



**Monitoring report form
(Version 04.0)**

MONITORING REPORT

Title of the project activity	Biomass based power generation project in Maharashtra, India
Reference number of the project activity	4078
Version number of the monitoring report	1
Completion date of the monitoring report	11/08/2014
Registration date of the project activity	26/01/2011
Monitoring period number and duration of this monitoring period	Monitoring period No:3 01/04/2012 – 31/03/2013 (First and last day included)
Project participant(s)	M/s. A.A. Energy Limited (Private Entity) Eneco Energy Trade B.V.
Host Party(ies)	India
Sectoral scope and selected methodology(ies), and where applicable, applied standardized baseline(s)	Sectoral scope 1 : Energy industries (renewable - / non-renewable sources Methodology: AMS-I.D. ver. 15 – “Grid connected renewable electricity generation”
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	49,766 ¹ tCO ₂ e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	49,453 tCO ₂ e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period up to 31 December 2012(if applicable)	38, 343 tCO ₂ e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period from 1 January 2013 onwards (if applicable).	11,110 tCO ₂ e

¹ Emission reductions are pro rated as per the registered PDD for the current monitoring period (365 days).

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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The project proponent M/s. A.A. Energy Limited (AAEL) has set up an eco-friendly 10 MW biomass based power generation project at Desaiganj Wadsa in Gadchiroli district of Maharashtra. The proposed small scale project utilise the surplus biomass residues primarily from rice husk available locally to generate power through sustainable means without causing any negative impacts on the environment. The project activity hence replaces an equivalent amount of power that would have been generated from fossil fuel based thermal power generation plant and thereby reducing the greenhouse gas emissions.

The process of power generation is based on Rankine cycle using boiler and turbine. Steam generated at a high pressure of 66 kg/cm² and temperature of 490°C is supplied to an extraction cum condensing turbine generator (TG) set at around 64 kg/cm² and 480°C. Fuel is supplied to boiler and entire steam generated is passed through the 10 MW steam turbine generator (STG) for generating of power. The details on the technology used have been provided in section B.1 of the report. Auxiliaries of the biomass power plant are supplied by in-house generated power & balance of power generated is synchronized and exported to the grid. The generated power, after meeting the auxiliary power requirements, is sold to Tata Power Trading Company Limited (TPTCL).

The purchase order for the project activity was placed on 20/08/2008 and the project was commissioned on 30/04/2010.

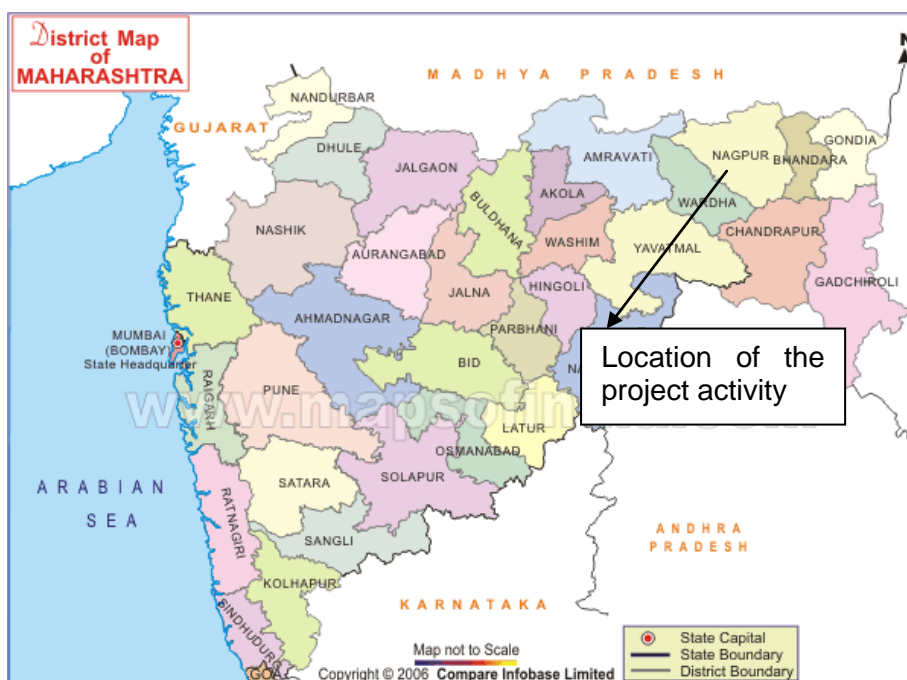
Outage details are mentioned in section B.1 of the monitoring report.

The monitored electricity generation (EG_y) is compared with its corresponding value of SFC and the lowest of two is considered for the calculation of emission reduction. The total emission reductions for the monitoring period accounts to 49,453 tCO₂e.

A.2. Location of project activity

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The project is located at Desaiganj Wadsa in Gadchiroli district. The nearest town Desaiganj Wadsa is 7 km from the project site, the nearest railway station is at Desaiganj Wadsa. The nearest airport is at Nagpur, which is 160 km from the project site is accessible from NH-6 Nagpur – Raipur National Highway. The geographical co-ordinates of the project activity are 20°37'22" North to 79°57'32" East.



(The district map of Maharashtra indicating the location of the project activity)

A.3. Parties and project participant(s)

Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
India (Host)	M/s. A.A. Energy Limited (Private Entity)	No
United Kingdom of Great Britain and Northern Ireland (other party)	Eneco Energy Trade B.V.	No

A.4. Reference of applied methodology and standardized baseline

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AMS ID – Grid connected renewable electricity generation, Version 15²Tool to calculate the emission factor for an electricity system' version 01.1 Annex 12 EB 35³Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion", version-02, EB41,annex 11⁴**A.5. Crediting period of project activity**

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Start date of crediting period: 26/01/2011

Choice of crediting period: 10 years (Fixed)

Crediting period: 26/01/2011 – 25/01/2021

A.6. Contact information of responsible persons/ entities

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Mr. Swapnil Agrawal

Director

A.A. Energy Limited

No.101, Nikalas Tower, Central Bazaar Road, Ramdaspath

Nagpur, Maharashtra- 44010

E-mail- aaenergy ltd@yahoo.com

Mobile: +919822571145

SECTION B. Implementation of project activity**B.1. Description of implemented registered project activity**

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The plant was successfully commissioned and handed over to PP on 30/04/2010. The plant has been in operation continuously since commissioning.

Technical description of the project activity

The process of power generation is by Rankine cycle. Steam generated at high a pressure of 66 kg/cm² and 490°C is supplied to an extraction cum condensing turbine generator (TG) set at around 64 kg/cm² and 480°C. Fuel is supplied to boiler and entire steam generated is passed through the 10 MW steam turbine generator (STG) for generating of power. Auxiliaries of the biomass power plant are supplied in-house generated power & balance of power generated is synchronized and exported to the grid.

