Monitoring report form (Version 03.1)

Monitoring report

Title of the project activity	Chambal Power Limited's (CPL) proposed 7.5 MW biomass based power project at Rangpur, Kota District, Rajasthan, India
Reference number of the project activity	UN0347
Version number of the monitoring report	01.1
Completion date of the monitoring report	04/10/2013
Registration date of the project activity	08/05/2006
Monitoring period number and duration of this monitoring period	Monitoring Period Number :- 10 Duration :-01/07/2012 to 28/02/2013 (Both days included)
Project participant(s)	• Suryachambal Power Limited, India • EcoSecurities Capital Ltd., United Kingdom of Great Britain and Northern Ireland • EcoSecurities Capital Ltd., Switzerland • Effinergy Trading Ltd., Switzerland • Bunge Emissions Fund Limited, Switzerland • Agrinergy Ltd. Switzerland
Host Party(ies)	India
Sectoral scope(s) and applied methodology(ies)	Sectoral Scope(s) – 01: Energy industries (renewable/non-renewable sources) Applied monitoring methodology AMS. I. D., version 07 Renewable electricity generation for a grid.
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	33,505 t CO_2 e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	Total ERs = 18,581 t CO_2 e Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved from 01 June 2012 till 31 December 2012 =14,032 t CO_2 e Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved from 01 January 2013 to 28 February 2013 = 4,548 t CO_2 e

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

>>

Suryachambal Power Limited has established a biomass based grid connected power plant at village Rangpur, Kota district, Rajasthan, India. The main purpose of the project is to generate and export eco friendly biomass generated power to the Rajasthan Rajya Vidyut Prasaran Nigam Limited (RRVPNL), which is a Transmission company of the Rajasthan State Electricity Board (RSEB) and a part of the Integrated Northern Eastern Western North-Eastern Grid (NEWNE) formerly known as Northern Regional Electricity Grid. CPL has implemented a modern 7.5 MW Power Project based on mustard husk and stalks, corn cobs, bagasse and other available agricultural wastes as fuel. The project exports surplus power to RRVPNL after meeting the in-house auxiliary demand.

The Company was incorporate on 27th May 1997, and registered for CDM on 08th May 2006, the project was commissioned and started from 31st March 2006 and since it is in continuous operation.

