"Waste Heat Recovery based captive power generation by SKS Ispat Ltd"

MONITORING REPORT
Version: 1.3
Date: 08th October 2008

Certified Emission Reductions (CERs): 1st January 2007 – 30th June 2007

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Project Activity

Project Description

SKS Ispat Limited (SKSIL) has set up an integrated sponge iron plant of 2,10,000 MT capacity at Village Siltara, district Raipur, Chattisgarh. There are 2 X 350 TPD Kiln and 2 X 100 TPD Kiln for sponge iron production. Total Heat Energy as available from the Direct Reduced Iron (DRI) Gas of 2 X 350 TPD Kiln and 2 X 100 TPD Kiln, on conversion to Electrical Energy, produces about 25 MW of Electrical Power respectively. Harnessing this Power by establishing a suitably designed Captive Power Plant at the tail end of the 4 numbers of DRI Kilns enables SKSIL to be self reliant in the arena of Power requirement for production of Steel and to reduce emissions of green house gases into the atmosphere by displacing grid power use as the case was prior project activity which is primarily fossil fuel based.

Each 350 TPD DRI Kiln for Sponge Iron production emits normally around 90000 Nm^3/hour of hot gas (temperature of 950-1000^{0}C) that contains heat energy of ~29,000,000 Kcal/hour which, if not suitably utilized, goes to waste. Similarly exit gas flow for each 100 TPD kiln is around 30000 Nm^3/hour at around 950^{0}C that contains heat energy ~ 9,000,000 Kcal/hour.

Though Power generation through this CPP route is not an attractive alternative for SKSIL but company has decided to implement this project to meet its power requirements and to fulfill objective of being an environmentally conscious organization. Use of waste gases for power generation is a potential “Clean Development Mechanism (CDM)” project under Kyoto Protocol of UNFCCC. Carbon credits will help create an additional revenue stream for the project and help in mitigating various risks associated with the project.

Environmental Well Being

In India coal is the primary source of energy for power generation and production processes. The demand for electrical energy has been steadily

increasing. Expansion of the electrical supply to new areas and rapid industrialization are the main reasons for the growth in demand of power. The project activity contributes to the welfare of environment at large considering the carbon dioxide emissions that would have been generated by a thermal plant of equal capacity. The project hence decreases the future needs for coal based power generation by the grid and thereby reducing the CO_2 emissions from the electricity sector.

Social Well Being

Chattisgarh is witnessing major shortage of power. It is estimated that Chattisgarh is expected to have a peak shortage of around 540 MW[1] during the current financial year and continue to remain so till 2009-10 in spite of the increase in the installed capacities. The proposed project thus shall help in meeting demand-supply gap in the state.

Economic Well Being

The project activity provides a fillip to economic activity in the region. Direct & Indirect Employment has been generated in the plant for the project implementation & management. The project activity will also reduce load on the state grid, this surplus power in grid could then be utilised for meeting energy security for the region.

Technological Well Being

Power generation using waste heat is a cleaner technology for power generation. The success of the project activity will catalyse more Waste Heat Recovery (WHR) based power projects to come in the region.

Project Commissioning

Start date of commercial operation: 28th June 2006

[1] Ministry of Power (MOP) data

CDM registration details

- **Date:** 17 Dec 2006
- **Reference No:** 0674
- **PDD version & date:** 1.2, 12/09/06
- **Methodology:** "Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation" **Reference:** Approved consolidated baseline methodology ACM0004/Version 02, Sectoral Scope: 1, 03 March 2006

Monitoring Details

Emission reduction measurement is as per approved methodology ACM0004. The emission reduction by the project activity during a given year y is the difference between the baseline emissions through substitution of electricity generation with fossil fuels and project emissions.

The methodology requires monitoring of the following:

- Net electricity generation from the proposed project activity;
- Data needed to calculate carbon dioxide emissions from fossil fuel consumption due to the project activity;
- Data needed to recalculate the operating margin emission factor, if needed, based on the choice of the method to determine the operating margin (OM), consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002);
- Data needed to recalculate the build margin emission factor, if needed, consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002);
- Data needed to calculate the emissions factor of captive power generation
- Quantity of each fuel consumed at the power plants

The monitoring period is chosen from 1/01/2007 till 30/06/2007.

The following table details out the data parameters to be monitored for the emission reductions estimation from the project activity.

