) are selling electricity to the grid.

6. Emission Reduction Calculations:

As per AMS I.D Version 13

ERy = BEy – PEy – Ly

Where:

ERy: Emission Reductions in year y (t CO2e/yr)
BE**y :** Baseline Emissions in year *y* (t CO_2e/yr)
PE**y:** Project Emissions in year *y* (t CO_2e/yr)
L**y:** Leakage Emissions in year *y* (t CO_2e/yr)

6.1 Baseline Emissions

Baseline emissions (BEy in tCO_2) due to displacement of grid-electricity is calculated as kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh)

$$\mathbf{BE_y = EG_y \ X \ EF_y} \quad \text{----------} \quad \mathbf{A}$$

Where:

BE**y :** Baseline emissions in year y (tCO_2/yr)
EG**y :** Electricity supplied by the project activity to the grid (MWh)
EF**y:** Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"

Details of Baseline data:

The OM emission factor is calculated using *ex ante* generation-weighted average of the most recent 3 years (2005-06, 2006-07, 2007-08). The Build Margin emission factor is calculated ex-ante based on the most recent year (2007-08) information available.

All the data has been obtained from:

The CO_2 Baseline Database for the Indian Power Sector

Ministry of Power: Central Electricity Authority (CEA) Version 4.0
Dated: October 2008

The detailed excel sheet is available at:

http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm

Baseline emissions calculations of project activity in the year y (EGy)

The grid emission factor is chosen as an *ex ante* figure as per the registered VCS PD and it remains constant throughout the monitoring period.

Combined Margin Emission Factor (EFy)

The Calculated Combined Margin CO_2 emission factor (EFy) for grid connected power generation is 0.9269 tCO_2e/MWh.

Electricity supplied to grid by project activity (EGy)

The monitored values of the electricity supplied to grid by the project activity during crediting period should be used to calculate the baseline emissions .

Monitored values of electricity supplied to grid (EGy)

Vintage	**Electricity supplied to grid by project activity (EGy) in MWh**
21/04/2006 – 31/12/2006	8,442
01/01/2007 – 31/12/2007	17,198
01/01/2008 – 15/12/2008	15,998

The month wise details of electricity supplied by individual WTGs in the project activity are given in Annexure 1.

The following calculations represents the values of BEy for the crediting period of 21/04/2006 to 15/12/2008 estimated by multiplying monitored values of electricity supplied to the grid by project activity in year y (EGy) into the combined margin CO_2 emission factor for grid connected power generation in year y

Baseline emissions during 21/04/2006 – 31/12/2006

BEy = 8,442 X 0.9269
= 7,825 tCO_2e/annum

Baseline emissions during 01/01/2007 – 31/12/2007

BEy = 17,198 X 0.9269
= 15,941 tCO_2e/annum

Baseline emissions during 01/01/2008 – 15/12/2008

BEy = 15,998X 0.9269
= 14,829 tCO_2e/annum

6.2 Project Emissions

Since wind power is a GHG emission free source of energy, the project emissions by sources of GHGs due to the project activity within the project boundary are zero.

PEy = 0 ---------- **B**

6.3 Leakage Emissions

In accordance with methodology AMS I.D, leakage is to be considered only if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity.
This is not applicable here, so

Ly = 0 ---------- **C**

6.4 Emission Reductions

The emission reductions are estimated by:

ERy = BEy – PEy – Ly

Where:
BEy = Baseline emission due to the project activity in the year y, tCO_2e/annum
PEy = Project emission due to the project activity in the year y, tCO_2e/annum
Ly = Leakage due to the project activity during the year y, tCO_2e/annum

The calculated emission reductions during the crediting period are as follows

Monitoring period	***BE*$_{y,\ ex\ post}$ tCO_2/year**	***PE*$_{y,\ ex\ post}$ tCO_2/year**	***LE*$_{y,\ ex\ post}$ tCO_2/year**	***ER*$_{y,ex\ post}$ tCO_2/year**
21/04/2006 – 31/12/2006	7,825	0	0	7,825
01/01/2007 – 31/12/2007	15,941	0	0	15,941
01/01/2008 – 15/12/2008	14,829	0	0	14,829
			Total	**38,595**

Comparison of actual emission reductions with the estimate in the VCS - PD for the said monitoring period i.e. 21/04/2006 to 15/12/2008 (Inclusive both the days) has been carried out in the following table.