² <http://cdm.unfccc.int/UserManagement/FileStorage/7QXAZ5036WN8BEYKUDFRPJGL21V4I9>

³ <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v1.1.pdf>

⁴ http://cdm.unfccc.int/EB/041/eb41_repan11.pdf

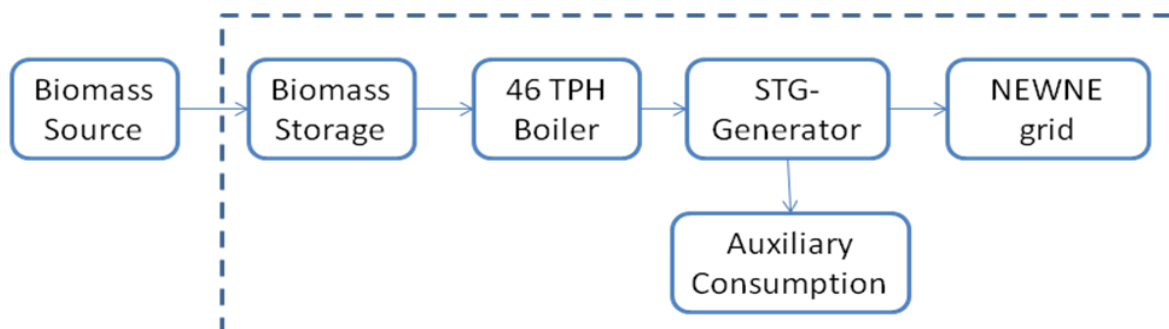
The biomass power plant STG has been designed with a bleed at 4 kg/cm² for supplying steam to de-aerator. Balance steam for maximizing power generation is condensed in the surface condenser. The high pressure steam in small quantities, required for steam jet air ejector and gland sealing is tapped from the main steam line through Pressure Reducing & De-Super Heating (PRDSH) station.

The power generated at 11 KV from the 10 MW STG set is stepped down to 415 V for meeting all power requirements of auxiliaries. The balance of power generated is synchronized with MSEDCL grid stepped up to 132 KV level and transported to a substation of MSEDCL at 16 km distance, for export purposes.

The boiler of 46 TPH has been designed for multi fuel operations and has a travelling grate design. However the primary fuel source used would be rice husk and the plant operates throughout the year on rice husk only. The electro static precipitator (ESP) has been installed as a part of the boiler, along with reinforced cement concrete (RCC) chimney, to limit the emissions well below 100 mg/Nm³, stipulated norm by the Pollution Control Board. The plant controls are digital control system (DCS) based to ensure most efficient operations & monitoring of operating parameters. The Technical details of the power plant are as tabulated below –

Boiler	
Type	Travelling Grate
Boiler capacity (100 % load) / Steam Flow rate	46 TPH
Steam pressure at super heater outlet	66 kg/cm ²
Steam temperature at super heater outlet	490°C
Turbo Generator	
Type	Extraction cum Condensing
Steam pressure at the TG inlet	64 kg/cm ²
Steam temperature at the TG inlet	480°C
Frequency	50 Hz
Power Evacuation	
Grid Voltage	132 kV
MSEDCL substation	11/132 kV in Brahmapuri
Energy Production (For Optimum year)	
Gross Energy	10 MW
Auxiliary Consumption (10%)	1 MW
Voltage level	415 V (for auxiliary consumption)
Net Energy Export to Grid	9 MW

The project boundary includes the entire power plant site including all machinery & equipments required for power generation in this plant and biomass storage area. Project boundary is illustrated in the following diagram.



No major equipment has been replaced or exchanged since commissioning. Further no breakdown was observed in the boiler during the present monitoring period.

Outage details for the monitoring period:

Month	Hrs	Min	Days
April-2012	68	40	2.86
May-2012	1	35	0.07
June-2012	61	0	2.54
July-2012	393	5	16.38
August-2012	171	55	7.16
September-2012	29	55	1.25
October-2012	29	5	1.21
November-2012	0	0	0.00
December-2012	30	55	1.29
January-2013	456	0	19.00
February-2013	29	20	1.22
March-2013	23	35	0.98
Total	1,290	5	54.0

B.2. Post registration changes**B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline**

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This section is left blank intentionally as not applicable.

B.2.2. Corrections

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In revised PDD section B.6.1 is elaborated and made in line with the requirements of para 20 and 22 of the applicable methodology AMS I.D. Version 15. The para 20 & 22 of the applicable methodology guide on the baseline calculation procedure in case of usage of fossil fuel. In revised PDD section B.6.2 SFC_{FF} is included as ex-ante parameter.

In section B.7.1 of the revised PDD description is elaborated or rephrased against the rows "Monitoring frequency" and "Description".

B.2.3. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

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Monitoring plan of the project activity has been revised and revised PDD is submitted to UNFCCC for approval.

B.2.4. Changes to project design of registered project activity

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This section is left blank intentionally as not applicable.

B.2.5. Changes to start date of crediting period

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This section is left blank intentionally as not applicable.

B.2.6. Types of changes specific to afforestation or reforestation project activity

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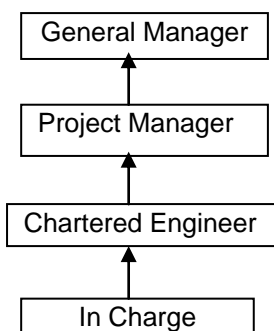
This section is left blank intentionally as not applicable.

SECTION C. Description of monitoring system

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AAEL has implemented the following structure for data monitoring, collection, data archiving and calibration of equipments for this project activity.

Organization chart:-



The General Manager oversees the overall functioning and maintenance of the project activity, the dedicated team formed under his supervision will work on specified tasks.