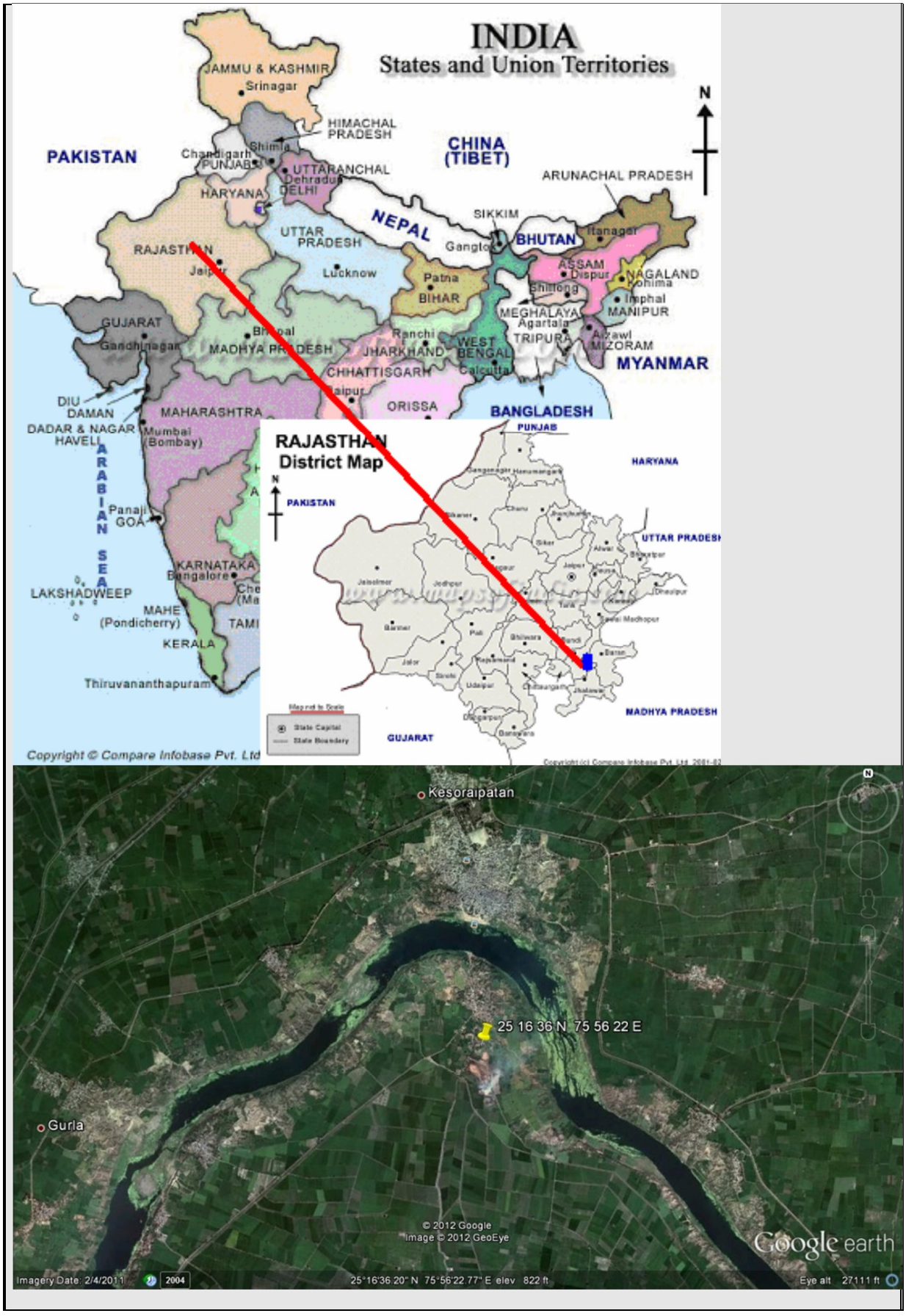
The power plant is based on Rankine Cycle. The steam generator is designed to operate on any biomass like mustard and soya husk and stalks, corncobs and bagasse to ensure consistent plant efficiency even in times of biomass efficiency, if any. There will be one 35 TPH, 67 kg/cm2, 450 +/- 5°C high pressure boiler and a single bleed cum condensing steam turbine generator (STG) of 7.5 MW capacity.

The total actual emission reductions achieved in this monitoring period (01/07/2012 to 28/02/2013) are 18581 tCO_2e.

A.2. Location of project activity

>>

The project is located at Rangpur village area of Kota District, Rajasthan State, India, which is about 8 km from Kota railway station towards north direction and about 1 km south of village Rangpur. The latitude & longitude of the site are 25°16'36'' North & 75°56'22'' East. The location map is as follows:


INDIA
States and Union Territories
JAMMU & KASHMIR
Srinagar
HIMACHAL PRADESH
Shimla
Chandigarh
PUNJAB
UTTARANCHAL
Dehradun
DELHI
HARYANA
PAKISTAN
CHINA (TIBET)
ARUNACHAL PRADESH
NEPAL
SIKKIM
Gangtok
BHUTAN
Itanagar
UTTAR PRADESH
RAJASTHAN
Jaipur
Lucknow
Patna
BIHAR
ASSAM
Dispur
NAGALAND
Kohima
Shillong
Imphal
MANIPUR
MEGHALAYA
Agartala
TRIPURA
Aizawl
MIZORAM
GUJARAT
Gandhinagar
Bhopal
MADHYA PRADESH
Ranchi
JHARKHAND
WEST BENGAL
Calcutta
MYANMAR
CHHATTISGARH
Raipur
ORISSA
BANGLADESH
DIU
DAMAN
DADAR & NAGAR HAVELI
MAHARASHTRA
Mumbai (Bombay)
ARABIAN SEA
Panaji
GOA
KARNATAKA
Bangalore
LAKSHADWEEP
MAHE (Pondicherry)
KERALA
Thiruvananthapuram
RAJASTHAN
District Map
PUNJAB
HARYANA
PAKISTAN
UTTAR PRADESH
MADHYA PRADESH
GUJARAT
Copyright © Compare Infobase Pvt. Ltd
Kesoraipatan
25 16 36 N 75 56 22 E
Gurla
© 2012 Google
Image © 2012 GeoEye
Google earth
Imagery Date: 2/4/2011
2004
25°16'36.20" N 75°56'22.77" E elev 822 ft
Eye alt 27111 ft