Emission reductions (tCO_2e) for the period	**Values applied in ex-ante calculation of the registered VCS-PD**	**Actual values reached during the monitoring period**
2006	25,790	7,825
2007	25,862	15,941
2008	25,790	14,829
Total	**77,442**	**38,595**

There is a decrease in the actual emission reduction achieved during the current monitoring period because of the lower plant load factor, breakdown, etc., as estimated in the registered PD.

Vintage wise emission reductions

Vintage	Emission Reductions (tCO_2/year)
2006	7,825
2007	15,941
2008	14,829
Total emission reductions	**38,595**

Abbreviations

CO_2	Carbon dioxide
CEA	Central Electricity Authority
VER	Verified Emission Reduction
CDM	Clean Development Mechanism
MW	mega Watt
MWh	Megawatt hour
kW	kilo Watt
kWh	kilo Watt hour
MU	Million Units
PD	Project Description
tCO_2e	Tons of carbon dioxide equivalent
TNEB	Tamilnadu Electricity Board
UNFCCC	United Nations Framework Convention on Climate Change
WTGs	Wind Turbine Generators
VCS	Voluntary Carbon Standard

Annexure I

Electricity generation details for individual WTGs

Location No: 1

Ht.Sc.No: 1587

Installation Date:03.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	28728	3168	1436	24124	--
Jun-06	13-05-2006	14-06-2006	278046	666	13902	263478	--
Jul-06	14-06-2006	10-07-2006	99432	108	4972	94352	--
Aug-06	10-07-2006	10-08-2006	437166	378	21858	414930	--
Sep-06	10-08-2006	09-09-2006	174978	1368	8749	164861	--
Oct-06	09-09-2006	09-10-2006	327744	198	16387	311159	--
Nov-06	09-10-2006	09-11-2006	127980	1116	6399	120465	--
Dec-06	09-11-2006	11-12-2006	218394	468	10920	207006	--
Jan-07	11-12-2006	06-01-2007	224334	198	11217	212919	--
Feb-07	06-01-2007	09-02-2007	284238	144	14212	269882	--
Mar-07	09-02-2007	09-03-2007	123048	918	6152	115978	--
Apr-07	09-03-2007	09-04-2007	57618	1674	2881	53063	--
May-07	09-04-2007	09-05-2007	104976	1530	5249	98197	--
Jun-07	09-05-2007	09-06-2007	248058	936	12403	234719	--
Jul-07	09-06-2007	09-07-2007	317412	558	15871	300983	--
Aug-07	09-07-2007	09-08-2007	375480	360	18774	356346	--
Sep-07	09-08-2007	10-09-2007	271728	882	13586	257260	--
Oct-07	10-09-2007	09-10-2007	305334	270	15267	289797	--
Nov-07	09-10-2007	07-11-2007	60228	1548	3011	55669	--
Dec-07	07-11-2007	10-12-2007	206604	684	10330	195590	--
Jan-08	10-12-2007	09-01-2008	254088	306	12704	241078	--
Feb-08	09-01-2008	11-02-2008	150012	1278	7501	141233	--
Mar-08	11-02-2008	15-03-2008	162900	828	8145	153927	--
Apr-08	15-03-2008	15-04-2008	60534	1980	3027	55527	--
May-08	15-04-2008	15-05-2008	129708	1566	6485	121657	--
Jun-08	15-05-2008	16-06-2008	290034	576	14502	274956	--
Jul-08	16-06-2008	15-07-2008	283140	630	14157	268353	--
Aug-08	15-07-2008	16-08-2008	344466	630	17223	326613	--
Sep-08	16-08-2008	16-09-2008	280026	774	14001	265251	--
Oct-08	16-09-2008	15-10-2008	155880	1008	7794	147078	--
Nov-08	15-10-2008	15-11-2008	79344	1548	3967	73829	--
Dec-08	15-11-2008	15-12-2008	170568	792	8528	161248	--