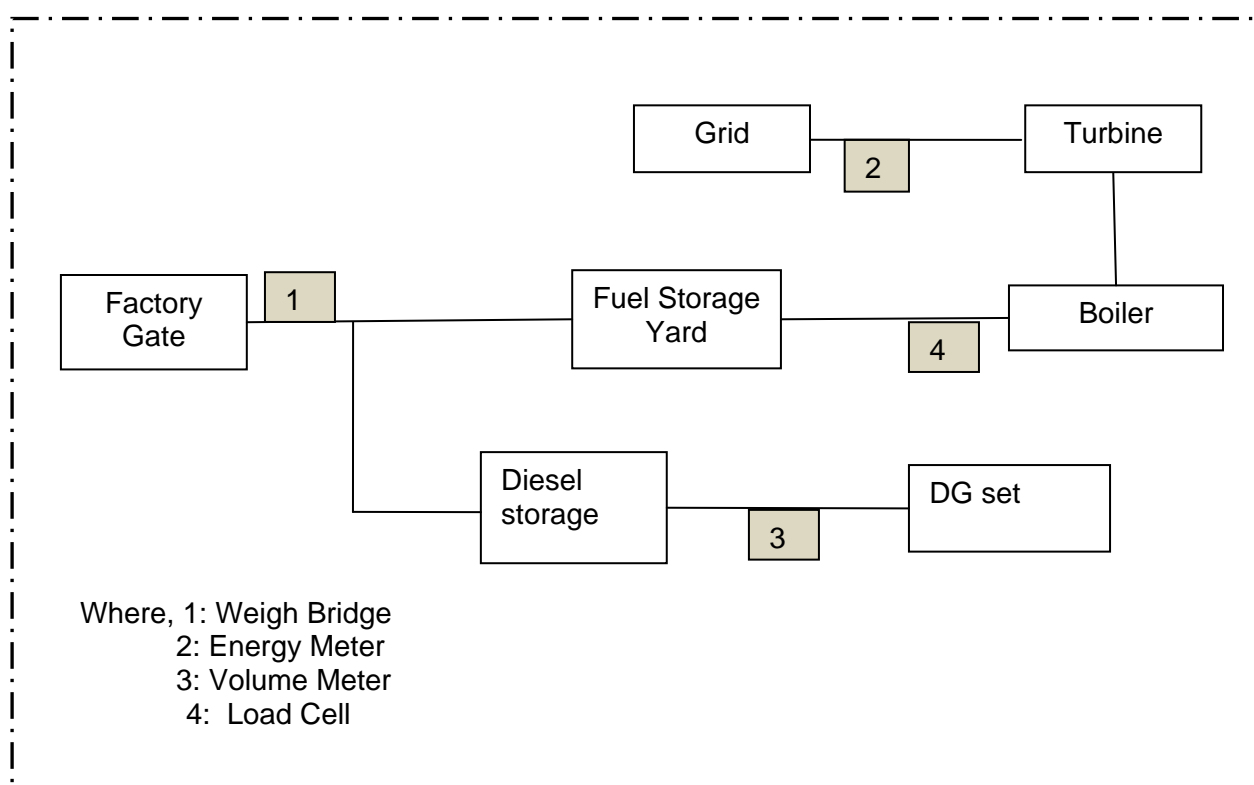
At the project site the in-charge maintains the data records, ensures completeness of data, and reliability of data (calibration of equipments). Wherein even day to day data of electricity generation is collected and maintained through a log book for data to be monitored. These reports are checked periodically by the Chartered Engineer and discussed thoroughly with the data monitoring personnel. A separate log will also be maintained for the biomass supply on the site, its storage and usage in the project activity. Similarly the usage of coal during contingency would be recorded along with biomass usage data. To ensure reliability of the measuring equipments via energy meter (used to measure net saleable power), weighbridge; will be calibrated annually by external agencies. Documents pertaining to annual calibration of equipments (energy meter, weighbridge) shall be maintained at the plant site.

All data collected as part of monitoring should be archived in paper and will be kept at least for 2 years after the end of the crediting period.

The Chartered Engineer ensures the proper functioning of all the equipments/ instruments and shall take a corrective action if found not operating as and when required. Further the project activity will not result in any unidentified activity that can result in substantial emissions from the project activity.

Emission reduction calculations and monitoring report will be done based on the data collected. The monitoring report and the emission reduction calculation will be maintained at the plant site/head office for annual verification purposes.

Line diagrams showing all relevant monitoring points can be referred as below:



SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Data / Parameter:	EF_{CO2}
Unit:	tCO ₂ /MWh
Description:	Fixed ex-ante combined margin emission factor of NEWNE grid derived from the OM and BM values
Source of data:	CO ₂ Baseline Database Version 4.0 dated October 2008 published by CEA
Value(s) applied:	0.805
Purpose of data:	Calculation of baseline emissions
Additional comment:	As per registered PDD.

Data / Parameter:	SFC_{rice husk}
Unit:	Tonne of rice husk/MWh
Description:	Specific fuel consumption of rice husk
Source of data:	Calculated based on NCV of rice husk and design data of the boiler and turbine
Value(s) applied:	1.1089
Purpose of data:	To cross check the calculation of baseline emissions
Additional comment:	As per registered PDD.

Data / Parameter:	SFC_{FF}
Unit:	Tonnes of fossil fuel/MWh
Description:	Specific fuel consumption of fossil fuel

Source of data:	Calculated based on NCV of coal and design data of the boiler and turbine
Value(s) applied:	0.839
Purpose of data:	Calculation of Baseline emissions
Additional comment:	Specific fuel consumption has been specified ex ante based on designed data and this will be ex ante fixed for the crediting period.

D.2. Data and parameters monitored

Data / Parameter:	EG _y		
Unit:	GWh		
Description:	Net electricity exported to the grid from this project activity		
Measured/ Calculated / Default:	Measured & calculated		
Source of data:	Monthly energy meter reading records issued by the TPTCL/sales invoice raised by AAEL.		
Value(s) of monitored parameter:	Month	Option 1 (MWh)	Option 2 (MWh)
	01/04/2012 - 30/04/2012	5103.76	6014.31
	01/05/2012 - 31/05/2012	6818.44	6818.42
	01/06/2012 - 30/06/2012	5604.66	6000.22
	01/07/2012 - 31/07/2012	3163.49	3163.11
	01/08/2012 - 31/08/2012	3456.57	4492.63
	01/09/2012 - 30/09/2012	4879.18	5991.51
	01/10/2012 - 31/10/2012	6575.17	6575.12
	01/11/2012 - 30/11/2012	6298.59	6298.59
	01/12/2012 - 31/12/2012	6194.47	6194.33
	01/01/2013 - 31/01/2013	2083.01	2620.75
	01/02/2013 - 29/02/2013	5749.67	5749.66
	01/03/2013 - 31/03/2013	6463.80	6463.76
	Total	62,390.81	66,382.41

Monitoring equipment:	<p>Monitoring Equipment: Energy meter Accuracy class: 0.2 S Main meter: Serial number: MSB09097 Make: Secure Calibration frequency: annually Date of calibration: 12/04/2011 : 13/04/2012</p> <p>Validity: one year Make: Secure Check meter: Serial number: MSB09096</p> <p>Accuracy class: 0.2 S Calibration frequency: annually Date of calibration: 12/04/2011 : 13/04/2012</p> <p>Validity: one year</p>
Measuring/ Reading/ Recording frequency:	<p>Measuring: Continuously Reading: Hourly Recording: Monthly</p>
Calculation method (if applicable):	<p>The energy meter installed at the site is a two-way metering system, which directly measures the exported and imported electricity. EG_y, net electricity exported to the grid, is the simple difference of these two directly measured values with no other data/ value/ procedure being involved. This is direct measurement and it is only the display of net value which is not direct.</p> <p>EG_y = (Electricity exported to the grid – Electricity imported from grid)</p> <p>Option 1: Net electricity exported to the grid is calculated as per Para 22 of applicable methodology (AMS-I.D. ver. 15)</p> <p>Option 2: Considering project emissions from coal</p>
QA/QC procedures:	<p>The meter is calibrated annually.</p> <p>Measurement results can be cross-checked with records for sold electricity - Invoices raised by AAEL.</p>
Purpose of data:	Calculation of baseline emissions
Additional comment:	-

Data / Parameter:	Q_{biomass}
Unit:	Tonnes/annum
Description:	Quantity of biomass (rice husk) used for power generation process in year y
Measured/ Calculated / Default:	Measured.