Project Parameters used to determine the Emission Reductions

ID	Data Source	Data variable	Data unit	Measured (m), calculated © or estimated (e)	Recording Frequency	Proportion of data to be monitored	How will the data be archived? (electronic / paper)	For how long is archived data to be kept?	Comment
1. Q_i	Plant records	Volume of auxiliary fuel used by the project activity	Tones or m3	*M*	*Continuous*	100%	Electronic/ paper	*Archiving for Crediting period +2 years*	To be measured and used for estimation of project emissions.
2.N CV_f	Plant record or IPCC data	Net calorific value of fuel (if any)	TJ per t or m^3	*M*	*Lotwise*	Random	Electronic/ paper	*Archiving for Crediting period +2 years*	Plant records may be used when the calorific value is specified in the purchase contract, otherwise IPCC data source
3. EF_I	IPCC data	Carbon Emissions factor of fuel	tc/Tj	*IPCC default*	Once a year	Random	Electronic/ paper	*Archiving for Crediting period +2 years*	
4.	Plant	Total	*MWh/yr*	*M*	Continuous	100%	Electronic/	*Archiving*	meters at plant

EG_{GEN}	records	electricity generated					paper	*for Crediting period +2 years*	and DCS will measure the data. Site supervisor would be responsible for regular calibration of the meter. A main meter and check meter would be provided for measuring total electricity generated.
5. EG_{AUX}	Plant records	Auxiliary electricity	*MWh/yr*	*M*	*continuous*	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Monitoring location: meters at plant and DCS will measure the data. Site supervisor would be responsible for regular calibration of the meter. Sourced from electricity used by generating equipment within the project boundary. A main meter and

									check meter would be provided for measuring auxiliary electricity. consolidation will be done daily basis and monthly basis
6.E G_Y	Plant records	Net electricity supplied	*MWh/yr*	*C*	*Hourly*	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Consolidation will be done daily basis and monthly basis
7.EF $_y$	CO2 emission factor of the grid (Grid & IPCC data)	Emission factor	tCO2/MW h	*c*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Calculated as a weighted sum of the OM and BM emission factors
8. $EF_{OM,y}$	CO2 operating margin emission factor of the grid (Grid & IPCC data)	Emission factor	tCO2/MW h	*c*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	As per ACM0002

9.$EF_{BM,y}$	CO2 build margin emission factor of the grid (Grid & IPCC data	Emission factor	tCO2/MWh	*c*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Calculated over recently built power plants defined in the baseline methodology
10. Fi,j, y	Amount of each fossil consumed by each power source/ plant	Fuel quantity	*t or m3/year*	*M*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Obtained from the power producers, dispatch centers or latest local statistics.
11. $COEF_{I,k}$	CO2 emission coefficient of each fuel type and each power source/plant	Emission factor coefficient	tCO2/ t or m3	*M*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	IPCC default values

12. $GEN_{j,y}$	Electricity generation of each power source / plant	Electricity quantity	*MWh/yr*	*M*	once during crediting period, fixed ex-ante	*100%*	Electronic/ paper	*Archiving for Crediting period +2 years*	Obtained from the power producers, dispatch centers or latest local statistics.

These Parameters have been measured and used to calculate Grid emission factor, which is fixed ex-ante for the entire crediting period of 10 years. The calculation of GEF is based on approved baseline methodology ACM0006. The GEF calculation is detailed in Annex-1 of this document. The same value of GEF is used to estimate the emission reduction for the monitoring period.

Monitoring Procedure

Data Monitoring:

Following data and parameters are monitored:

- Net electricity generation from the proposed project activity;
- Data needed to calculate carbon dioxide emissions from fossil fuel consumption due to the project activity;
- Data needed to estimate combined margin- grid emission factor fixed ex-ante and hence no requirement to monitor data on periodic basis

Completeness-

For Electricity generation data: The project activity has installed electricity meters that measure gross power generation and auxiliary power consumption of the project activity. Real time data collection happens using these control systems. An hourly log of gross generation data is also prepared by the shift in-charge. A daily report of aggregation of these data is also prepared. Parameters monitored are the total power generated and auxiliary power generated.

For FO consumption in DG set (project activity emissions): Actual usage is monitored using dip level/ purchase and inventory data. Regular internal audit ensures reliability of this data.