Location No: 2

Ht.Sc.No: 1590

Installation Date: 03.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	0	0	0	0	--
Jun-06	13-05-2006	14-06-2006	160866	1728	8043	151095	--
Jul-06	14-06-2006	10-07-2006	284616	504	14231	269881	--
Aug-06	10-07-2006	10-08-2006	396216	414	19811	375991	--
Sep-06	10-08-2006	09-09-2006	179964	1098	8998	169868	--
Oct-06	09-09-2006	09-10-2006	288270	198	14413	273659	--
Nov-06	09-10-2006	09-11-2006	122202	1026	6110	115066	--
Dec-06	09-11-2006	11-12-2006	199386	306	9969	189111	--
Jan-07	11-12-2006	06-01-2007	198414	54	9921	188439	--
Feb-07	06-01-2007	09-02-2007	242946	144	12147	230655	--
Mar-07	09-02-2007	09-03-2007	111438	792	5572	105074	--
Apr-07	09-03-2007	09-04-2007	53982	1512	2699	49771	--
May-07	09-04-2007	09-05-2007	96282	1404	4814	90064	--
Jun-07	09-05-2007	09-06-2007	232938	846	11647	220445	--
Jul-07	09-06-2007	09-07-2007	369450	378	18472	350600	--
Aug-07	09-07-2007	09-08-2007	386658	270	19333	367055	--
Sep-07	09-08-2007	10-09-2007	250398	864	12520	237014	--
Oct-07	10-09-2007	09-10-2007	295182	288	14759	280135	--
Nov-07	09-10-2007	07-11-2007	68130	1386	3407	63337	--
Dec-07	07-11-2007	10-12-2007	198468	630	9923	187915	--
Jan-08	10-12-2007	09-01-2008	258624	252	12931	245441	--
Feb-08	09-01-2008	11-02-2008	149040	1296	7452	140292	--
Mar-08	11-02-2008	15-03-2008	169632	864	8482	160286	--
Apr-08	15-03-2008	15-04-2008	53424	1980	2671	48773	--
May-08	15-04-2008	15-05-2008	129510	1404	6476	121630	--
Jun-08	15-05-2008	16-06-2008	298152	468	14908	282776	--
Jul-08	16-06-2008	15-07-2008	288810	576	14441	273793	--
Aug-08	15-07-2008	16-08-2008	331200	738	16560	313902	--
Sep-08	16-08-2008	16-09-2008	253098	918	12655	239525	--
Oct-08	16-09-2008	15-10-2008	126486	1224	6324	118938	--
Nov-08	15-10-2008	15-11-2008	20106	522	1005	18579	--
Dec-08	15-11-2008	15-12-2008	180576	666	9029	170881	--