Source of data:	On site measurement using weighing scales and the same was recorded in the log book. For the purpose of continuous measurement of actual quantity of biomass, PP has also installed an online load cell in the conveyor for the measurement of the quantity of biomass.																																										
Value(s) of monitored parameter:	<table border="1"> <thead> <tr> <th>Month</th><th>Q_{biomass} (consumed)⁵ (Tonnes)</th><th>Q_{biomass} (Procured)⁶ (Tonnes)</th></tr> </thead> <tbody> <tr><td>01/04/2012 - 30/04/2012</td><td>7427.00</td><td>8109.36</td></tr> <tr><td>01/05/2012 - 31/05/2012</td><td>9433.00</td><td>7372.25</td></tr> <tr><td>01/06/2012 - 30/06/2012</td><td>7917.00</td><td>9089.37</td></tr> <tr><td>01/07/2012 - 31/07/2012</td><td>3225.00</td><td>5348.89</td></tr> <tr><td>01/08/2012 - 31/08/2012</td><td>4529.09</td><td>2531.04</td></tr> <tr><td>01/09/2012 - 30/09/2012</td><td>6280.23</td><td>5238.54</td></tr> <tr><td>01/10/2012 - 31/10/2012</td><td>9063.20</td><td>9475.09</td></tr> <tr><td>01/11/2012 - 30/11/2012</td><td>8725.42</td><td>9173.01</td></tr> <tr><td>01/12/2012 - 31/12/2012</td><td>8587.78</td><td>9245.76</td></tr> <tr><td>01/01/2013 - 31/01/2013</td><td>3092.26</td><td>4701.25</td></tr> <tr><td>01/02/2013 - 29/02/2013</td><td>7977.93</td><td>6293.09</td></tr> <tr><td>01/03/2013 - 31/03/2013</td><td>8932.11</td><td>7263.20</td></tr> <tr><td>Total</td><td>85,190.02</td><td>83,840.85</td></tr> </tbody> </table>	Month	Q _{biomass} (consumed) ⁵ (Tonnes)	Q _{biomass} (Procured) ⁶ (Tonnes)	01/04/2012 - 30/04/2012	7427.00	8109.36	01/05/2012 - 31/05/2012	9433.00	7372.25	01/06/2012 - 30/06/2012	7917.00	9089.37	01/07/2012 - 31/07/2012	3225.00	5348.89	01/08/2012 - 31/08/2012	4529.09	2531.04	01/09/2012 - 30/09/2012	6280.23	5238.54	01/10/2012 - 31/10/2012	9063.20	9475.09	01/11/2012 - 30/11/2012	8725.42	9173.01	01/12/2012 - 31/12/2012	8587.78	9245.76	01/01/2013 - 31/01/2013	3092.26	4701.25	01/02/2013 - 29/02/2013	7977.93	6293.09	01/03/2013 - 31/03/2013	8932.11	7263.20	Total	85,190.02	83,840.85
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Total	85,190.02	83,840.85																																									
Monitoring equipment:	<p>Monitoring Equipment: Weigh Bridge Accuracy class: Class III Serial number: 149/08 Total capacity: 60 T Least count: 10 kg Calibration frequency: annually Date of last calibration: 24/05/2011 : 25/05/2012</p> <p>Validity: one year</p> <p>Monitoring equipment: Load cell Type: Belt mounted Nominal load: 6.33 kg IC Number: 6111000597-2-2-001-01 Serial number: 6111-597-001 Load cell Type: S Calibration frequency: annually Date of first calibration: 14/05/2011 : 16/05/2012</p> <p>Validity: one year</p>																																										
Measuring/ Reading/ Recording frequency:	Measuring: Continuously Reading: Daily Recording: Daily																																										
Calculation method (if applicable):	NA																																										

⁵ Actual quantity of biomass combusted in boiler, measured by load cell mounted on conveyer.

⁶ Quantity of biomass procured and measured at weighbridge.

QA/QC procedures:	The weigh scale used for measuring fuels is calibrated annually. The data can be cross checked with the biomass procurement data.
Purpose of data:	Calculation of baseline emissions
Additional comment:	-

Data / Parameter:	FC _{Coal,j,y}		
Unit:	Tonnes/annum		
Description:	Quantity of coal used for the project activity in year y.		
Measured/ Calculated / Default:	Measured.		
Source of data:	On site measurement using weighbridge and the same was recorded in the log book. For the purpose of continuous measurement of actual consumption of coal, PP has also installed an online load cell in the conveyor for the measurement of the quantity of coal.		
Value(s) of monitored parameter:	Month	FC _{Coal,j,y} (consumed) * (Tonnes)	FC _{Coal,j,y} (procured) (Tonnes)
	01/04/2012 - 30/04/2012	764.00	1999.20
	01/05/2012 - 31/05/2012	0.00	0.00
	01/06/2012 - 30/06/2012	332.00	0.00
	01/07/2012 - 31/07/2012	0.00	0.00
	01/08/2012 - 31/08/2012	656.96	0.00
	01/09/2012 - 30/09/2012	0.00	15.46
	01/10/2012 - 31/10/2012	0.00	0.00
	01/11/2012 - 30/11/2012	0.00	0.00
	01/12/2012 - 31/12/2012	0.00	0.00
	01/01/2013 - 31/01/2013	451.32	0.00
	01/02/2013 - 29/02/2013	0.00	1290.00
	01/03/2013 - 31/03/2013	0.00	484.66
	Total	2204.28	3789.32
	* Actual quantity of coal combusted in the power plant.		

Monitoring equipment:	<p>Monitoring Equipment: Weigh Bridge Accuracy class: Class III Serial number: 149/08 Total capacity: 60 T Least count: 10 kg. Calibration frequency: annually Date of last calibration: 24/05/2011 : 25/05/2012</p> <p>Validity: one year</p> <p>Monitoring equipment: Load cell Type: Belt mounted Nominal load: 6.33 kg IC number : 6111000597-2-2-001-01 Serial Number: 6111-597-001 Load cell Type: S Calibration frequency: annually Date of last calibration: 14/05/2011 : 16/05/2012</p> <p>Validity: one year</p>
Measuring/ Reading/ Recording frequency:	<p>Measuring: Continuously Reading: Daily Recording: Daily</p>
Calculation method (if applicable):	NA
QA/QC procedures:	The weight scale used for measuring fuels is calibrated annually. The quantity of fossil fuel (coal) weighed on the weighbridge is crossed checked with fuel bills also.
Purpose of data:	Calculation of baseline emissions
Additional comment:	-

Data / Parameter:	FC_{Diesel,i,y}
Unit:	volume/annum
Description:	Quantity of diesel used for the project activity in year y.
Measured/ Calculated / Default:	Measured.
Source of data:	On site measurement using volume meter and the same was recorded in the log book.

