



**Monitoring report form
(Version 03.0)**

Monitoring report

Title of the project activity	Waste heat recovery from Process Gas Compressors (PGCs), Mumbai high south (offshore platform) and using the recovered heat to heat process heating oil
Reference number of the project activity	0814
Version number of the monitoring report	01
Completion date of the monitoring report	06/12/2012
Registration date of the project activity	05/02/2007
Monitoring period number and duration of this monitoring period	03 rd 01/07/2010 – 30/06/2012 (First and last days included)
Project participant(s)	Oil and Natural Gas Corporation Limited
Host Party(ies)	India
Sectoral scope(s) and applied methodology(ies)	Small scale methodology AMS-II.D (Ver 07, 28th November 2005) Type II. Energy efficiency improvement projects Category D - Energy efficiency and fuel switching measures for industrial facilities.
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	10640 tCO ₂
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	10789 tCO ₂

SECTION A. Description of project activity**A.1. Purpose and general description of project activity**

>> The project activity recovers heat from the exhaust flue gases of two 'Process Gas Compressors' (PGC), (used for compressing the associated gas in crude oil production activities), installed at ONGC's offshore Mumbai South platform (MSP). The MSP is a new platform and the waste heat recovery system is installed with the process gas compressor. This is the first platform in ONGC having process gas compressor with waste heat recovery unit. ONGC has installed waste heat recovery units (WHRU) at each of the PGC exhaust points, and the waste heat is used to heat process oil which is further used to heat various process streams in the crude oil production activities. The project activity has reduced the consumption of fossil fuels (natural gas), which would otherwise be used for heating of process oil for crude oil production activities.

The WHRU is designed to extract heat from exhaust flue gases of process gas compressors and heat the well fluid and glycol reboiler in the glycol regeneration system. In the project activity the exhaust flue gases from PGC, which are at a very high temperature (approximate 450-500 deg C), is brought into contact with circulating process oil through a WHRU. The waste heat of exhaust flue gases of PGC is gained by the process oil, which is circulated from discharge of hot oil pump to the WHRU, through heat transfer. The hot process oil is circulated through two glycol re-boilers in the glycol regeneration system to heat glycol solution. Total GHG emission reductions achieved in this monitoring period is 10789 tCO₂. The units are in continuous operations since the date of commissioning i.e. 31/05/2005 except some shut downs due to operational and maintenance requirements.

Brief description of the installed technology and equipments The waste heat recovery unit is designed to extract heat from the exhaust flue gases of process gas

compressors and further used to heat well fluid and glycol re-boiler in the glycol regeneration system. The system includes hot process oil expansion tank, hot process oil circulation pumps, hot process oil filters, hot process oil dump coolers and well fluid heaters. The recirculation of hot process oil takes place from the discharge of the hot process oil pump to the waste heat recovery units for picking up the heat from the exhaust flue gases. The hot process oil after picking up heat in the WHRU is available at 230 °C. Hot process oil is then circulated through (a) two glycol re-boilers in the glycol regeneration system to heat the glycol solution and (b) well fluid heaters to heat the well fluid. The outlet hot process oil from the heaters and re-boilers is collected back in the header, which is connected to hot process oil expansion tank. The cold hot process oil from this expansion tank is in continuous recirculation. The flow diagram is shown below:

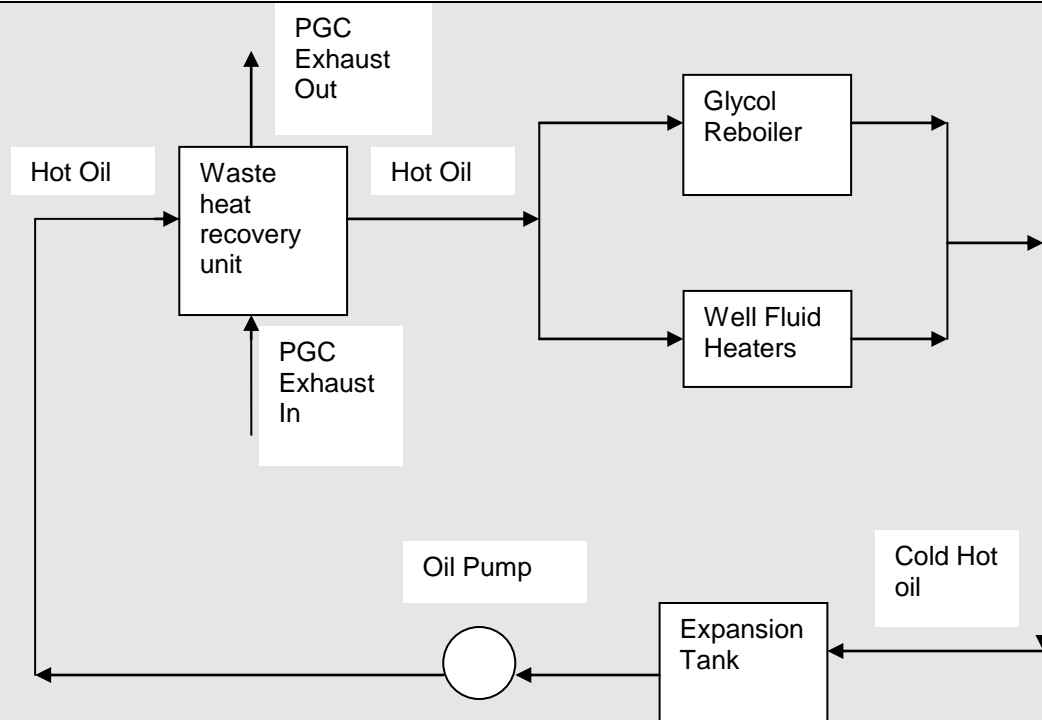


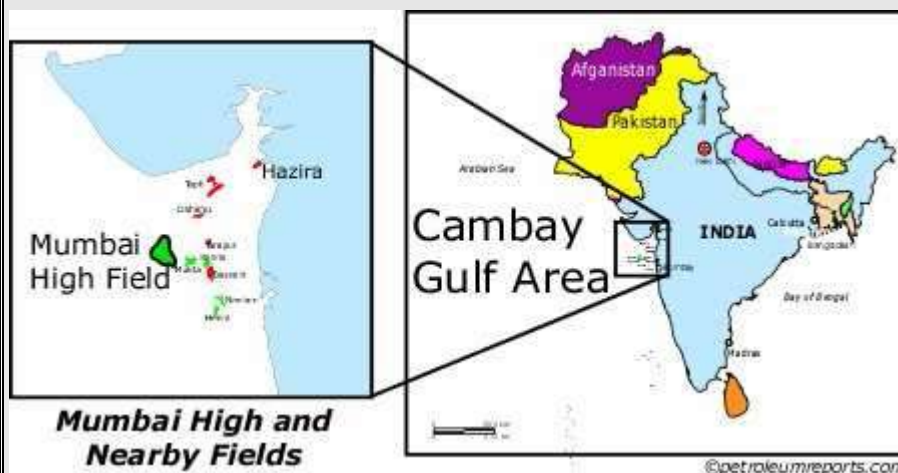
Fig A.1 Process flow diagram of the waste heat recovery system

A.2. Location of project activity

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Mumbai High Asset, Mumbai Offshore, India

GPS coordinates: 19°21'45"N, 71°21'47" E



Mumbai High (MH) asset is approximately 200 km away from Mumbai Coastal area. The figure A.1 shows the physical location of MH field in the Arabian Sea

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)
Government of India (host) Federal office for the Environment, Swiss Designated National Authority, Switzerland	Oil and Natural Gas Corporation Ltd. (ONGC)- Public entity	No

A.4. Reference of applied methodology

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Small scale methodology AMS-II.D (Ver 07, 28th November 2005)

Type II. Energy efficiency improvement projects

Category D - Energy efficiency and fuel switching measures for industrial facilities.

A.5. Crediting period of project activity

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05/02/2007 – 04/02/2017 (10 Years) – Fixed Crediting Period

Present Monitoring Period

01/07/2010 – 30/06/2012 (2 years)

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

>> The Waste heat recovery project operation was commissioned on 31/05/2005.

Due to the project activity, the energy required for the heating of process oil is supplied through WHRU, this results in net decrease in consumption of fossil fuel for the heating of process oil, thereby reducing the net GHG emissions to the atmosphere. So the project activity leads to reduction in net GHG emissions to the atmosphere. The project activity would result in net GHG emission reductions of 53,200 tCO₂ over the 10 years crediting period.