Location No: 3

Ht.Sc.No: 1589

Installation Date: 03.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	36	1746	2	-1712	--
Jun-06	13-05-2006	14-06-2006	0	0	0	0	--
Jul-06	14-06-2006	10-07-2006	0	0	0	0	--
Aug-06	10-07-2006	10-08-2006	230958	810	11548	218600	--
Sep-06	10-08-2006	09-09-2006	218952	1026	10948	206978	--
Oct-06	09-09-2006	09-10-2006	295902	288	14795	280819	--
Nov-06	09-10-2006	09-11-2006	121284	1080	6064	114140	--
Dec-06	09-11-2006	11-12-2006	211662	468	10583	200611	--
Jan-07	11-12-2006	06-01-2007	226350	144	11318	214888	--
Feb-07	06-01-2007	09-02-2007	284994	144	14250	270600	--
Mar-07	09-02-2007	09-03-2007	122544	882	6127	115535	--
Apr-07	09-03-2007	09-04-2007	55494	1530	2775	51189	--
May-07	09-04-2007	09-05-2007	105786	1386	5289	99111	--
Jun-07	09-05-2007	09-06-2007	247986	828	12399	234759	--
Jul-07	09-06-2007	09-07-2007	390564	360	19528	370676	--
Aug-07	09-07-2007	09-08-2007	395316	252	19766	375298	--
Sep-07	09-08-2007	10-09-2007	257076	846	12854	243376	--
Oct-07	10-09-2007	09-10-2007	311598	198	15580	295820	--
Nov-07	09-10-2007	07-11-2007	69408	1368	3470	64570	--
Dec-07	07-11-2007	10-12-2007	191790	702	9590	181498	--
Jan-08	10-12-2007	09-01-2008	234612	252	11731	222629	--
Feb-08	09-01-2008	11-02-2008	139428	1170	6971	131287	--
Mar-08	11-02-2008	15-03-2008	156438	738	7822	147878	--
Apr-08	15-03-2008	15-04-2008	55224	1836	2761	50627	--
May-08	15-04-2008	15-05-2008	131382	1314	6569	123499	--
Jun-08	15-05-2008	16-06-2008	288036	522	14402	273112	--
Jul-08	16-06-2008	15-07-2008	287982	594	14399	272989	--
Aug-08	15-07-2008	16-08-2008	325728	738	16286	308704	--
Sep-08	16-08-2008	16-09-2008	275886	774	13794	261318	--
Oct-08	16-09-2008	15-10-2008	140976	1116	7049	132811	--
Nov-08	15-10-2008	15-11-2008	75168	1512	3758	69898	--
Dec-08	15-11-2008	15-12-2008	146754	738	7338	138678	--

Location No: 4

Ht.Sc.No: 1588

Installation Date: 03.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	198	3006	10	-2818	--
Jun-06	13-05-2006	14-06-2006	342	162	17	163	--
Jul-06	14-06-2006	10-07-2006	173016	252	8651	164113	--
Aug-06	10-07-2006	10-08-2006	434304	558	21715	412031	--
Sep-06	10-08-2006	09-09-2006	205686	1530	10284	193872	--
Oct-06	09-09-2006	09-10-2006	307404	180	15370	291854	--
Nov-06	09-10-2006	09-11-2006	81846	1080	4092	76674	--
Dec-06	09-11-2006	11-12-2006	199440	594	9972	188874	--
Jan-07	11-12-2006	06-01-2007	222696	108	11135	211453	--
Feb-07	06-01-2007	09-02-2007	271980	216	13599	258165	--
Mar-07	09-02-2007	09-03-2007	112104	1044	5605	105455	--
Apr-07	09-03-2007	09-04-2007	53982	1872	2699	49411	--
May-07	09-04-2007	09-05-2007	92628	1746	4631	86251	--
Jun-07	09-05-2007	09-06-2007	11664	2700	583	8381	--
Jul-07	09-06-2007	09-07-2007	315378	774	15769	298835	--
Aug-07	09-07-2007	09-08-2007	396810	342	19841	376627	--
Sep-07	09-08-2007	10-09-2007	261108	936	13055	247117	--
Oct-07	10-09-2007	09-10-2007	306468	234	15323	290911	--
Nov-07	09-10-2007	07-11-2007	68454	1584	3423	63447	--
Dec-07	07-11-2007	10-12-2007	183366	792	9168	173406	--
Jan-08	10-12-2007	09-01-2008	226548	288	11327	214933	--
Feb-08	09-01-2008	11-02-2008	137286	1386	6864	129036	--
Mar-08	11-02-2008	15-03-2008	149292	990	7465	140837	--
Apr-08	15-03-2008	15-04-2008	51210	2178	2560	46472	--
May-08	15-04-2008	15-05-2008	141336	1440	7067	132829	--
Jun-08	15-05-2008	16-06-2008	301230	558	15062	285610	--
Jul-08	16-06-2008	15-07-2008	292392	702	14620	277070	--
Aug-08	15-07-2008	16-08-2008	341100	720	17055	323325	--
Sep-08	16-08-2008	16-09-2008	274662	900	13733	260029	--
Oct-08	16-09-2008	15-10-2008	139914	1296	6996	131622	--
Nov-08	15-10-2008	15-11-2008	61812	1818	3091	56903	--
Dec-08	15-11-2008	15-12-2008	104832	738	5242	98852	--