Value(s) of monitored parameter:	Month	FC _{diesel,j,y} (Procured) ⁷ Litres	FC _{diesel,j,y} (Consumed) Litres
	01/04/2012 - 30/04/2012	4000	4542
	01/05/2012 - 31/05/2012	1000	232
	01/06/2012 - 30/06/2012	5000	5457
	01/07/2012 - 31/07/2012	10000	9375
	01/08/2012 - 31/08/2012	10000	10741
	01/09/2012 - 30/09/2012	3000	3307
	01/10/2012 - 31/10/2012	4000	2652
	01/11/2012 - 30/11/2012	0	0
	01/12/2012 - 31/12/2012	4000	2255
	01/01/2013 - 31/01/2013	10000	12437
	01/02/2013 - 29/02/2013	2000	1975
	01/03/2013 - 31/03/2013	2000	2880
	Total	55000	55853
Monitoring equipment:	Monitoring Equipment: Volume meter Type: Jar (neck type) Capacity: 01, 02, 03, 05 & 10 litres		
Measuring/ Reading/ Recording frequency:	Measuring: Continuously Reading: Daily Recording: Daily		
Calculation method (if applicable):	NA		
QA/QC procedures:	Volume meters (cans) are approved by the Weights & Measures Department and replaced on annually basis with new volume meters (cans). The quantity of fossil fuel (Diesel) measured by volume meters is crossed checked with fuel bills.		
Purpose of data:	Calculation of baseline emissions		
Additional comment:	-		

Data / Parameter:	NCV_{coal,y}
Unit:	TJ/tonne
Description:	Net calorific value of coal in year y
Measured/ Calculated / Default:	Measured
Source of data:	NCV values provided by the fuel supplier in invoices. The maximum value of NCV of coal provided by the supplier is considered for the project emission calculation. This is conservative.

⁷ Since the procured Diesel quantity is more than the combusted Diesel quantity so for project emission calculation procured quantity is considered. This is conservative.

Value(s) of monitored parameter:	0.0181								
Monitoring equipment:	Not applicable as the NCV values provided by the fuel supplier are being considered.								
Measuring/ Reading/ Recording frequency:	Measuring: NCV is obtained for each fuel delivery (from fuel supplier) Recording: Monthly								
Calculation method (if applicable):	Not applicable since the NCV values supplied by the fuel supplier are considered for the emission reduction calculation.								
QA/QC procedures:	<p>If the values under NCVs are within the uncertainty range of the IPCC default values as provided in Table 1.2, Vol. 2 of the 2006 IPCC Guidelines. If the values fall below this range collect additional information from the testing laboratory to justify the outcome or conduct additional measurements.</p> <table border="1"> <tr> <td>Lower range (on 95 % confidence level) TJ/Gg</td> <td>NCV (TJ/Gg)</td> <td>Upper range (on 95 % confidence level) TJ/Gg</td> </tr> <tr> <td>11.5</td> <td>18.9</td> <td>26</td> </tr> </table> <p>The max. Value of NCV during the monitoring period $=4,327 \text{ kcal/kg}$ $=(4,327 \times 4.18) \times 10^6 / 10^9$ $=18.10 \text{ TJ/Gg}$</p> <p>Conversion factor: 1 kCal/kg= 4.18 kJ/kg Since the monitored value is within the uncertainty range of the IPCC values so no additional information is required to be collected .</p>			Lower range (on 95 % confidence level) TJ/Gg	NCV (TJ/Gg)	Upper range (on 95 % confidence level) TJ/Gg	11.5	18.9	26
Lower range (on 95 % confidence level) TJ/Gg	NCV (TJ/Gg)	Upper range (on 95 % confidence level) TJ/Gg							
11.5	18.9	26							
Purpose of data:	Data is used for Project emission calculation.								
Additional comment:	-								

Data / Parameter:	NCV_{diesel,y}
Unit:	TJ/litre
Description:	Net calorific value of diesel in year y
Measured/ Calculated / Default:	<p>Monitored/Recorded value</p> <p>The Average value of NCV of diesel provided by the supplier is considered for the project emission calculation. This is conservative.</p>
Source of data:	Values provided by the fuel supplier in invoices.
Value(s) of monitored parameter:	0.000035
Monitoring equipment:	Not applicable
Measuring/ Reading/ Recording frequency:	NCV is obtained for each fuel delivery (from fuel supplier)
Calculation method (if applicable):	NA

QA/QC procedures:	<p>Verify if the values under NCVs are within the uncertainty range of the IPCC default values as provided in Table 1.2, Vol. 2 of the 2006 IPCC Guidelines. If the values fall below this range collect additional information from the testing laboratory to justify the outcome or conduct additional measurements.</p> <table border="1"> <tr> <td>Lower range (on 95 % confidence level) TJ/Gg</td><td>NCV (TJ/Gg)</td><td>Upper range (on 95 % confidence level) TJ/Gg</td></tr> <tr> <td>43</td><td>41.4</td><td>43.3</td></tr> </table> <p>The max. Value of NCV during the monitoring period $= 10,358 \text{ kcal/kg}$ $= (10,358 \times 0.82 \times 4.18 \times 10^{-9})$ $= 0.000035 \text{ TJ/lt}$</p> <p>Since the monitored value is within the uncertainty range of the IPCC values so no additional information is required to be collected.</p>	Lower range (on 95 % confidence level) TJ/Gg	NCV (TJ/Gg)	Upper range (on 95 % confidence level) TJ/Gg	43	41.4	43.3
Lower range (on 95 % confidence level) TJ/Gg	NCV (TJ/Gg)	Upper range (on 95 % confidence level) TJ/Gg					
43	41.4	43.3					
Purpose of data:	Data is used for Project emission calculation.						
Additional comment:	-						

Data / Parameter:	N_{truck,y}																												
Unit:	-																												
Description:	Number of truck/vehicle trips from the biomass source to the power plant in year y																												
Measured/ Calculated / Default:	Measured.																												
Source of data:	The no of deliveries/vehicles will be recorded in log book at the factory gate.																												
Value(s) of monitored parameter:	<table border="1"> <thead> <tr> <th>Month</th><th>Numbers of Trucks</th></tr> </thead> <tbody> <tr><td>01/04/2012 - 30/04/2012</td><td>1262</td></tr> <tr><td>01/05/2012 - 31/05/2012</td><td>1142</td></tr> <tr><td>01/06/2012 - 30/06/2012</td><td>1428</td></tr> <tr><td>01/07/2012 - 31/07/2012</td><td>882</td></tr> <tr><td>01/08/2012 - 31/08/2012</td><td>479</td></tr> <tr><td>01/09/2012 - 30/09/2012</td><td>894</td></tr> <tr><td>01/10/2012 - 31/10/2012</td><td>1483</td></tr> <tr><td>01/11/2012 - 30/11/2012</td><td>1439</td></tr> <tr><td>01/12/2012 - 31/12/2012</td><td>1417</td></tr> <tr><td>01/01/2013 - 31/01/2013</td><td>662</td></tr> <tr><td>01/02/2013 - 29/02/2013</td><td>960</td></tr> <tr><td>01/03/2013 - 31/03/2013</td><td>1116</td></tr> <tr><td>Total</td><td>13164</td></tr> </tbody> </table>	Month	Numbers of Trucks	01/04/2012 - 30/04/2012	1262	01/05/2012 - 31/05/2012	1142	01/06/2012 - 30/06/2012	1428	01/07/2012 - 31/07/2012	882	01/08/2012 - 31/08/2012	479	01/09/2012 - 30/09/2012	894	01/10/2012 - 31/10/2012	1483	01/11/2012 - 30/11/2012	1439	01/12/2012 - 31/12/2012	1417	01/01/2013 - 31/01/2013	662	01/02/2013 - 29/02/2013	960	01/03/2013 - 31/03/2013	1116	Total	13164
Month	Numbers of Trucks																												
01/04/2012 - 30/04/2012	1262																												
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01/06/2012 - 30/06/2012	1428																												
01/07/2012 - 31/07/2012	882																												
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01/11/2012 - 30/11/2012	1439																												
01/12/2012 - 31/12/2012	1417																												
01/01/2013 - 31/01/2013	662																												
01/02/2013 - 29/02/2013	960																												
01/03/2013 - 31/03/2013	1116																												
Total	13164																												