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)	Suryachambal Power Limited	No
United Kingdom of Great Britain and Northern Ireland	EcoSecurities Capital Ltd.	No
Switzerland	EcoSecurities Capital Ltd. Effienergy Trading Ltd. Bunge Emissions Fund Limited Agrinergy Ltd. Switzerland	No No No No

A.4. Reference of applied methodology

>>

The approved baseline and monitoring methodology applied to the project activity is: "AMS. I. D, "Renewable electricity generation for a grid" version 07 valid from 27/11/2005.

Tool to calculate emission factor for an electricity system version 2.2.1 (EB63 Annex 19)

A.5. Crediting period of project activity

>>

Type: - Renewable Crediting
Start Date of Crediting period: - 01/03/2006

Length of Crediting period corresponding to this monitoring period: - 7 Years

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

>>

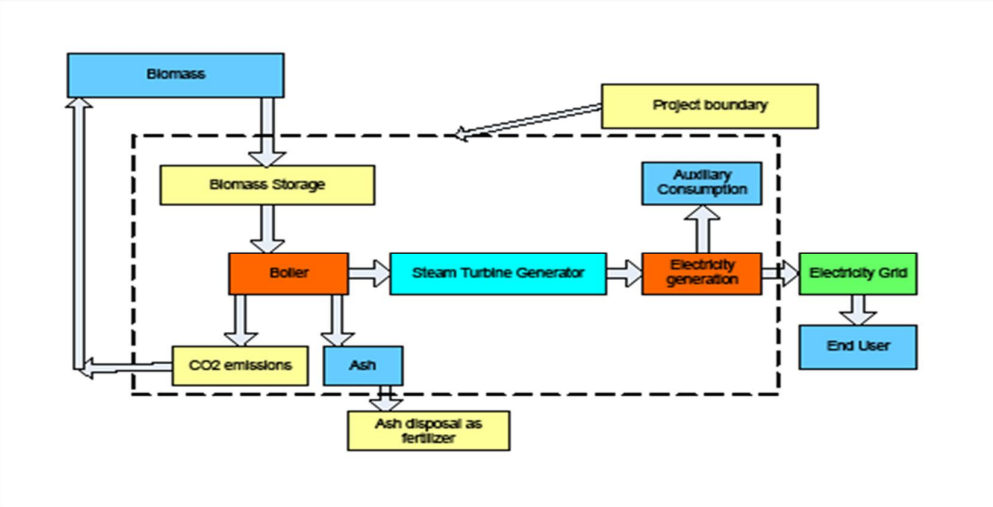
The power plant is based on Rankine Cycle. The steam generator is designed to operate on any biomass like mustard and soya husk and stalks, corncobs and bagasse to ensure consistent plant efficiency even in times of biomass efficiency, if any. There will be one 35 TPH, 67 kg/cm2, 450 +/- 5°C high pressure boiler and a single bleed cum condensing steam turbine generator (STG) of 7.5 MW capacity.

The 35 TPH of steam from boiler will be fed into condensing turbine. The boiler will be of fluidized bed combustion (FBC) type and will have the advantages of high thermal and combustion efficiency reducing quantity of husk needed, to a minimum, automatic operation for consistent high efficiencies and reduced need for manpower.

Steam turbine of fully condensing mode with suitable alternator generator will be installed for generating electricity. The turbine will be single cylinder, single exhaust fully condensing type, designed for high operating efficiencies and maximum reliability.

Along with the new 35-TPH boiler and the 7.5-MW turbo-generator (TG), the other auxiliary units of the plant would include: fuel handling system with storage and processing arrangements; ash handling system; air pollution control devices; cooling water system and cooling tower; de-mineralized (DM) water plant; compressed air system; fire protection system; air conditioning and ventilation; complete electrical system for power plant and grid interconnection including power evacuation, instrumentation and control systems etc.

A pictorial representation of the technical process is provided as below.



