CLEAN DEVELOPMENT MECHANISM
PROJECT DESIGN DOCUMENT FORM (CDM-SSC-PDD)
Version 03 - in effect as of: 22 December 2006

CONTENTS

Revision history of this document

Version Number	Date	Description and reason of revision
01	21 January 2003	Initial adoption
02	8 July 2005	• The Board agreed to revise the CDM SSC PDD to reflect guidance and clarifications provided by the Board since version 01 of this document. • As a consequence, the guidelines for completing CDM SSC PDD have been revised accordingly to version 2. The latest version can be found at <http://cdm.unfccc.int/Reference/Documents>.
03	22 December 2006	• The Board agreed to revise the CDM project design document for small-scale activities (CDM-SSC-PDD), taking into account CDM-PDD and CDM-NM.

SECTION A. General description of small-scale project activity

A.1 Title of the small-scale project activity:

>> Energy Efficiency at Durgapur Chemicals Ltd.
Version 1, 06/10/2007

A.2. Description of the small-scale project activity:

>>

Purpose of the project

The project activity is being carried out at the caustic soda manufacturing plants of Durgapur Chemicals Ltd. at Durgapur, West Bengal. It is aimed at replacing the existing technology with higher efficiency technology, thus contributing towards reduction in CO2 emission from its activities.

The project activity consists of energy efficiency measures by switching from Mercury Cell Technology to Membrane Cell Technology.

Durgapur Chemicals Ltd. current's capacity is 30 TPD of caustic soda which is based on Mercury Cell Technology and the project activity would be installation of 100 TPD of caustic soda manufacturing unit based on Membrane Cell Technology. The Mercury Cell based plant would be shut down and hence there would be substantial saving of electricity taken from the grid, thus reducing CO_2 emissions.

Durgapur Chemicals Ltd. is accredited with ISO 9001:2000, ISO 14001:2004.

These energy conservation measures have been taken by Durgapur Chemicals Ltd. with the view of:
· Switching to more energy efficient technology and hence conserving the natural resources.
· Reducing emissions of greenhouse gases (GHG), thus providing the community with a cleaner environment.

The company is also contributing to sustainable development by:
a) Complying fully to Corporate Responsibility for Environment Protection
b) Giving Financial Aid to the local schools.
c) Providing drinking water to the neighbouring village's.
d) Promoting social awareness towards Environment Protection by way of planting and preventing cutting of trees etc.

A.3. Project participants:

>> The Party which is hosting the proposed CDM project activity i.e. the host country for the CDM project activity is **India**.
India has already ratified the Kyoto Protocol on 26 August 2002 (Type A). Ratification details are available on the UNFCCC website.

Name of Party Involved (*) ((host) indicates a	Private and/or Public entity (ies) Project Participants (*)	Kindly indicate if the party involved wishes to be considered as a project participant (Yes / No)

host party)	as applicable	
Government of India (Host Country)	Durgapur Chemicals Ltd.	No
(*) In accordance with the CDM Modalities and procedures, at the time of making the CDM-PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting the registration, the approval by the party (ies) involved is required.		

As yet, the project activity has no Annex I party.

The entity who is investing in the project activity is Durgapur Chemicals Ltd., which is also the Project Participant for the project activity.

A.4. Technical description of the small-scale project activity:

A.4.1. Location of the small-scale project activity:

>>

A.4.1.1. Host Party(ies):

>> India

A.4.1.2. Region/State/Province etc.:

>> West Bengal

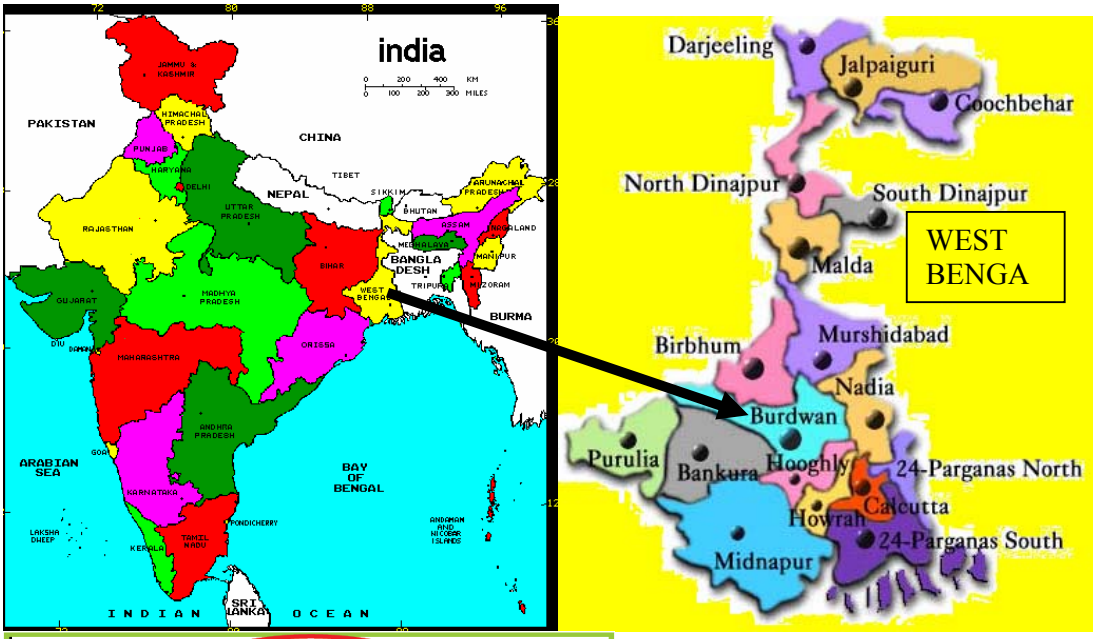
A.4.1.3. City/Town/Community etc:

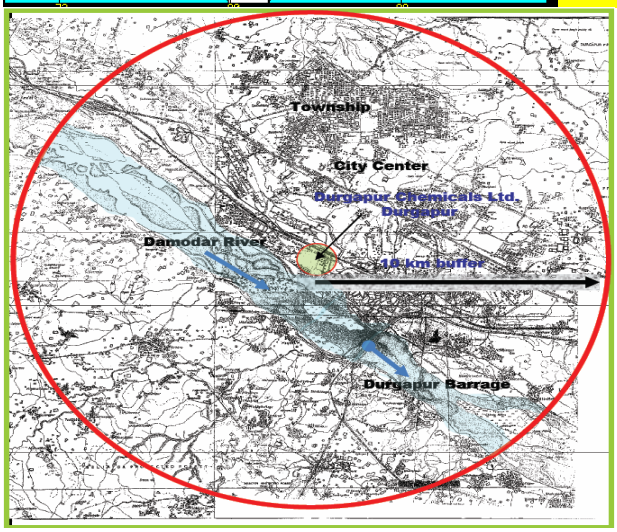
>> District : Burdwan
City : Durgapur

A.4.1.4. Details of physical location, including information allowing the unique identification of this small-scale project activity :

>> Durgapur Chemicals Ltd. is situated on the banks of River Damodar and the exact plant location is within 5 km from the Durgapur Railway Station.

The geographical co – ordinates of the plant are:
Latitude: 23°30’11” to 23°30’31” N
Longitude: 87°17’16” to 87°17’26” E





A.4.2. Type and category(ies) and technology/measure of the small-scale project activity:

>> Type and Category

Since, the emission reduction from the proposed project is 14,796 t CO2 (13.915GWH) which is less than the qualifying capacity of 60GWH, the project activity can be regarded as a small scale CDM project activity and UNFCCC indicative simplified modalities and procedures can be applied.

Technology

The project activity is a switch to more energy efficient technology in the manufacture of caustic soda, which leads to a reduction in the electricity consumed and hence reducing emission reductions

According to small-scale CDM modalities the project activity falls under- **Type II – Energy Efficiency Improvement Projects**
Category II D (Version - 10) – Energy Efficiency and Fuel Switching Measures for Industrial Facilities
The technology being used is completely safe and sound and has been developed by the leading technology providers from Japan.
Technology Transfer is taking place.