Monitoring equipment:	Not applicable
Measuring/ Reading/ Recording frequency:	Measuring: Daily Reading: Daily Recording: monthly
Calculation method (if applicable):	NA
QA/QC procedures:	This can be cross-checked with average carrying capacity of vehicle and quantity of rice husk consumed in that period. Quantity of rice husk = 83,840.85 tonne Average load /trip = 6.37 tonne No. of trucks = 83,840.85/6.37 = 13,164
Purpose of data:	Data is used for Project emission calculation.
Additional comment:	-

Data / Parameter:	AVD _{max,y}																											
Unit:	km																											
Description:	Max distance of the Power plant from the Rice husk source in year y																											
Measured/ Calculated / Default:	Estimated																											
Source of data:	Log book at the factory gate																											
Value(s) of monitored parameter:	<table><tr><th>Month</th><th>Maximum distance in km</th></tr><tr><td>01/04/2012 - 30/04/2012</td><td>16</td></tr><tr><td>01/05/2012 - 31/05/2012</td><td>15</td></tr><tr><td>01/06/2012 - 30/06/2012</td><td>17</td></tr><tr><td>01/07/2012 - 31/07/2012</td><td>25</td></tr><tr><td>01/08/2012 - 31/08/2012</td><td>39</td></tr><tr><td>01/09/2012 - 30/09/2012</td><td>28</td></tr><tr><td>01/10/2012 - 31/10/2012</td><td>14</td></tr><tr><td>01/11/2012 - 30/11/2012</td><td>14</td></tr><tr><td>01/12/2012 - 31/12/2012</td><td>15</td></tr><tr><td>01/01/2013 - 31/01/2013</td><td>16</td></tr><tr><td>01/02/2013 - 29/02/2013</td><td>15</td></tr><tr><td>01/03/2013 - 31/03/2013</td><td>15</td></tr></table>		Month	Maximum distance in km	01/04/2012 - 30/04/2012	16	01/05/2012 - 31/05/2012	15	01/06/2012 - 30/06/2012	17	01/07/2012 - 31/07/2012	25	01/08/2012 - 31/08/2012	39	01/09/2012 - 30/09/2012	28	01/10/2012 - 31/10/2012	14	01/11/2012 - 30/11/2012	14	01/12/2012 - 31/12/2012	15	01/01/2013 - 31/01/2013	16	01/02/2013 - 29/02/2013	15	01/03/2013 - 31/03/2013	15
	Month	Maximum distance in km																										
	01/04/2012 - 30/04/2012	16																										
	01/05/2012 - 31/05/2012	15																										
	01/06/2012 - 30/06/2012	17																										
	01/07/2012 - 31/07/2012	25																										
	01/08/2012 - 31/08/2012	39																										
	01/09/2012 - 30/09/2012	28																										
	01/10/2012 - 31/10/2012	14																										
	01/11/2012 - 30/11/2012	14																										
	01/12/2012 - 31/12/2012	15																										
	01/01/2013 - 31/01/2013	16																										
	01/02/2013 - 29/02/2013	15																										
01/03/2013 - 31/03/2013	15																											
Monitoring equipment:	Not applicable																											
Measuring/ Reading/ Recording frequency:	Measuring: At each delivery Reading: At each delivery Recording: At each delivery																											
Calculation method (if applicable):	NA																											
QA/QC procedures:	No QA/QC is required as the maximum distance will be considered for calculation of leakage due to transportation. Maximum distance is 39 km for the current monitoring period.																											

Purpose of data:	Data is used for Project emission calculation.
Additional comment:	-

D.3. Implementation of sampling plan

>>

This section is left blank intentionally as not applicable.

SECTION E. Calculation of emission reductions or GHG removals by sinks

E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

>>

Sample calculation for the baseline emissions calculation for the month of August 2012:

Option 1: As per the paragraph 20 of the applicable methodology AMS.I.D version 15:

“if fossil fuel is used, the electricity generation metered should be adjusted by deducting the electricity generation from fossil fuels using the specific fuel consumption and the quantity of the fossil fuel consumed”

Metered electricity generation for the month of August 2012 = 5,122.20 MWh

Power Gen using coal SFC based estimation = $FC_{coal,j,y} / SFC_{coal}$
 $= 656.96 \text{ tonne} / 0.839 \text{ tonnes of coal} / \text{MWh}$
 $= 783.03 \text{ MWh}$

Power Gen using rice husk - estimated based on SFC coal = $5,122.20 - 783.03$
 $= 4,339.17 \text{ MWh}$

Paragraph 22 of the applicable methodology AMS.I.D version 15:

“The amount of electricity generated using biomass fuels calculated as per paragraph 20 shall be compared with the amount of electricity generated calculated using specific fuel consumption and amount of each type of biomass fuel used. The lower of the two values should be used to calculate emission reductions.”

Power Gen using rice husk (based on SFC rice husk) = $Q_{biomass,y} / SFC_{rice\ husk}$
 $= 4,529.09 \text{ tonne} / 1.1089 \text{ tonnes of rice husk} / \text{MWh}$
 $= 4,084.31 \text{ MWh}$

Baseline emission reduction calculation:

Gross electricity generated = Min [Power Gen using rice husk : estimated based on SFC coal(MWh) , Power Gen using rice husk : based on SFC rice husk (MWh)]
 $= \text{Min} [4,339.17, 4,084.31 \text{ MWh}]$
 $= 4,084.31 \text{ MWh}$

Aux electricity = Gross electricity generated – electricity exported to grid + electricity imported from grid
 $= 5,122.20 - 4,496.29 + 1.83$
 $= 627.74 \text{ MWh}$

$EG_y = \text{Gross electricity exported to the grid} - \text{Aux electricity}$
 $= 4,084.31 \text{ MWh} - 627.74 \text{ MWh}$
 $= 3,456.57 \text{ MWh}$

$BE_y = EG_y * EF_y$

Where,

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

EG_y : Net electricity exported to the grid by the project activity during the year y in MWh,

EF_y : The emission factor of the grid to which the project activity exports electricity.

Grid Emission Factor = 0.805 tCO₂/MWh

$$BE_y = 3,456.57 \text{ MWh} * 0.805 \text{ tCO}_2/\text{MWh} \\ = 2,782.54 \text{ tCO}_2\text{e}$$

Option 2: Considering project emissions from coal

EG_y = Gross electricity generated – Aux electricity - Imported electricity

$$= 5,122.20 - 627.74 - 1.83 \\ = 4,492.63 \text{ MWh}$$

$$BE_y = EG_y * EF_y$$

$$= 4,492.63 * 0.805 \text{ tCO}_2/\text{MWh} \\ = 3,616.57 \text{ tCO}_2\text{e}$$

Baseline emission calculations for the complete monitoring period, 01/04/2012 – 31/03/2013 can be referred from Appendix 2.