Train A - Shut Down Details

Date	Running hours	Downtime hours	Reason
31-07-10	18.00	06.00	Stopped for GG wash
01-08-10	12.30	11.30	Stopped for GG wash

14-08-10	23.30	00.30	Tripped-EGV-339 error
15-09-10	14.15	09.45	110V battery bank problem
16-09-10	0	24.00	
17-09-10	0	24.00	
18-09-10	0	24.00	
19-09-10	0	24.00	
20-09-10	0	24.00	
21-09-10	09.00	15.00	
22-09-10	09.00	15.00	
23-11-10	17.00	07.00	Stopped for GG wash
24-11-10	13.30	10.30	Stopped for GG wash
25-11-10	22.20	01.40	Tripped 1 st stage discharge pressure high
05-12-10	22.15	00.45	Tripped- seal gas system failure
18-12-10	22.35	00.25	Tripped- seal gas system failure
03-01-11	22.15	01.45	Stopped for Combustion Air filter cleaning
17-01-11	19.30	05.30	Stopped for GG wash
18-01-11	11.00	13.00	Stopped for GG wash
16-02-11	19.00	05.00	Tripped- ESD at BHS
14-03-11	12.45	11.15	Stopped for GG wash
21-04-11	20.45	03.15	Stopped for GG wash
22-04-11	12.15	11.45	Stopped for GG wash
23-04-11	19.30	04.30	Stopped for GG wash
24-04-11	12.30	11.30	Stopped for GG wash
11-05-11	23.30	00.30	Tripped-delayedT5 high
31-05-11	23.00	01.00	Stopped for GG wash
11-06-11	23.45	00.15	Tripped-delayedT5 high
17-06-11	17.30	06.30	Stopped for GG wash
18-06-11	13.15	10.45	Stopped for GG wash
22-06-11	22.05	01.55	Tripped- PSD at MSP
27-07-11	18.00	06.00	Stopped for GG wash
28-07-11	12.45	11.15	Stopped for GG wash
12-08-11	22.30	01.30	Tripped-EGF344 over temp
13-08-11	21.00	03.00	Tripped-EGF344 over temp
24-08-11	21.40	01.20	PSD occurred
27-08-11	17.15	06.45	Stopped for engine replacement
28-08-11	0	24.00	Stopped for engine replacement
29-08-11	0	24.00	Stopped for engine replacement
30-08-11	0	24.00	Stopped for engine replacement
31-08-11	0	24.00	Stopped for engine replacement
01-09-11	0	24.00	Stopped for engine replacement
02-09-11	0	24.00	Stopped for engine replacement
03-09-11	0	24.00	Stopped for engine replacement
04-09-11	0	24.00	Stopped for engine replacement
05-09-11	22.00	02.00	Stopped for engine replacement
07-09-11	20.40	03.20	Solar FSR Requirement
10-09-11	23.20	00.40	Yard valve sequence failure
19-09-11	17.25	06.35	PSD Occured
24-09-11	18.00	06.00	Over speed test
08-10-11	23.00	01.00	Instrument air pressure lo
16-11-11	06.25	17.35	GG Wash and other maint jobs
11-12-11	19.50	04.10	PSD at MSP
15-12-11	22.00	02.00	PSD at MSP
20-12-11	23.30	00.30	PSD at MSP
21-12-11	22.30	01.30	PSD at MSP
31-12-11	21.30	02.30	Air intake filters replacement
31-12-11	23.00	01.00	PSD at MSP
01-01-12	23.00	01.00	PSD at MSP
11-01-12	18.40	05.20	GG wash
12-01-12	15.15	08.45	GG wash
16-01-12	21.35	02.25	Seal gas vent pressure high

22-01-12	21.00	03.00	Suction scrubber knock out drum level high
22-02-12	22.55	01.05	Seal gas vent pressure high
12-03-12	20.00	04.00	GG wash
13-03-12	08.00	16.00	GG wash
26-03-12	22.00	02.00	Air intake filters replacement
15-04-12	23.10	00.50	Engine flame out
16-04-12	23.55	00.05	EBV error
18-04-12	21.50	02.10	Battery bank testing
06-05-12	18.15	05.45	GG wash
07-05-12	12.00	12.00	GG wash