The Construction Activity of this project was started in 2004 and subsequently the Plant was commissioned on 31st March 2006 when the power generated by the unit was fed to the RVPNL Grid. This power plant is under operation 31st March 2006 onwards round the year. Relevant dates for the project activity are mentioned as below:

Project Commissioned: 31/03/2006
CDM Registration date: 08/05/2006
1st Monitoring Period: 01/03/2006 to 30/06/2007
2nd Monitoring Period: 01/07/2007 to 31/12/2007
3rd Monitoring Period: 01/01/2008 to 31/08/2008
4th Monitoring Period: 01/09/2008 to 31/03/2009
5th Monitoring Period: 01/04/2009 to 31/01/2010
6th Monitoring Period: 01/02/2010 to 30/09/2010
7th Monitoring Period: 01/10/2010 to 31/03/2011
8th Monitoring Period: 01/04/2011 to 31/10/2011
9th Monitoring Period: 01/11/2011 to 30/06/2012
10th Monitoring Period:01/07/2012 to 28/02/2013 (current One)

B.2. Post registration changes

B.2.1. Temporary deviations from registered monitoring plan or applied methodology

>>

No temporary deviations from registered monitoring plan or applied methodology observed during this Monitoring period.

B.2.2. Corrections

>>

No corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.

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

>>

Monitoring Plan is revised during second verification of the project activity and same has been approved by CDM Executive Board on 10/08/2008. The registered monitoring plan was revised to include grid emission factor as ex-post monitoring parameter in monitoring plan.

No revision in monitoring plan observed in current monitoring period.

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

>>

No any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.

B.2.5. Changes to start date of crediting period

>>

No changes to the start date of the crediting period have been approved during this monitoring period or submitted with this monitoring report.

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

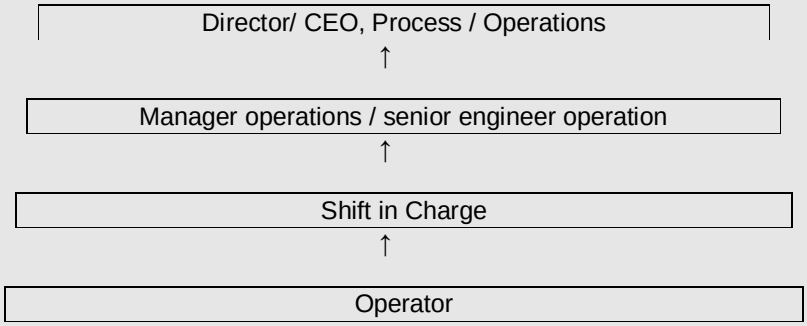
>>

No changes specified to afforestation or reforesation project activity have been applied during this monitoring period based on applicable provision in the project standard that do not require prior approval by the board.

SECTION C. Description of monitoring system

>>

The Following structure of monitoring and reporting-



Role and responsibility:-

1) Director/ CEO, Process / Operations:-

- Decision on the contents of the training program
- Ensuring implementation of monitoring procedures
- Internal audit and project conformance review

2) Manager operations / senior engineer operation:-

- Organizing and conduct training program
- Implementing all monitoring control procedure
- Association with Manager QA toward maintenance and calibration of monitoring equipment
- Has the overall responsibility for record handling and maintenance
- Reviewing of records and dealing with monitoring data
- Organizing internal audit for checking the data recorded
- Has the overall responsibility for closing project non conformance and Implementing
- Corrective actions before the verification

3) Shift In charge:-

- Supervision and training the operators and maintaining training records
- Has the overall responsibility of monitoring measurement and reporting
- Will assist the Manager Operations in record handling, record checks and review during internal

audit

- Check the data recorded by the operation in the individual sections as described in section D

4) Operator:-

The responsibility of operator to record appropriate data of the project activities represented in the monitoring table. Based on the monitoring frequency, the operator will measure and record the data in the logbook as per the instruction of his supervisor. The operational procedures for the training, emergency preparedness, maintenance and calibration of monitoring equipment, monitoring measurements and reporting, record handling and maintenance, reviewing monitoring data, internal audit, performance reviews and corrective action are available at the plant.

Baseline emission calculated on the basis of Net electricity exported to Grid Sub Station as per meter installed at GSS owned and controlled by RVPNL. The same data also used for billing purposed and verified by RVPNL and DISCOMs officials.