Location No: 5

Ht.Sc.No: 1867

Installation Date: 31.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	540	2592	27	-2079	--
Jun-06	13-05-2006	14-06-2006	0	0	0	0	--
Jul-06	14-06-2006	10-07-2006	2898	576	145	2177	--
Aug-06	10-07-2006	10-08-2006	220338	918	11017	208403	--
Sep-06	10-08-2006	09-09-2006	130626	1314	6531	122781	--
Oct-06	09-09-2006	09-10-2006	354762	180	17738	336844	--
Nov-06	09-10-2006	09-11-2006	104652	1008	5233	98411	--
Dec-06	09-11-2006	11-12-2006	180450	486	9023	170941	--
Jan-07	11-12-2006	06-01-2007	200826	162	10041	190623	--
Feb-07	06-01-2007	09-02-2007	241722	180	12086	229456	--
Mar-07	09-02-2007	09-03-2007	84672	792	4234	79646	--
Apr-07	09-03-2007	09-04-2007	18792	576	940	17276	--
May-07	09-04-2007	09-05-2007	103536	1728	5177	96631	--
Jun-07	09-05-2007	09-06-2007	262440	936	13122	248382	--
Jul-07	09-06-2007	09-07-2007	406368	450	20318	385600	--
Aug-07	09-07-2007	09-08-2007	423054	288	21153	401613	--
Sep-07	09-08-2007	10-09-2007	272430	882	13622	257926	--
Oct-07	10-09-2007	09-10-2007	354600	216	17730	336654	--
Nov-07	09-10-2007	07-11-2007	72252	1350	3613	67289	--
Dec-07	07-11-2007	10-12-2007	163890	702	8194	154994	--
Jan-08	10-12-2007	09-01-2008	210762	234	10538	199990	--
Feb-08	09-01-2008	11-02-2008	122364	1206	6118	115040	--
Mar-08	11-02-2008	15-03-2008	135054	864	6753	127437	--
Apr-08	15-03-2008	15-04-2008	49986	2034	2499	45453	--
May-08	15-04-2008	15-05-2008	152964	1260	7648	144056	--
Jun-08	15-05-2008	16-06-2008	319914	522	15996	303396	--
Jul-08	16-06-2008	15-07-2008	306180	666	15309	290205	--
Aug-08	15-07-2008	16-08-2008	368820	702	18441	349677	--
Sep-08	16-08-2008	16-09-2008	299070	774	14954	283342	--
Oct-08	16-09-2008	15-10-2008	145008	1008	7250	136750	--
Nov-08	15-10-2008	15-11-2008	78930	1476	3947	73508	--
Dec-08	15-11-2008	15-12-2008	136260	630	6813	128817	--