Train B - Shut Down Details

Date	Running hours	Downtime hours	Reason
15-07-10	16.30	07.30	EBV338 drive fault
16-07-10	0	24.00	EBV338 drive fault
17-07-10	08.30	15.30	EBV338 drive fault
18-07-10	17.40	06.20	EBV338 drive fault
29-07-11	18.15	05.45	Stopped for GG wash
30-07-11	13.00	11.00	Stopped for GG wash
14-09-11	19.10	04.50	Stopped for GG wash
15-09-11	10.25	13.35	Stopped for GG wash
16-09-11	23.40	00.20	FL 409 lock out
23-09-11	08.50	15.10	110V battery bank checking
24-09-11	0	24.00	
25-09-11	0	24.00	
26-09-11	0	24.00	
27-09-11	19.50	05.10	
20-10-11	23.20	00.40	Tripped due to 1 st stage discharge pressure high
24-10-11	19.00	05.00	For MSP IS limiter
26-10-11	20.20	03.40	For MSP IS limiter
25-11-10	23.20	00.40	Tripped 1 st stage dis-charge pressure high
01-12-10	20.20	00.40	Stopped for GG wash
02-12-10	10.25	13.35	Stopped for GG wash
05-12-10	23.40	00.20	PGC-A tripping
16-12-10	22.50	01.10	Stopped for air intake filter Replacement
18-12-10	21.45	02.15	Stopped for GG wash
19-12-10	20.25	03.35	Tripped-seal gas pressure high
22-12-10	22.50	01.10	Tripped-HP seal gas pressure high
18-01-11	20.25	03.35	Stopped for GG wash
19-01-11	11.30	12.30	Stopped for GG wash
20-01-11	23.00	01.00	Tripped 54426 malfunction
03-02-11	20.35	00.25	Tripped - FL-372 command error
16-02-11	16.40	07.20	Tripped-ESD at BHS
18-02-11	23.15	00.45	Seal gas vent pressure high
16-03-11	18.00	06.00	Stopped for GG wash
17-03-11	13.20	10.40	Tripped-GG vibration high
20-04-11	18.15	05.45	stopped for GG wash
21-04-11	10.35	13.25	2 nd stage cooler fan belt damaged
11-05-11	23.15	00.45	Tripp-delayed T5 high
29-05-11	20.20	03.40	Tripped due to yard valve sequence failure
31-05-11	22.00	02.00	Tripped 1 st stage discharge pressure high
01-06-11	23.35	00.25	Tripped due to yard valve sequence failure
02-06-11	23.30	00.30	Tripped due to yard valve sequence failure
03-06-11	23.45	00.15	Tripped due to yard valve sequence failure
05-06-11	23.30	00.30	Tripped-engine flame out
06-06-11	21.00	02.00	EGV339 drive position error
11-06-11	23.45	00.15	Tripp-delayed T5 high

14-06-11	19.00	05.00	Stopped for GG wash
15-06-11	05.30	18.30	Stopped for GG wash
18-06-11	22.10	01.50	Tripped-GG vibration high
22-06-11	21.00	02.00	Tripped-PSD at MSP
26-06-11	22.45	01.15	Tripped due to yard valve sequence failure
25-07-11	22.00	02.00	Stopped for battery bank hook up
12-08-11	23.20	00.40	FL-369 XVPS35412 command error
13-08-11	17.50	06.10	Stopped for GG wash
14-08-11	09.00	15.00	Stopped for GG wash
15-08-11	23.40	00.20	Tripped due to yard valve sequence failure
24-08-11	21.25	02.35	Tripped-PSD occurred
29-08-11	23.45	00.15	Seal gas vent pressure high
30-08-11	11.00	13.00	PSD
20-09-11	22.15	01.45	PSD
08-10-11	22.25	01.35	Instrument air pressure low
21-10-12	19.30	04.30	GG wash
22-10-12	08.15	15.45	GG wash
11-12-11	21.20	02.40	PSD
13-12-11	21.40	02.20	GG wash
14-12-11	20.15	03.45	GG wash
15-12-11	09.30	14.30	GG wash & PSD
20-12-11	23.30	00.30	PSD
21-12-11	22.00	02.00	PSD
31-12-11	23.00	01.00	PSD
01-01-12	23.15	00.45	PSD
12-01-12	23.00	01.00	Valve command error
16-01-12	20.20	03.40	Seal gas vent pressure high
20-01-12	22.30	01.30	To make HT bus bar A5 dead
22-01-12	20.00	04.00	Tripped due to suction scrubber KOD level high high
12-02-12	20.00	04.00	GG wash
13-02-12	11.35	12.25	GG wash
22-02-12	22.25	01.35	Seal gas vent pressure high
21-03-12	22.00	02.00	Air intake filter DP high
02-04-12	19.50	04.10	GG wash
03-04-12	09.45	14.15	GG wash
16-04-12	23.50	00.10	Unloaded due to delayed T5
01-05-12	18.45	05.15	GG wash
02-05-12	04.45	19.15	GG wash
25-06-12	19.00	05.00	GG wash
26-06-12	11.30	12.30	GG wash