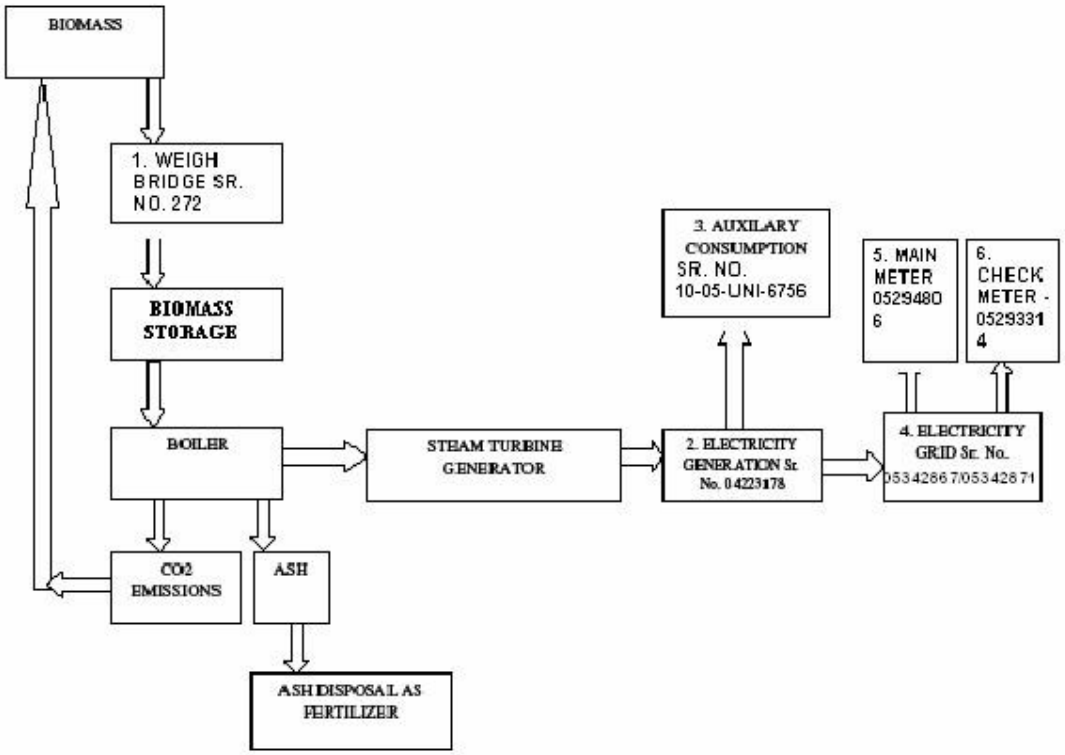
There are two meters installed at premises of Grid Sub Station of RRVPNL of 0.2s class, one as main meter (Sr. No. 05294806) and another as check meter (Sr. No. 05293314). Both the meters are calibrated periodically. Data for both the meters are taken through MRI (Meter Reading Instruments) and verified by RVPNL and DISCOMs officials on Joint Meter Reading (JMR).In case of failure of main meter data for the check meter can be used.

There is one more meter (Sr. No. 05342867)***** of 0.2s class installed at Switch yard of plant premises from where electricity is feed to RVPNL GSS through transmission line. Data of this meter is used for of electricity exported to GSS from plant and line loss there on. This meter is also calibrated periodically.

Note *****: Previous meter (Sr. No. 05342867) has been now replaced with new meter (Sr. No.05342871) during the current monitoring period.

SCPL – MONITORING REPORT

A pictorial representation of the location of the monitoring equipment involved in project activities: -



Monitoring Equipment Calibration Details

Sr. No.	Details of Meter	Sr. No. of Meter	Date of Calibration	Date of Validity Calibration	Date of Previous Calibration
1	Weigh Bridge	272	21/01/2013	05/02/2014	06/02/2012
2	Generation Meter	04223178	03/08/2012	02/08/2013	04/08/2011
3	Auxiliary Consumption Meter	10-05-UNI-6756	03/08/2012	02/08/2013	04/08/2011
4	Export Meter (Plant)	05342867	03/08/2012	02/08/2013	04/08/2011
5	Export Meter, Main (GSS)	05294806	03/08/2012	02/08/2013	04/08/2011
6	Export Meter, Check (GSS)	05293314	03/08/2012	02/08/2013	04/08/2011
7	Export Meter (Plant)	05342871	03/08/2012	02/08/2013	04/08/2011

SECTION D. Data and parameters

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

Data / Parameter:	**Density of fuel**
Unit:	**Kg/Litre**
Description:	Here fuel is referred to diesel which being consumed while biomass transporting to the project site.
Source of data:	Laboratory record (Archived on paper)
Value(s) applied):	0.89
Purpose of data:	Leakage emission calculations
Additional comment:	Density of fuel (Diesel) had been measured in house laboratory through sample testing. This parameter will be fixed through out crediting period.