E.2. Calculation of project emissions or actual net GHG removals by sinks

>>

Project Emissions due to Auxiliary Fuel (e.g. Diesel etc) consumption is estimated as per the following equation:

$$PE_{FC,j,y} = \sum FC_{i,j,y} \times COEF_{i,y}$$

Where

PE_{FC,j,y} = Are the CO₂ emissions from fossil fuel combustion in process j during the year y (tCO₂/yr);

FC_{i,j,y} = Is the quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr);

COEF_{i,y} = Is the CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

i = Are the fuel type (diesel) combusted in process j during the year y

The CO₂ emission coefficient COEF_{i,y} can be calculated using Option B (Option A is not followed as the chemical composition of fossil fuel type i is not available with PP) as follows:

Option B: The CO₂ emission coefficient COEF_{i,y} is calculated based on net calorific value and CO₂ emission factor of the fuel type i, as follows:

$$COEF_{i,y} = NCV_{i,y} \times EF_{CO2,i,y}$$

Where:

COEF _{i,y}	=	Is the CO ₂ emission coefficient of fuel type i in year y (tCO ₂ /mass or volume unit)
NCV _{i,y}	=	Is the weighted average net calorific value of the fuel type i in year y (GJ/mass or volume unit)
EF _{CO2,i,y}	=	Is the weighted average CO ₂ emission factor of fuel type i in year y (tCO ₂ /GJ)
i	=	Are the fuel types combusted in process j during the year y

Net calorific value of diesel = 0.000035 TJ/litre (Monitored Value: Average of the NCV values supplied by the fuel supplier)

Emission factor of diesel = 74.1 tCO₂/TJ (2006 IPCC Default value)

Project emission due to Diesel:

Month	Quantity of diesel used in the plant ⁸ (litres)	Project emissions (tCO ₂ e)
01/04/2012 - 30/04/2012	4542	11.95
01/05/2012 - 31/05/2012	232	0.61
01/06/2012 - 30/06/2012	5457	14.36
01/07/2012 - 31/07/2012	9375	24.66
01/08/2012 - 31/08/2012	10741	28.26
01/09/2012 - 30/09/2012	3307	8.70
01/10/2012 - 31/10/2012	2652	6.98
01/11/2012 - 30/11/2012	0	0.00
01/12/2012 - 31/12/2012	2255	5.93
01/01/2013 - 31/01/2013	12437	32.72
01/02/2013 - 29/02/2013	1975	5.20
01/03/2013 - 31/03/2013	2880	7.58
Total	55,853	147 (Rounded Up)

Project emission due to Coal:

Month	Quantity of coal used in the plant (tonnes)	Project emissions (tCO ₂ e)
01/04/2012 - 30/04/2012	764.00	1327.94
01/05/2012 - 31/05/2012	0.00	0.00
01/06/2012 - 30/06/2012	332.00	577.06
01/07/2012 - 31/07/2012	0.00	0.00
01/08/2012 - 31/08/2012	656.96	1141.89
01/09/2012 - 30/09/2012	0.00	0.00
01/10/2012 - 31/10/2012	0.00	0.00
01/11/2012 - 30/11/2012	0.00	0.00
01/12/2012 - 31/12/2012	0.00	0.00
01/01/2013 - 31/01/2013	451.32	784.46
01/02/2013 - 29/02/2013	0.00	0.00
01/03/2013 - 31/03/2013	0.00	0.00
Total	2204.28	3832(Rounded up)

E.3. Calculation of leakage

>>

The biomass assessment study carried out for the project activity revealed that:

- The rice husk used for the project activity is available within 50 km radial distance from the project site and the rice husk is transported within a distance of 50 km from the project site. Rice husk doesn't require any processing which results in significant emission.
- The quantity of biomass available in the region is more than 25% of the biomass utilized in the project activity.

Hence leakage has been neglected.

Therefore, **Leakage, LE_y =0.**

⁸ Since the procured Diesel quantity is more than the combusted Diesel quantity so for project emission calculation procured quantity is considered. This is conservative.

E.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks

As per Option 1

Period	Baseline Emissions	Project Emissions	Leakage emissions	Emission Reductions ⁹
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
01/04/2012 - 30/04/2012	4108.53	11.95	0	4096
01/05/2012 - 31/05/2012	5488.84	0.61	0	5488
01/06/2012 - 30/06/2012	4511.75	14.36	0	4497
01/07/2012 - 31/07/2012	2546.61	24.66	0	2521
01/08/2012 - 31/08/2012	2782.54	28.26	0	2754
01/09/2012 - 30/09/2012	3927.74	8.70	0	3919
01/10/2012 - 31/10/2012	5293.01	6.98	0	5286
01/11/2012 - 30/11/2012	5070.36	0.00	0	5070
01/12/2012 - 31/12/2012	4986.55	5.93	0	4980
01/01/2013 - 31/01/2013	1676.83	32.72	0	1644
01/02/2013 - 29/02/2013	4628.48	5.20	0	4623
01/03/2013 - 31/03/2013	5203.36	7.58	0	5195
Total	50224¹⁰	147¹¹	0	50073

As per Option 2

Period	Baseline emissions	Project emissions (coal)	Project emissions (Diesel))	Leakage emissions	Emission Reductions ¹²
	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
01/04/2012 - 30/04/2012	4841.52	1327.94	11.95	0	3501
01/05/2012 - 31/05/2012	5488.83	0.00	0.61	0	5488
01/06/2012 - 30/06/2012	4830.18	577.06	14.36	0	4238
01/07/2012 - 31/07/2012	2546.30	0.00	24.66	0	2521
01/08/2012 - 31/08/2012	3616.57	1141.89	28.26	0	2446
01/09/2012 - 30/09/2012	4823.17	0.00	8.70	0	4814
01/10/2012 - 31/10/2012	5292.97	0.00	6.98	0	5285
01/11/2012 - 30/11/2012	5070.36	0.00	0.00	0	5070
01/12/2012 - 31/12/2012	4986.44	0.00	5.93	0	4980
01/01/2013 - 31/01/2013	2109.70	784.46	32.72	0	1292
01/02/2013 - 29/02/2013	4628.48	0.00	5.20	0	4623
01/03/2013 - 31/03/2013	5203.33	0.00	7.58	0	5195
Total	53437¹³	3832	147¹⁴	0.0	49453

⁹ Rounded down values

¹⁰ Rounded down value

¹¹ Rounded up value

¹² Rounded down values

¹³ Rounded down value

¹⁴ Rounded up value

E.5. Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Item	Values estimated in ex-ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO ₂ e)	49,766	49,453

E.6. Remarks on difference from estimated value in registered PDD

>>

Emission reductions for the considered period (366 days) as per estimates in the PDD(tCO ₂ e)	Actual Emission Reduction for the monitoring period (tCO ₂ e)	Variation
49,766	49,453	-0.63%

There is decrease of 0.63 % in the actual emission reductions achieved during the current monitoring period from that stated in the revised registered CDM-PDD because of breakdown and outage of the plant.