Location No: 6

Ht.Sc.No: 1909

Installation Date: 28.04.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	28-04-2006	13-05-2006	486	648	--	--	-162
Jun-06	13-05-2006	14-06-2006	83934	3672	--	--	80262
Jul-06	14-06-2006	10-07-2006	31338	720	--	--	30618
Aug-06	10-07-2006	10-08-2006	239220	1206	--	--	238014
Sep-06	10-08-2006	09-09-2006	101376	1350	--	--	100026
Oct-06	09-09-2006	09.10-2006	351450	216	--	--	351234
Nov-06	09-10-2006	09-11-2006	112788	1152	--	--	111636
Dec-06	09-11-2006	10-12-2006	214182	486	--	--	213696
Jan-07	10.12.2006	06.01.2007	208674	234	--	--	208440
Feb-07	06.01.2007	09.02.2007	298854	180	--	--	298674
Mar-07	09-02-2007	09-03-2007	121824	990	--	--	120834
Apr-07	09-03-2007	09-04-2007	57600	1800	--	--	55800
May-07	09-04-2007	09-05-2007	96102	1782	--	--	94320
Jun-07	09-05-2007	09-06-2007	232182	1098	--	--	231084
Jul-07	09-06-2007	09-07-2007	389808	396	--	--	389412
Aug-07	09-07-2007	09-08-2007	430128	360	--	--	429768
Sep-07	09-08-2007	10-09-2007	153540	1314	--	--	152226
Oct-07	10-09-2007	09-10-2007	369882	216	--	--	369666
Nov-07	09-10-2007	07-11-2007	74610	1476	--	--	73134
Dec-07	07-11-2007	10-12-2007	211986	756	--	--	211230
Jan-08	10-12-2007	09-01-2008	257796	288	--	--	257508
Feb-08	09-01-2008	11-02-2008	145422	1872	--	--	143550
Mar-08	11-02-2008	20-03-2008	205200	432	--	--	204768
Apr-08	20-03-2008	21-04-2008	35748	2430	--	--	33318
May-08	21-04-2008	21-05-2008	189198	1242	--	--	187956
Jun-08	21-05-2008	20-06-2008	319536	558	--	--	318978
Jul-08	20.06.2008	02-07-2008	132588	324	--	--	132264
Jul-08	02-07-2008	16-07-2008	154710	360	7736	154350	--
Aug-08	16-07-2008	16-08-2008	366354	792	18318	365562	--
Sep-08	16-08-2008	16-09-2008	298188	954	14909	297234	--
Oct-08	16-09-2008	15-10-2008	144432	1296	7222	135914	--
Nov-08	15-10-2008	15-11-2008	85284	1746	4264	83538	--
Dec-08	15-11-2008	15-12-2008	172458	756	8623	163079	--

Location No: 7

Ht.Sc.No: 1868

Installation Date: 31.03.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	21-04-2006	13-05-2006	3330	2232	--	--	1098
Jun-06	13-05-2006	14-06-2006	0	0	--	--	0
Jul-06	14-06-2006	10-07-2006	0	0	--	--	0
Aug-06	10-07-2006	10-08-2006	55422	234	--	--	55188
Sep-06	10-08-2006	09-09-2006	188154	1458	--	--	186696
Oct-06	09-09-2006	09.10-2006	288162	288	--	--	287874
Nov-06	09-10-2006	09-11-2006	123750	1134	--	--	122616
Dec-06	09-11-2006	10-12-2006	237384	396	--	--	236988
Jan-07	10.12.2006	06.01.2007	237402	198	--	--	237204
Feb-07	06.01.2007	09.02.2007	305280	144	--	--	305136
Mar-07	09-02-2007	09-03-2007	104634	576	--	--	104058
Apr-07	09-03-2007	09-04-2007	35154	1476	--	--	33678
May-07	09-04-2007	09-05-2007	339156	3780	--	--	335376
Jun-07	09-05-2007	09-06-2007	0	0	--	--	0
Jul-07	09-06-2007	09-07-2007	367164	0	--	--	367164
Aug-07	09-07-2007	09-08-2007	386784	0	--	--	386784
Sep-07	09-08-2007	10-09-2007	233964	504	--	--	233460
Oct-07	10-09-2007	09-10-2007	317610	252	--	--	317358
Nov-07	09-10-2007	07-11-2007	66690	1404	--	--	65286
Dec-07	07-11-2007	10-12-2007	216324	648	--	--	215676
Jan-08	10-12-2007	09-01-2008	266202	234	--	--	265968
Feb-08	09-01-2008	11-02-2008	148212	1170	--	--	147042
Mar-08	11-02-2008	20-03-2008	208170	846	--	--	207324
Apr-08	20-03-2008	21-04-2008	34236	2124	--	--	32112
May-08	21-04-2008	21-05-2008	152658	1080	--	--	151578
Jun-08	21-05-2008	20-06-2008	278856	522	--	--	278334
Jul-08	20.06.2008	21.07.2008	309762	774	--	--	308988
Aug-08	21-07-2008	20-08-2008	265140	864	--	--	264276
Sep-08	20-08-2008	20-09-2008	275634	738	--	--	274896
Oct-08	20.09.2008	20.10.2008	91296	1530	--	--	89766
Nov-08	20.10.2008	20.11.2008	0	0	--	--	0
Dec-08	20.11.2008	20.12.2008	0	0	--	--	0