Data / Parameter:	**Capacity of vehicle**
Unit:	**MT**
Description:	This parameter referred to capacity of the vehicle being used for transportation of biomass to the project site.
Source of data:	Weigh Bridge Register (Archived on paper)
Value(s) applied):	Truck 10 MT and Trolley 3.5 MT
Purpose of data:	Leakage emission calculations
Additional comment:	This parameter indicates capacity of the vehicle transporting biomass to be project site and it will be fixed for throughout crediting period.

Data / Parameter:	**Coal Caloric Value**
Unit:	**Kcal/Kg**
Description:	This parameter referred to calorific value of fossil fuel (Coal) used if any
Source of data:	Laboratory record (Archived on paper)
Value(s) applied):	-
Purpose of data:	Calculation of project emissions.
Additional comment:	Not applicable as no fossil fuel (Coal) is used since start of the project activity as well as in current monitoring period.

D.2. Data and parameters monitored

Data / Parameter:	**Total electricity generated**
Unit:	**kWh**
Description:	This parameter referred to electricity generation from the project activity measured in plant premises.
Measured/ Calculated / Default:	Measured
Source of data:	Log book record (Electronically archived)
Value(s) of monitored parameter:	273,80,200
Monitoring equipment:	Monitoring equipment – Energy Meter Type- ER300P Accuracy class- 0.5s Serial number- 4223178 Calibration frequency- Annual Date of last calibration – 03/08/12, (Previous calibration date 04/08/11) Validity- Till 02/08/13
Measuring/ Reading/ Recording frequency:	Shift wise
Calculation method (if applicable):	-
QA/QC procedures:	Internal QA /QC procedure are available at the project site and same is being followed for data monitoring and archiving, this data is being continuously monitored through DCS
Purpose of data:	This parameter is not used for baseline emissions calculations. But this is used only for cross checking the parameter “net electricity exported to grid”
Additional comment:	

Data / Parameter:	**Auxiliary Consumption**
Unit:	**KWh**
Description:	This parameter referred to electricity Auxiliary Consumption by the project activity measured in plant premises.
Measured/ Calculated / Default:	Measured
Source of data:	Log book record (Electronically archived)
Value(s) of monitored parameter:	28,44,820
Monitoring equipment:	Monitoring equipment – Energy Meter Type- Power Pro Accuracy class- 1.0 Serial number- 10-05-UNI-6756 Calibration frequency- Annual Date of last calibration –03/08/12, (Previous calibration date 04/08/11) Validity- Till 02/08/13

Measuring/ Reading/ Recording frequency:	Shift wise
Calculation method (if applicable):	-
QA/QC procedures:	Internal QA /QC procedure are available at the project site and same is being followed for data monitoring and archiving ,this data is being continuously monitored through DCS
Purpose of data:	This parameter is not used for baseline emissions calculations. But this is used only for cross checking the parameter "net electricity exported to grid"
Additional comment:	

Data / Parameter:	**Power Export**
Unit:	**kWh**
Description:	This parameter referred to electricity Export to the grid by the project activity and it is being measured at RRVPNL
Measured/ Calculated / Default:	Measured
Source of data:	Joint Meter Reading (Electronically archived)
Value(s) of monitored parameter:	237,60,200
Monitoring equipment:	Monitoring equipment – Energy Meter Type- ER300P Accuracy class- 0.2 Serial number- 5294806 Main Meter, 5293314 Check Meter Calibration frequency- Annual Date of last calibration –03/08/12, (Previous calibration date 04/08/11) Validity- Till 02/08/13
Measuring/ Reading/ Recording frequency:	Shift wise-Power Exported to GSS continuously monitored at DCS at Plant and it is recorded Hourly and shift wise. Data at GSS is recoded continuously in GSS meter and arrived monthly basis through MRI(Monthly Reading Instruments)
Calculation method (if applicable):	-
QA/QC procedures:	Internal QA /QC procedure are available at the project site and same is being followed for data monitoring and archiving, this data is being continuously monitored through DCS
Purpose of data:	Calculation of baseline emissions.
Additional comment:	

Data / Parameter:	**Biomass Quantity**
Unit:	**MT**
Description:	This parameter referred to Quantity of Biomass transported to the project site.