A.4.3 Estimated amount of emission reductions over the chosen crediting period:

>> Quantity of emissions reductions out of the project:
The annual emission reduction works out to be 14,796 tonnes of CO_2 equivalent and the total emission reduction for the first crediting period of 7 years (March 2008- February 2015) works out to be 103,572 tonnes of CO_2 equivalent.

year	Estimation of annual emission reduction in tonnes of CO2e
March 2008 – February 2009	14,796
March 2009 – February 2010	14,796
March 2010 – February 2011	14,796
March 2011 – February 2012	14,796
March 2012 – February 2013	14,796
March 2013 – February 2014	14,796
March 2014 – February 2015	14,796
Total Estimated Reductions (tCO_{2e})	103,572
No. of Crediting Years	7
Annual Average of Estimated Reductions over the Crediting Period	14,796

A.4.4. Public funding of the small-scale project activity:

>> No ODA has been utilised in the project activity.

A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity:

>> In accordance with Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project activities "DETERMINING THE OCCURANCE OF DEBUNDLING", it can be confirmed that this project activity is not a debundled component of a larger CDM project.

SECTION B. Application of a baseline and monitoring methodology

B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity:

>> According to small-scale CDM modalities the project activity falls under - **Type II – Energy Efficiency Improvement Projects**
Category II D (Version - 10) – Energy Efficiency and Fuel Switching Measures for Industrial Facilities

B.2 Justification of the choice of the project category:

>> The emission reduction from the project is 14,796 t CO2e (13.915GWH), which is less than the qualifying capacity of 60GWH and hence can adopt simplified methodologies. Hence, the type and category of the project activity matches with II.D. as specified in Appendix B of the indicative simplified baseline and monitoring methodologies for small scale CDM project activities.

B.3. Description of the project boundary:

>> According to the selected methodology project boundary is described as the physical and geographical site where the production process has been affected and the energy efficiency measure has been implemented. Hence, for the project activity the cell house is considered as the project boundary.

B.4. Description of baseline and its development:

>> Using the methodology available, in paragraph 9 of Type I D described in Annex B of the simplified modalities and procedures for small scale CDM project activities, the average of the approximate operating and build margin (in KgCO2e/Kwh) of current generation mix of Eastern Grid is used for calculation of baseline.

The baseline calculations are carried out as under:
The baseline is calculated using the combined margin approach. The baseline emission factor is calculated in the following steps:

Step 1: Calculation of Operating Margin Emission Factor
The operating margin emission factor has been calculated using a 3 year data vintage:
The $EF_{OM, Y}$ is estimated to be:
For the year 2003-2004 the $EF_{OM, Y}$ is 1.1958 tCO2/MWh
For the year 2004-2005 the $EF_{OM, Y}$ is 1.1745 tCO2/MWh
For the year 2005-2006 the $EF_{OM, Y}$ is 1.1254 tCO2/MWh
Thus the final EFOM,Y based on three years average is estimated to be **1.1655 tCO2/MWh**.

Step 2: Calculation of the Build Margin Emission Factor $EF_{BM, Y}$
The $EF_{BM, y}$ is estimated as **0.9671 tCO2/MWh**
(with sample group constituting most recent capacity additions to the grid comprising 20% of the system generation).

Step 3: Calculation of Baseline Emission Factor EF_y
The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM, y}$) and the Build Margin emission factor ($EF_{BM, y}$):
$\mathbf{EF_y = w_{OM} * EF_{OM, y} + w_{BM} * EF_{BM, y}}$

Where the weights w_{OM} and w_{BM}, are 50% and 50% respectively, and $EF_{OM,y}$ and $EF_{BM,y}$ are calculated as described in Steps 1 and 2 above and are expressed in tCO2/MWh.