E.7. Actual emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Item	Actual values achieved up to 31 December 2012		Actual values achieved from 1 January 2013 onwards	
Emission reductions or GHG removals by sinks (t CO ₂ e)	Monitoring Period	CER Issued	Monitoring Period	CER Issued
	26/01/2011 – 31/03/2011	10,346	01/01/2013-31/03/2013	11,110
	01/04/2011 – 31/03/2012	56,455 ¹⁵		
	01/04/2012-31/12/2012	38,343		

¹⁵ Under Issuance

Appendix 1. Contact information of project participants and responsible persons/ entities

Project participant and/or responsible person/ entity	<input checked="" type="checkbox"/> Project participant <input checked="" type="checkbox"/> Responsible person/ entity for completing the CDM-MR-FORM
Organization name	A.A. Energy Limited
Street/P.O. Box	No.101
Building	Nikalas Tower, Central Bazaar Road, Ramdaspath,
City	Nagpur,
State/Region	Maharashtra
Postcode	440 010
Country	India
Telephone	+91-712-6638432
Fax	+91-712-2420688
E-mail	aaenergyltd@yahoo.com
Website	
Contact person	Mr. Swapnil Agrawal
Title	Director
Salutation	Mr.
Last name	Agrawal
Middle name	
First name	Swapnil
Department	
Mobile	+919822571145
Direct fax	+91-712-2420688
Direct tel.	+91-712-6638432
Personal e-mail	swapnilagrawal@rediffmail.com

Appendix 2.

Option 1: Baseline emission calculation (for complete monitoring period) as per Para 22 of methodology:

Parameter	Gross electricity Generated	Gross electricity Generated using coal - SFC based estimation	Gross electricity generated using rice husk - estimated based on SFC coal	Gross electricity generated using rice husk - based on SFC rice husk	Gross electricity generated	Aux electricity	Net electricity exported to the grid EGy	Baseline Emissions
Month	MWh	MWh	MWh	MWh	MWh	MWh	MWh	tCO ₂ e
	[1]	[2]	[3] = [1] - [2]	[4]	[5] = MIN(3,4)	[6]	[7] = [5] - [6]	
01/04/2012 - 30/04/2012	6769.60	910.61	5858.99	8235.80	5858.99	755.23	5103.76	4108.53
01/05/2012 - 31/05/2012	7680.70	0.00	7680.70	10460.25	7680.70	862.26	6818.44	5488.84
01/06/2012 - 30/06/2012	6764.50	395.71	6368.79	8779.16	6368.79	764.13	5604.66	4511.75
01/07/2012 - 31/07/2012	3575.70	0.00	3575.70	3576.20	3575.70	412.21	3163.49	2546.61
01/08/2012 - 31/08/2012	5122.20	783.03	4339.17	4084.31	4084.31	627.74	3456.57	2782.54
01/09/2012 - 30/09/2012	6775.90	0.00	6775.90	5663.48	5663.48	784.30	4879.18	3927.74
01/10/2012 - 31/10/2012	7380.00	0.00	7380.00	10050.18	7380.00	804.83	6575.17	5293.01
01/11/2012 - 30/11/2012	7105.00	0.00	7105.00	9675.62	7105.00	806.41	6298.59	5070.36
01/12/2012 - 31/12/2012	6992.90	0.00	6992.90	9522.99	6992.90	798.43	6194.47	4986.55
01/01/2013 - 31/01/2013	2948.90	537.93	2410.97	3429.01	2410.97	327.96	2083.01	1676.83
01/02/2013 - 29/02/2013	6496.30	0.00	6496.30	8846.73	6496.30	746.63	5749.67	4628.48
01/03/2013 - 31/03/2013	7273.30	0.00	7273.30	9904.82	7273.30	809.50	6463.80	5203.36
Total	74885.00	2627.27	72257.73	92228.54	70890.44	8499.63	62390.81	50224¹⁶

¹⁶ Rounded down value

Option 2: Baseline emission calculation (for complete monitoring period): Considering project emissions from coal:

Parameter	Gross electricity generated	Auxiliary electricity consumption	Electricity import	Net electricity export	Baseline emissions
Month	MWh	MWh	MWh	MWh	tCO ₂ e
01/04/2012 - 30/04/2012	6769.6	755.23	0.06	6014.31	4841.52
01/05/2012 - 31/05/2012	7680.7	862.26	0.02	6818.42	5488.83
01/06/2012 - 30/06/2012	6764.5	764.13	0.15	6000.22	4830.18
01/07/2012 - 31/07/2012	3575.7	412.21	0.38	3163.11	2546.30
01/08/2012 - 31/08/2012	5122.2	627.74	1.83	4492.63	3616.57
01/09/2012 - 30/09/2012	6775.9	784.30	0.09	5991.51	4823.17
01/10/2012 - 31/10/2012	7380	804.83	0.05	6575.12	5292.97
01/11/2012 - 30/11/2012	7105	806.41	0.00	6298.59	5070.36
01/12/2012 - 31/12/2012	6992.9	798.43	0.14	6194.33	4986.44
01/01/2013 - 31/01/2013	2948.9	327.96	0.19	2620.75	2109.70
01/02/2013 - 29/02/2013	6496.3	746.63	0.01	5749.66	4628.48
01/03/2013 - 31/03/2013	7273.3	809.50	0.04	6463.76	5203.33
Total	74885	8499.63	2.96	66382.41	53437¹⁷

¹⁷ Rounded down value

Appendix 3.

Emission Reduction From 01/04/2012 to 31/12/2012

Parameter	Baseline emissions	Project emissions (coal)	Project emissions (Diesel))	Leakage emissions	Emission Reductions ¹⁸
Month	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
01/04/2012 - 30/04/2012	4841.52	1327.94	11.95	0.00	3501
01/05/2012 - 31/05/2012	5488.83	0.00	0.61	0.00	5488
01/06/2012 - 30/06/2012	4830.18	577.06	14.36	0.00	4238
01/07/2012 - 31/07/2012	2546.30	0.00	24.66	0.00	2521
01/08/2012 - 31/08/2012	3616.57	1141.89	28.26	0.00	2446
01/09/2012 - 30/09/2012	4823.17	0.00	8.70	0.00	4814
01/10/2012 - 31/10/2012	5292.97	0.00	6.98	0.00	5285
01/11/2012 - 30/11/2012	5070.36	0.00	0.00	0.00	5070
01/12/2012 - 31/12/2012	4986.44	0.00	5.93	0.00	4980
Total					38,343

Emission Reduction From 01/01/2013 to 31/03/2013

Parameter	Baseline emissions	Project emissions (coal)	Project emissions (Diesel))	Leakage emissions	Emission Reductions ¹⁹
Month	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e	tCO ₂ e
01/01/2013 - 31/01/2013	2109.70	784.46	32.72	0.00	1292
01/02/2013 - 29/02/2013	4628.48	0.00	5.20	0.00	4623
01/03/2013 - 31/03/2013	5203.33	0.00	7.58	0.00	5195
Total					11,110

¹⁸ Rounded down values

¹⁹ Rounded down values

Document information

Version	Date	Description
04.0	25 June 2014	<p>Revisions to:</p> <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>; • Editorial improvement.
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net anthropogenic GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	28 May 2010	EB 54, Annex 34. Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report		