Measured/ Calculated / Default:	Measured
Source of data:	Weigh Bridge Register (Archived on paper)
Value(s) of monitored parameter:	8548.338 MT
Monitoring equipment:	Monitoring equipment –Weigh Bridge Type- Electronic Road Weigh Bridge Accuracy class- 5kg Serial number- 272 Calibration frequency- Annual Date of last calibration – 21/01/2013,(Previous calibration date – 06/02/2012) Validity- Till 05/02/2014 as per calibration certificate.
Measuring/ Reading/ Recording frequency:	Daily
Calculation method (if applicable):	-
QA/QC procedures:	Internal QA /QC procedure are available at the project site and same is being followed for data monitoring and archiving,
Purpose of data:	Calculation of leakage emissions
Additional comment:	

Data / Parameter:	**Biomass Calorific Value**
Unit:	**Kcal/Kg**
Description:	This parameter referred to Calorific Value of the biomass being used in project activity.
Measured/ Calculated / Default:	Measured
Source of data:	Laboratory record (Archived on paper)
Value(s) of monitored parameter:	2,953 (Average)
Monitoring equipment:	Monitoring equipment – Bomb Calorimeter Type- Macro Scientific Works, MSW - 506 Accuracy class- 0.1 Serial number- 3284 Calibration frequency- Annual Date of last calibration –27/08/2012, (Previous calibration date-30/08/2011,) Validity- Till 26/08/2013
Measuring/ Reading/ Recording frequency:	Fortnightly
Calculation method (if applicable):	-

QA/QC procedures:	Internal QA /QC procedure are available at the project site and being followed for data monitoring and archiving,
Purpose of data:	This parameter is not used for baseline emissions calculations. Biomass calorific value is used for cross checking the parameter "net electricity exported to export
Additional comment:	

Data / Parameter:	**Coal Quantity**
Unit:	**MT**
Description:	This parameter referred to coal consumption in the project activity if any
Measured/ Calculated / Default:	Measured
Source of data:	Log Book records (Archived on paper)
Value(s) of monitored parameter:	-
Monitoring equipment:	Monitoring equipment –Weigh Bridge Type- Electronic Road Weigh Bridge Accuracy class- 5kg Serial number- 272 Calibration frequency- Annual Date of last calibration – 21/01/2013, (Previous calibration date – 06/02/2012) Validity- Till 05/02/2014 as per calibration certificate. It is being used for Quantity of Biomass transported, the same can be used for Coal quantity also, if required
Measuring/ Reading/ Recording frequency:	Daily, Coal is not used since start of the project activity as well as in current monitoring period.
Calculation method (if applicable):	-
QA/QC procedures:	Internal QA /QC procedure are available at the project site and being followed for data monitoring and archiving.
Purpose of data:	Calculation of project emissions.
Additional comment:	

Data / Parameter:	**Distance of procurement**
Unit:	**Km**
Description:	This parameter referred to distance of procurement of biomass for the project activity.
Measured/ Calculated / Default:	Calculated
Source of data:	Gate Entry slip, Letter from biomass supplier. (Archived on Paper)
Value(s) of monitored parameter:	50

Monitoring equipment:	-
Measuring/ Reading/ Recording frequency:	Daily
Calculation method (if applicable):	This parameter is being calculated at vehicle entry gate and at is being recorded in gate entry slip.
QA/QC procedures:	Internal QA /QC procedure are available at the project site and being followed for data monitoring and archiving.
Purpose of data:	Calculation of leakage.
Additional comment:	