Baseline Emission factor: **1.0633 tCO2/MWh**

Details of Baseline data:
Operating margin emission factor and Build Margin emission factor calculations:
Data of Operating and Build Margin for the three financial years from 2003 to 2006 has been obtained from –
'The CO2 Baseline Database for the Indian Power Sector'
Ministry of Power: Central Electricity Authority (CEA)
Version 2.0
Dated : 21st June 2007
This database is prepared as per ACM0002 version 6.

B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered small-scale CDM project activity:

>> Preliminary screening based on the starting date of the project activity

CDM was considered before the Project Activity was considered by Durgapur Chemicals Ltd. The project participants became cognizant of carbon credits and CDM activities through various seminars and conferences. This realization provided great boost to the decision of taking up the project.

Barrier Analysis

Investment Raising

Durgapur Chemicals Ltd. was incorporated in 1963 for manufacturing basic chemicals and since then has seen a lot of ups and downs in its business owing to a stiff competition, low pricing power for products and threat of low cost imports.

Hence the profitability of the company has always been low and by the year 2004-05 the company had accumulated losses of above Rs. 350 Crores.

The total cost of the project activity is Rs. 77.37 Crores which in normal circumstances would have to be funded by a portion of equity and debt but for Durgapur Chemicals Ltd. which had high accumulated losses, hence there was no chance of providing equity and hence the entire project activity had to be debt funded.

Durgapur Chemicals Ltd. had to improve its balance sheet as with such high accumulated losses arranging debt would not have been possible, under a restructuring package from the West Bengal Government converted all the accumulated losses into equity. Even after such restructuring the company had to face lot of difficulties in arranging the necessary debt. The company had to face a rejection from State Bank of India for its proposal vide reference no.- SME/11/05-06/LHO/88, dt-24.02.06.

With great difficulty Allahabad Bank decided to fund the company's project activity and hence the project activity achieved financial closure.

Chlorine Production

With increased caustic soda production the chlorine production also increases as it is a by product of the process, but chlorine due to its corrosive nature cannot be stored for long. Therefore Durgapur Chemicals Ltd. has to face this critical issue when going in for an expansion.

The available storage facilities for chlorine do not extend for more than a day or two, owing to which operations at a caustic soda plant is dependent on reliable sales of chlorine. To ensure that the proper disposal of chlorine happens Durgapur Chemicals Ltd, invited M/S Tara Mercantile Pvt. Ltd. to set up a Parrafinated Chlorine Wax plant. Although the MoU has been signed between the two companies, this presents a big risk in terms of the commissioning of the Parrafinated Chlorine Wax plant also getting commissioned at the same time as the Project Activity.

Thus to ensure the smooth operation of the caustic soda plant, Durgapur Chemicals Ltd. would have to also ensure proper offtake of the Chlorine by the parrafinated Chlorine Wax plant.

Prevailing Practise

In India about 70% of the caustic soda manufacturing units have shifted to the membrane cell technology but for Durgapur Chemicals Ltd. to shift to technology, it had to face the above mentioned barriers and hence it is not the same as the other companies which have undertaken the technology shift.

Impact of CDM Registration

On registration of the project activity, Durgapur Chemicals Ltd would be entitled to 14,796 CER's which at a price of €10 would fetch annual revenue of Rs. 0.81 Crores. The revenue from CER sale would go a long way in strengthening the confidence of the bank and also help in mitigating the loss that would occur in case of non disposal of chlorine.

B.6. Emission reductions:

B.6.1. Explanation of methodological choices:

>> The emission baseline is the current emissions of the facility.

The average of the last two year caustic soda production is taken for calculating the baseline emissions. The last two year production is multiplied by the electrical consumption per tonne in the existing scenario to get the baseline emissions.