Train	Downtime hours	Reasons
A	632.35	Tripping/ Maintenance requirement etc.
B	512.55	Tripping/ Maintenance requirement etc.

B.2. Post registration changes

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

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No deviation is applied to the monitoring period.

B.2.2. Corrections

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Not applicable.

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

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Not applicable.

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

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Not applicable.

B.2.5. Changes to start date of crediting period

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Not applicable.

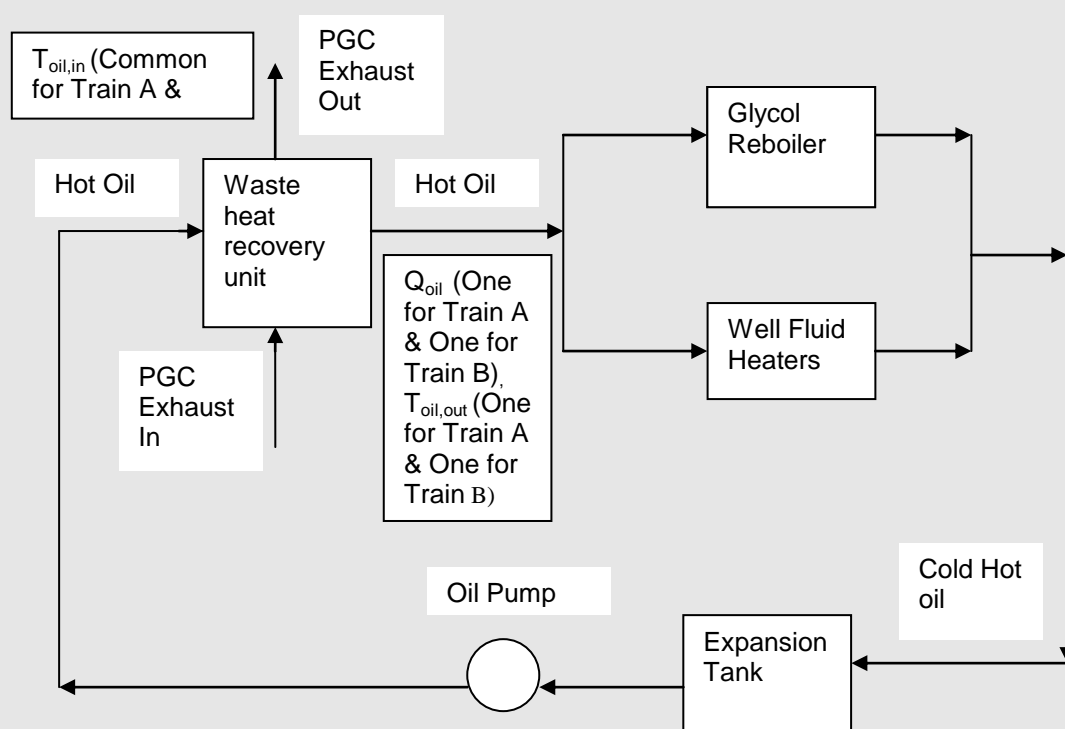
B.2.6. Types of changes specific to afforestation or reforestation project activity

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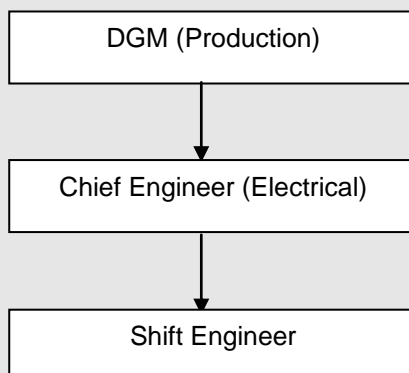
Not applicable.