Description of formulae used to estimate project emissions (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

Project Emissions are applicable only if auxiliary fuels are fired for generation startup, in emergencies, or to provide additional heat gain before entering the Waste

Heat Recovery Boiler. Project Emissions are given as:

$$PE_y = \sum_i Q_i \times NCV_i \times EF_i \times \frac{44}{12} \times OXID_i$$

Description of formulae used to estimate emission reductions for the project activity (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

Formula used for estimation of the total net emission reductions due to the project activity during a given year *y* is as under.

ERy = BEy - PEy

Where:

ERy : Emissions reductions of the project activity during the year y in tons of CO2

BEy : Baseline emissions due to displacement of electricity during the year y in tons of CO2

PEy : The project emissions associated with the project activity during the year y in tons of CO2

Monitored Results

Month	Auxiliary fuel consumed (l)	Total Electricity generated (MWh)	Auxiliary power consumed (MWh)	Net electricity generated (MWh)
Jan-07	29,830	3,679	495	3,184
Feb-07	19,205	7,473	953	6,520
Mar-07	9,620	7,113	910	6,203
Apr-07	8,575	9,192	1,012	8,180
May-07	18,645	7,282	951	6,331
Jun-07	14,273	3,482	455	3,027
Total	100,148	38,221	4,777	33,444

AFBC Coal boiler started generating steam on June 1, 2007, In June 2007 AFBC Coal boiler ran on 16[2] days as mentioned in the daily reports of power generation, PP has not claimed any emission reductions for power generated during these days though the project boilers also supplied steam to the turbine on these days, this is conservative.

Estimation of Emission Reductions

- **Baseline Emissions and project emissions**

Month	Baseline emissions (tCO2)	Project Emissions (tCO2)
Jan-07	2,607	81
Feb-07	5,340	52
Mar-07	5,080	26
Apr-07	6,700	23
May-07	5,185	50
Jun-07	2,479	39
Total	**27,391**	**271.2**

- **Emission Reduction**

Month	Emission Reductions (tCO2)
Jan-07	2,527
Feb-07	5,288
Mar-07	5,054
Apr-07	6,677
May-07	5,134
Jun-07	2,440
Total	**27,120**

[2] Refer Annex 3

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Annex-1

BASELINE ESTIMATIONS (GEF Calculations as per PDD)

Grid Emission Factor for Western Region Grid-

Approach suggested in Approved Consolidated Methodology **ACM0002** is used to estimate the grid emission factor for the project activity.

STEP 1: Grid Selection

As per the guidelines provided by Meth Panel during 18th meeting, Western Region Grid is selected for estimating the grid emission factor. Generation data of power plants in the western region have been considered. Western Region Electricity Board (WREB) annual reports and Central Electricity Authority (CEA) data is used for this purpose.

Project Electricity System: "*It is defined by the spatial extent of the power plants that can be dispatched without significant transmission constraints as defined in ACM0002"*. For the purpose all the power generating units in the western region have been considered.

Connected Electricity System: "*It is defined as a regional electricity system that is connected by transmission lines to the project electricity system and in which power plants can be dispatched without significant transmission constraints"*. For the purpose all the imports from other regional grids and exports to these regional grids are being considered.

STEP 2: Calculation of the Operating Margin emission factor (*EFOM*)

There are four methods suggested by the methodology ACM0002 –

1. Simple OM
2. Simple adjusted OM
3. Dispatch Data Analysis OM

4. Average OM

Among these four options the method of **Simple OM** is adopted for the project activity as –

1. Adequate data for Dispatch Data Analysis is not available, and

2. Low cost/ must run power sources contribute less than 50% of the total power generation in the region over the last five most recent years. The grid is thermal power dominated; more than 90% power is supplied using thermal energy sources. Less than 10% is provided by hydro, nuclear and wind energy sources.

Generation Mix of Power Generation in Western Grid for 5 Years

Type	2000-01	2001-02	2002-03	2003-04	2004-05
Thermal	129061.01	133565.00	137392.0	136699.4	141962.0
Gas	22312.84	18375.59	18713.3	22711.5	25807.3
Total (Thermal + Gas)	151373.9	151940.6	156105.3	159410.9	167769.2
Wind*	313.6	495.7	878.5	855.1	599.6
Hydro	7152.12	7984.3	8172.2	9391.6	10577.2
Nuclear	5902.62	6067.3	6200.0	5671.1	5099.7
Low cost/Must run	13368.4	14547.4	15250.7	15917.7	16276.5
Total	164742.2	166487.94	171356.0	175328.6	184045.7
% of Low cost/must run	8.1%	8.7%	8.9%	9.1%	8.8%

Unit — Million Units

Source — www.wreb.co.in; *www.mnes.nic.in; www.cea.nic.in

Simple OM: The Simple OM emission factor (EFOM,simple) is calculated as the generation-weighted average emissions per electricity unit (tCO2/MWh) of all generating sources serving the system, not including low-operating cost and must-run power plants.