Location No: 8

Ht.Sc.No: 1908

Installation Date: 28.04.06

Month/ year	Billing Period		Total Units Exported (kWh)	Total Units Imported (kWh)	Wheeling Charges(5%) of export (kWh)	Net Generation (kWh) for Captive use	Monthly dispatch to grid (KWh) (Exported-imported)
	Initial Reading	Final Reading					
May-06	28-04-2006	13-05-2006	0	0	0	0	--
Jun-06	13-05-2006	14-06-2006	0	0	0	0	--
Jul-06	14-06-2006	10-07-2006	0	0	0	0	--
Aug-06	10-07-2006	10-08-2006	0	0	0	0	--
Sep-06	10-08-2006	09-09-2006	0	0	0	0	--
Oct-06	09-09-2006	09-10-2006	0	0	0	0	--
Nov-06	09-10-2006	09-11-2006	0	0	0	0	--
Dec-06	09-11-2006	11-12-2006	0	0	0	0	--
Jan-07	11-12-2006	06-01-2007	0	0	0	0	--
Feb-07	06-01-2007	09-02-2007	0	0	0	0	--
Mar-07	09-02-2007	09-03-2007	0	432	0	-432	--
Apr-07	09-03-2007	09-04-2007	540	1224	27	-711	--
May-07	09-04-2007	09-05-2007	0	0	0	0	--
Jun-07	09-05-2007	09-06-2007	0	0	0	0	--
Jul-07	09-06-2007	09-07-2007	0	0	0	0	--
Aug-07	09-07-2007	09-08-2007	0	0	0	0	--
Sep-07	09-08-2007	10-09-2007	0	0	0	0	--
Oct-07	10-09-2007	09-10-2007	0	0	0	0	--
Nov-07	09-10-2007	07-11-2007	0	0	0	0	--
Dec-07	07-11-2007	10-12-2007	0	0	0	0	--
Jan-08	10-12-2007	09-01-2008	0	0	0	0	--
Feb-08	09-01-2008	11-02-2008	0	0	0	0	--
Mar-08	11-02-2008	15-03-2008	0	0	0	0	--
Apr-08	15-03-2008	15-04-2008	0	0	0	0	--
May-08	15-04-2008	15-05-2008	0	0	0	0	--
Jun-08	15-05-2008	16-06-2008	0	54	0	-54	--
Jul-08	16-06-2008	15-07-2008	0	0	0	0	--
Aug-08	15-07-2008	16-08-2008	98388	918	4919	92551	--
Sep-08	16-08-2008	16-09-2008	260712	1008	13036	246668	--
Oct-08	16-09-2008	15-10-2008	125802	1422	6290	118090	--
Nov-08	15-10-2008	15-11-2008	88740	1728	4437	82575	--
Dec-08	15-11-2008	15-12-2008	175878	738	8794	166346	--