SECTION C. Description of monitoring system

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**Roles & Responsibilities:**

The operational and management structure that is monitoring the project activity is shown below:



Roles and Responsibilities:**1. DGM (Production):**

- Has the overall responsibility of monitoring measurements and reporting.
- Internal audit and performance conformance review
- Reviewing of records and dealing with monitored data

2. Chief Engineer (Electrical):

- To assist DGM in record handling, record checks, and review
- To assist DGM in internal audits
- Check the data recorded by shift engineer

3. Shift Engineer:

- Collect and record appropriate data mentioned in the monitoring table as per the monitoring frequency.

Emergency procedures for the Monitoring system:

The equipment will either be repaired or replaced as the case is and the intervening period is shown as operational shut down. There is no alternative measurement system and emission reduction is shown zero for those periods.

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

There is no fixed ex ante parameter as per PDD.

Data / Parameter:	Not Applicable
Unit:	Not Applicable
Description:	Not Applicable
Source of data:	Not Applicable
Value(s) applied):	Not Applicable
Purpose of data:	Not Applicable
Additional comment:	Not Applicable

D.2. Data and parameters monitored

Data / Parameter:	Q _{oil} (PGC Train A)
Unit:	Tonne/hr
Description:	Flow rate of heating oil
Measured/ Calculated / Default:	Measured
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	Oil flow meter (FT 54410) Accuracy is $\pm 0.5\%$ Calibration: 19/12/2009, 10/06/2010, 29/12/2010, 23/06/2011, 22.12.2011 & 29.06.2012 Validity: Each calibration is valid for one year interval.
Measuring/ Reading/ Recording frequency:	Measured continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	Calibration of the meter has been done annually.
Purpose of data:	This is used for baseline emission calculations.
Additional comment:	Not Applicable

Data / Parameter:	Q_{oil} (PGC Train B)
Unit:	Tonne/hr
Description:	Flow rate of heating oil
Measured/ Calculated / Default:	Measured
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	Oil flow meter (FT 54420) Accuracy $\pm 0.5\%$ Calibration: 19/12/2009, 10/06/2010, 29/12/2010, 23/06/2011, 22.12.2011 & 29.06.2012 Validity: Each calibration is for one year interval.
Measuring/ Reading/ Recording frequency:	Measured continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	Calibration of the meter has been done annually.
Purpose of data:	This is used for baseline emission calculations.
Additional comment:	Not Applicable

Data / Parameter:	$T_{oil,in}$
Unit:	$^{\circ}C$
Description:	Inlet temp. of heating Oil
Measured/ Calculated / Default:	Measured
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	Temperature meter (TT 54541) Accuracy $\pm 0.5\%$ Calibration: 20/12/2009, 08/06/2010, 28/12/2010, 10/06/2011, 09.12.2011 & 30.06.2012 Validity: Each calibration is for one year interval.
Measuring/ Reading/ Recording frequency:	Measured continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	Calibration of the meter has been done annually.
Purpose of data:	This is used for baseline emission calculations.
Additional comment:	Not Applicable

Data / Parameter:	T _{oil,out}
Unit:	°C
Description:	Outlet temp. of heating Oil (PGC Tr A)
Measured/ Calculated / Default:	Measured
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	Temperature meter (TT54413) Accuracy ±0.5% Calibration: 21/12/2009, 09/06/2010, 28/12/2010, 10/06/2011, 09.12.2011 & 30.06.2012 Validity: Each calibration is for one year interval.
Measuring/ Reading/ Recording frequency:	Measured continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	Calibration of the meter has been done annually.
Purpose of data:	This is used for baseline emission calculations.
Additional comment:	Not Applicable