The vintage of data for estimating Simple OM taken is 3-year average based on the most recent statistics available. (OM for the year 2002-03, 2003-04 & 2004-05 has been considered) ***CO2 emission factor for net electricity imports from a connected electricity system is being considered "0 tCO2/MWh" as suggested in ACM0002.***

Opearting Margin for Western Grid 2004-05	
OM, 2002-03	0.943
OM, 2003-04	0.932
OM, 2004-05	0.928
Average OM	**0.934**

Western Grid Power Generation [2004-05]

Source	MoU	Thermal	Gas	
Gross Generation	MU	141961.97	25807.25	
Auxiliary Consumption	MU	11948.37	534.78	
Net Generation	MU	130013.60	25272.47	155286.07
Heat Rate	kcal/kWh	2357	2000	
Fuel CV	kcal/kg	3820	10350	
Fuel Consumption	Tonnes per annum	87592765	4986908	
Total Emissions	tCO2/ annum	131942292	12111642.27	144053934.3
Emission Factor	tCO2/ MWh	0.928		

Western Grid Power Generation [2003-04]

Source	MoU	Thermal	Gas	
Gross Generation	MU	136699.43	22711.47	
Auxiliary Consumption	MU	11165.38	424.99	
Net Generation	MU	125534.05	22286.48	147820.53
Heat Rate	kcal/kWh	2357	2000	
Fuel CV	kcal/kg	3820	10350	
Fuel Consumption	Tonnes per annum	84345695	4388690	
Total Emissions	tCO2/ annum	127051182.2	10658756.75	137709938.9
Emission Factor	tCO2/ MWh	0.932		

Western Grid Power Generation [2002-03]

Source	MoU	Thermal	Gas	
Gross Generation	MU	137392.00	18713.30	
Auxiliary Consumption	MU	12014.91	357.83	
Net Generation	MU	125377.09	18355.47	143732.56
Heat Rate	kcal/kWh	2341	2000	
Fuel CV	kcal/kg	4171	10350	
Fuel Consumption	Tonnes per annum	77112125	3616097	
Total Emissions	tCO2/ annum	126828040.8	8782369.112	135610409.9
Emission Factor	tCO2/ MWh	0.943		

STEP 3: Calculation of the Build Margin emission factor (*EFBM*)

Calculation of the Build Margin emission factor EFBM,y ex-ante is based on the most recent information available on the plants already built for sample group m at the time of PDD submission. The sample group m consists of the power plants capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently (This sample group is larger than group consisting of the five power plants that have been built most recently).