Data / Parameter:	**Mileage of Vehicles**
Unit:	**Km/Litre**
Description:	This parameter referred to the mileage of the vehicle being used for transportation of biomass to be project site.
Measured/ Calculated / Default:	Estimated
Source of data:	Letter from biomass supplier (Archived on paper)
Value(s) of monitored parameter:	3.5
Monitoring equipment:	-
Measuring/ Reading/ Recording frequency:	Monthly
Calculation method (if applicable):	
QA/QC procedures:	Internal QA /QC procedure are available at the project site and being followed for data monitoring and archiving.
Purpose of data:	Calculation of leakage.
Additional comment:	

Data / Parameter:	**Northern Grid CO_2 emission factor**
Unit:	**tCO_2/MWh**
Description:	This parameter being used for calculation of base line emission of the project activity.
Measured/ Calculated / Default:	Calculated by Central Electricity Authority, Govt. of India
Source of data:	CEA's CO_2 baseline database, version 8.0 http://www.cea.nic.in/reports/planning/cdm_co2/database_8.zip

Value(s) of monitored parameter:	0.7845
Monitoring equipment:	-
Measuring/ Reading/ Recording frequency:	Annual
Calculation method (if applicable):	Latest CEA's CO_2 baseline database is used for the calculation of weighted average grid emission factor.
QA/QC procedures:	
Purpose of data:	Calculation of baseline emissions.
Additional comment:	

D.3. Implementation of sampling plan

>>

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

>>

Baseline emissions will be calculated by multiplying the total power exported to the grid with net baseline emission factor, as applicable for every monitoring period.

$BE = TP_{exp} \times NEFB$

Where,
BE = Baseline Emissions per annum (tones/year)
TP_{exp} = Total clean power export to grid per annum
NEFB = Net baseline emission factor

Baseline Emissions

Emission Reduction Calculations	Value	Units
CO_2 Emission Factor	0.7845	$KgCO_2/kWh$
Net Electricity Exported	237,60,200	kWh
Total Baseline Emission	186,39,877	$KgCO_2e$
Total Baseline emission	18,639	TCO_2e

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

>>

No project emissions are involved for the project activity as no fossil fuel i.e. coal is consumed in the project activity ever since start of the project activity.

E.3. Calculation of leakage

>>

The leakage activity identified, which contributes for GHG emissions outside the project boundary is transportation of biomass from biomass collection centres to biomass power project site.

Leakage will be calculated as per below:

$$\text{Leakage} = \frac{Q_{bio} \times D_p \times N_y \times D_n \times C_v \times C_f \times E_f}{C_t \times M}$$

Q_{bio} = Quantity of biomass transported (MT/day)
C_t = Capacity of truck/vehicle carrying biomass (MT)
D_p = Distance of procurement including return journey of vehicle (km)
M = Mileage of vehicle (km/litre)
N_y = No. of days in a year
D_n = Density of fuel (Kg/litre)
C_v = Calorific value of fuel (Kcal/kg)
C_f = Conversion factor from Kcal to Trillion Joules (TJ)
E_f = Emission factor of fuel (tones CO_2/TJ)

1	Biomass quantity	MT	8548.338 MT
2	Biomass calorific value	KCal/kg	Average calorific Value for the monitoring period is 2953.46 Kcal/kg
3	Coal quantity	MT	0
4	Coal calorific value	KCal/kg	NA
5	Average distance of procurement	Km	50 Km
6	Mileage of vehicle	Km/Liter	Truck - 3.5 Tractor – 3.5
7	Density of fuel	Kg/Liter	0.89
8	Average capacity of vehicle	MT	Truck – 10.0 Trolley – 3.5
9	Leakage emission	tCO_2	58

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

Item	Baseline emissions or baseline net GHG removals by sinks (t CO_2e)	Project emissions or actual net GHG removals by sinks (t CO_2e)	Leakage (t CO_2e)	Emission reductions or net anthropogenic GHG removals by sinks (t CO_2e)
01/07/12 to 28/02/13	18,639	0	58	18,581

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_2e)	33,505	18,581

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

>>
Emission reduction (tCO_2e) reduced due to-

1. Reduction in CO_2 emission factor (Net weight Average tCO_2/MWh) from 0.94288 to 0.7845
2. Less electricity unit supplied to DISCOMs due to higher plant shut down period.

Excess leakage emission due to more biomass transport during the period, due to distance of biomass transportation (from both sides) increased from 30 km to 50 km.

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_2e)	14,032	4,548

- - - - -

Document information

Version	*Date*	*Description*
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, performance monitoring