Data / Parameter:	T _{oil,out}
Unit:	°C
Description:	Outlet temp. of heating Oil (PGC Tr B)
Measured/ Calculated / Default:	Measured
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	Temperature meter (TT54423) Accuracy ±0.5% Calibration: 21/12/2009, 10/06/2010, 28/12/2010, 10/06/2011, 09.12.2011 & 30.06.2012 Validity: Each calibration is for one year interval.
Measuring/ Reading/ Recording frequency:	Measured continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	Calibration of the meter has been done annually.
Purpose of data:	This is used for baseline emission calculations.
Additional comment:	Not Applicable

Data / Parameter:	H
Unit:	<i>hours</i>
Description:	Running hours per day
Measured/ Calculated / Default:	Recorded
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	—
Measuring/ Reading/ Recording frequency:	continuously, Recorded daily.
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	—
Purpose of data:	Emission reduction calculation
Additional comment:	Not Applicable

Data / Parameter:	D
Unit:	<i>days</i>
Description:	Working days per Year
Measured/ Calculated / Default:	Recorded
Source of data:	Plant Data maintained in the log book.
Value(s) of monitored parameter:	Refer Excel sheet
Monitoring equipment:	—
Measuring/ Reading/ Recording frequency:	Recorded
Calculation method (if applicable):	Not Applicable
QA/QC procedures:	—
Purpose of data:	Emission reduction calculation
Additional comment:	Not Applicable

D.3. Implementation of sampling plan

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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**

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The baselie emissions have been calculated as explained below

$$E_d = Q_{oil} \times S_{oil} \times (T_{oil, in} - T_{oil, out}) \times H$$

E_d – Energy recovered by WHRU in a day d (GJ per day)

Q_{oil} - Flow rate of Heating Oil (Tonne/ Hour)

S_{oil} – Specific heat of Heating Oil (Kj/Kg/ $^{\circ}$ C)

$T_{oil, in}$ – Inlet temperature of Heating Oil ($^{\circ}$ C)

$T_{oil, out}$ – Outlet temperature of Heating Oil ($^{\circ}$ C)

H – Working hours per day (Hours)

$$E_y = \sum_1^d E_d$$

E_y – Energy recovered by WHRU in year y (GJ per year)

d – Working days per year (days)

Sample calculation for Energy saved on 01/06/2012 for PGC Tr A

$$E_d = Q_{oil} \times S_{oil} \times (T_{oil, in} - T_{oil, out}) \times H$$

E_d – Energy recovered by WHRU in a day d (GJ per day)

Q_{oil} - Flow rate of Heating Oil (Tonne/ Hour) = 154.65X0.649

S_{oil} – Specific heat of Heating Oil (Kj/Kg/ $^{\circ}$ C) = 2.661

$T_{oil, in}$ – Inlet temperature of Heating Oil ($^{\circ}$ C) = 202.702

$T_{oil, out}$ – Outlet temperature of Heating Oil ($^{\circ}$ C) = 227.307

H – Working hours per day (Hours)=24

$$E_d = 154.65 \times 0.649 \times 2.661 \times (202.702 - 227.307) \times 24 = -157.69$$

$$BE_y = E_y \times EF_{NG}$$

All the parameters have been monitored and details and the values recorded for each of the monitoring parameters is provided in the attached excel file

BE_y = Baseline emission for energy saved during year y

EF_{NG} – Emission Factor for Natural Gas (tCO₂e/GJ) (Source: IPCC 1996)

Sample calculation for Baseline emission for Jun 2012 for PGC Tr A

$$4449.346 \times 0.0561 = 249.6083 \sim 250 \text{ tCO}_2$$

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

>>

Not applicable.

E.3. Calculation of leakage

>>

Not applicable.

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 ₂ e)	Project emissions or actual net GHG removals by sinks (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions or net anthropogenic GHG removals by sinks (t CO ₂ e)
Total	10789	0	0	10789

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	Item	Values estimated in ex-ante calculation of registered PDD
Emission reductions or GHG removals by sinks (t CO ₂ e)	10640	10789	----	----

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

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The reason for the higher CER is better efficiency of the system during the monitoring period.

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)	25950 (05/02/2007 to 30/06/2012)	Nil

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
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		