Ownership	Fuel Type	Plant Name	Commissioned In	Unit Gross Gen	Unit Net Gen	Emissions
Gujarat	Thermal	Akrimopa Lignite	2005-06	0.0	0.0	0
Gujarat	Hydro	Sardar Sarovar	2004-05	42.1	41.9	0
Madhya Pradesh	Hydro	Sardar Sarovar	2004-05	150.1	149.3	0
Madhya Pradesh	Hydro	Indira Sagar 4	2004-05	138.2	137.5	0
Madhya Pradesh	Hydro	Indira Sagar 5	2004-05	120.1	119.5	0
Madhya Pradesh	Hydro	Indira Sagar 6	2004-05	41.7	41.5	0
Madhya Pradesh	Hydro	Indira Sagar 7	2004-05	25.2	25.0	0
Madhya Pradesh	Hydro	Indira Sagar 8	2004-05	0.8	0.8	0
Maharashtra	Hydro	Sardar Sarovar	2004-05	71.1	70.7	0
Gujarat	Gas	Dhuvaran	2003-04	701.0	670.0	327656154.6
Madhya Pradesh	Hydro	Indira Sagar 1	2003-04	300.2	298.7	0
Madhya Pradesh	Hydro	Indira Sagar 2	2003-04	390.8	388.9	0
Madhya Pradesh	Hydro	Indira Sagar 3	2003-04	314.9	313.3	0
Chattisgarh	Hydro	Gangrel	2003-04	7.5	0.0	0
Gujarat	Gas	Hazira CCGT 3	2002-03	386.2	376.6	180536451.8
Madhya Pradesh	Hydro	Bansagar II 1	2002-03	33.5	33.2	0
Madhya Pradesh	Hydro	Bansagar II 2	2002-03	34.9	34.7	0
Madhya Pradesh	Hydro	Bansagar III 3	2002-03	26.8	26.6	0
Maharashtra	Hydro	Yeoteshwar	2002-03	0.0	0.0	0
Gujarat	Gas	Hazira CCGT 1	2001-02	387.4	377.7	181064650.5
Gujarat	Gas	Hazira CCGT 2	2001-02	377.8	368.3	176586647.2
Madhya Pradesh	Hydro	Bansagar III 1	2001-02	24.8	24.6	0
Madhya Pradesh	Hydro	Bansagar III 2	2001-02	25.0	24.8	0
Maharashtra	Hydro	Khopoli	2001-02	264.7	263.1	0
Maharashtra	Hydro	Koyna IV 3	2000-01	721.3	716.6	0
Maharashtra	Hydro	Koyna IV 4	2000-01	225.9	224.4	0
Maharashtra	Hydro	Dhudhganga	2000-01	62.0	61.7	0
Maharashtra	Hydro	Bhivpuri	2000-01	251.4	249.0	0
Maharashtra	Thermal	Khaparkheda 3	2000-01	1603.6	1461.1	1425287196
Maharashtra	Thermal	Khaparkheda 4	2000-01	1493.7	1361.0	1327634225
Central	Thermal	VSTPS 8	2000-01	3858.5	3592.7	3586194895
Gujarat	Thermal	Surat Lignite 1	1999-00	858.8	774.2	798204471.6
Gujarat	Thermal	Surat Lignite 2	1999-00	946.5	853.3	879723898.5
Madhya Pradesh	Hydro	Rajghat 1	1999-00	18.9	18.7	0
Madhya Pradesh	Hydro	Rajghat 2	1999-00	11.0	10.9	0
Madhya Pradesh	Hydro	Rajghat 3	1999-00	13.9	13.7	0
Madhya Pradesh	Thermal	Sanjay Gandhi 4	1999-00	1474.1	1331.5	1370011529
Maharashtra	Hydro	Koyna IV 1	1999-00	529.6	526.2	0
Maharashtra	Hydro	Koyna IV 2	1999-00	268.5	266.8	0
Maharashtra	Hydro	Bhandardara	1999-00	36.7	36.5	0
Maharashtra	Hydro	Terwanmedhe	1999-00	0.1	0.1	0
Maharashtra	Gas	Dhabhol 1	1999-00	0.0	0.0	0
Maharashtra	Gas	Dhabhol 2	1999-00	0.0	0.0	0
Goa	Gas	Reliance Salgaonkar	1999-00	141.9	138.4	66332266.39
Central	Thermal	VSTPS 7	1999-00	3831.9	3567.9	3561481618
Gujarat	Hydro	Kadana 3	1998-99	95.6	94.7	0
Gujarat	Hydro	Kadana 4	1998-99	97.5	96.6	0
Gujarat	Gas	GPEC GT 1	1998-99	737.9	724.0	344927785.2
Gujarat	Gas	GPEC GT 2	1998-99	789.7	774.8	369136114
Gujarat	Gas	GPEC GT 3	1998-99	764.5	750.1	357356815.2
Gujarat	Gas	GPEC ST	1998-99	1341.5	1316.2	627051340.7
Gujarat	Thermal	Gujarat Electric Co. 1	1998-99	1657.0	1507.5	1540021033
Gujarat	Thermal	Gujarat Electric Co. 2	1998-99	1560.9	1423.0	1450759537
Maharashtra	Hydro	Manikdoh	1998-99	4.1	4.1	0
Maharashtra	Hydro	Surya	1998-99	14.0	13.9	0
Maharashtra	Hydro	Dimbhe	1998-99	9.1	9.0	0
Maharashtra	Hydro	Warna	1998-99	57.3	56.7	0
Gujarat	Gas	GIPCL Baroda GT 1	1997-98	258.4	252.0	120903732.9
Gujarat	Gas	GIPCL Baroda GT 2	1997-98	258.1	251.7	120664701.7
Gujarat	Gas	GIPCL Baroda GT 3	1997-98	245.2	239.1	114619241.5
Gujarat	Gas	GIPCL Baroda ST	1997-98	391.1	381.3	182816443.6
Gujarat	Thermal	Kutch Lignite 3	1997-98	481.2	423.3	520905141.7
Maharashtra	Hydro	Bhira PSU	1997-98	579.6	577.9	0
Maharashtra	Thermal	Chandrapur 7	1997-98	3376.3	3115.6	3032778839
Gujarat	Gas	Essar Gas GT 1	1996-97	736.2	723.2	344123801.3
Gujarat	Gas	Essar Gas GT 2	1996-97	725.2	712.4	338958672.3
Gujarat	Gas	Essar Gas GT 3	1996-97	702.4	690.0	328310560.1
Gujarat	Gas	Essar Gas ST	1996-97	1223.7	1202.1	571978444.4
Maharashtra	Hydro	Bhira - TR	1996-97	85.2	85.2	0
Maharashtra	Thermal	Dahanu BSES 2	1995-96	2164.4	2001.3	24245826.2
Central	Gas	Gandhar 4	1995-96	1488.0	1457.7	34416.1
Central	Nuclear	Kakrapar 2	1995-96	1262.7	1106.3	704.5

Build Margin for Western Grid 2004-05	
Build Margin	**0.704**

STEP 4: Calculate the Grid Emission Factor (*EF)*

Grid Emission factor is the weighted average of the Operating Margin emission factor (*EFOM*) and the Build Margin emission factor (*EFBM*):

EF = *wOM* X *EFOM*+ *wBM* X *EFBM*

Where the weights *wOM* and *wBM*, by default, are 50% (i.e., *wOM* = *wBM* = 0.5), and *EFOM* and *EFBM* are calculated as described in Steps 2 and 3 above and are expressed in tCO2/MWh. The weighted averages applied by the project participants are fixed for the entire crediting period.

Combined Margin for Western Grid 2004-05	
OM, 2002-03	0.943
OM, 2003-04	0.932
OM, 2004-05	0.928
Average OM	**0.934**
BM	0.704
Combined Margin, CM	**0.819**

tCO2e/ MWh

Annex-2

Energy Meter details are as mentioned below:

Main meter for Gross Generation

- Make - Enercon
- Meter Serial Number- PNL 11653

Main meter for Auxiliary consumption

- Make - Enercon
- Meter serial Number PNL11658

Check meter for Gross Generation

- Make – SECURE METERS LTD
- Serial Number – KAU 02025

Check meter for Auxiliary Consumption

- Make – Conzerv
- Serial Number – 82925/92-4505

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Annex -3

Details of power generation in the month of June 2007 -

DATE	GROSS POWER GENERATION (kWh)	AUXILIARY POWER CONSUMPTION (kWh)	NET POWER GENERATED FROM TURBINE (kWh)	REMARKS
01.06.07	200000	34350	165650	* –
02.06.07	220000	47780	172220	* –
03.06.07	231000	46610	184390	* –
04.06.07	245000	47310	197690	* –
05.06.07	299000	39350	259650	–
06.06.07	307000	43940	263060	* –
07.06.07	326000	48550	277450	* –
08.06.07	280000	37690	242310	–
09.06.07	329000	36010	292990	–
10.06.07	342000	37000	305000	–
11.06.07	312000	35260	276740	–
12.06.07	309000	33930	275070	–
13.06.07	277000	35270	241730	–
14.06.07	326000	41830	284170	* –
15.06.07	401000	42640	358360	* –
16.06.07	247000	34660	212340	–
17.06.07	206000	34600	171400	–
18.06.07	230000	32150	197850	–

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19.06.07	224000	16260	207740	*
20.06.07	136000	29160	106840	*
21.06.07	90000	17770	72230	-
22.06.07	231000	41690	189310	*
23.06.07	263000	44590	218410	*
24.06.07	264220	33540	230680	*
25.06.07	257000	30530	226470	
26.06.07	174000	27630	146370	-
27.06.07	145000	29440	115560	*
28.06.07	290760	43990	246770	*
29.06.07	215000	37940	177060	*
30.06.07	130000	23440	106560	-
TOTAL	**3482000**	**455290**	**3026710**	-

* The power generation for the day has not been accounted for in estimation of emission reductions as PP put on trial the AFBC boiler and some steam was supplied to the common header. This is conservative and transparent.

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