B.6.2. Data and parameters that are available at validation:

(Copy this table for each data and parameter)

Data / Parameter:	**Average of last two year Caustic Soda Production**
Data unit:	Tonnes
Description:	Gives the average of the last two year caustic soda production in the plant
Source of data used:	Company Annual Reports
Value applied:	10,526
Justification of the choice of data or description of measurement methods and procedures actually	Data is being taken from the company Annual Reports which is an authentic source.

applied :	
Any comment:	

Data / Parameter:	**Consumption of Electricity per Tonne of Caustic Soda**
Data unit:	Kwh
Description:	Gives the amount of electricity consumed to produce 1 Tonne of Caustic Soda
Source of data used:	Plant Records
Value applied:	3,482 Kwh
Justification of the choice of data or description of measurement methods and procedures actually applied :	Data is being taken from the company Annual Reports which is an authentic source.
Any comment:	

B.6.3 Ex-ante calculation of emission reductions:

>> The project activity reduces carbon dioxide through an energy efficiency process. The emission reduction ERy due to project activity during a given year y is calculated as the difference between baseline emissions (BEy), project emissions (PEy) and emissions due to leakage (Ly) as per the formula given below:

ERy = BEy – PEy – Ly

where

BE y Baseline emissions (Please refer section B)

PE y Project emissions; PE y = 0 for project activity

Ly Emissions due to leakage; Ly = 0 for project activity, over crediting period (7 years)

Project Emissions

YEAR	March 2008 – Feb 2009	March 2009 – Feb 2010	March 2010 – Feb 2011	March 2011 – Feb 2012	March 2012 – Feb 2013	March 2013 – Feb 2014	March 2014 – Feb 2015
PROJECT EMISSIONS	24,175	24,175	24,175	24,175	24,175	24,175	24,175
LEAKAGE	0	0	0	0	0	0	0
SUM OF ABOVE	24,175	24,175	24,175	24,175	24,175	24,175	24,175

Baseline emissions during the 1st crediting period.

YEAR	March 2008 - Feb 2009	March 2009 - Feb 2010	March 2010 - Feb 2011	March 2011- Feb 2012	March 2012 - Feb 2013	March 2013 - Feb 2014	March 2014 - Feb 2015
Baseline emissions (**t**CO_2)	38,971	38,971	38,971	38,971	38,971	38,971	38,971

Therefore the anthropogenic emissions of the baseline are 103,572 tCO2e for 7 years of crediting period.

B.6.4 Summary of the ex-ante estimation of emission reductions:

>> Quantity of emissions reductions out of the project:

The annual emission reduction works out to be 14,796 tonnes of CO_2 equivalent and the total emission reduction for the first crediting period of 7 years (March 2008- February 2015) works out to be 103,572 tonnes of CO_2 equivalent.

year	Estimation of annual emission reduction in tonnes of CO2e
March 2008 – February 2009	14,796
March 2009 – February 2010	14,796
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March 2011 – February 2012	14,796
March 2012 – February 2013	14,796
March 2013 – February 2014	14,796
March 2014 – February 2015	14,796
Total Estimated Reductions (tCO_{2e})	73,612
No. of Crediting Years	7
Annual Average of Estimated Reductions over the Crediting Period	14,796

B.7 Application of a monitoring methodology and description of the monitoring plan:

B.7.1 Data and parameters monitored:

(Copy this table for each data and parameter)

Data / Parameter:	**Per Tonne Consumption of Electricity**
Data unit:	Kwh

Description:	Gives the consumption of electricity for 1 Tonne of Caustic Soda produced
Source of data to be used:	Plant Records
Value of data	2160
Description of measurement methods and procedures to be applied:	Will be measured by power meters installed in the cell house.
QA/QC procedures to be applied:	The project would employ Class I high accuracy monitoring and control equipment that will measure, record, report, monitor and control of various key parameters of the plant. All meters will be calibrated and sealed as per the industry practices at regular intervals. Training will be provided to the operators of the project for safe, efficient operations of the plant and handling emergency situations as well as for proper monitoring of the parameters related to ascertain project emissions. Hence, high quality is ensured with the above parameter.
Any comment:	The metered data can be also cross checked by the accounts department which would provide an accurate amount of electricity purchased and reducing the auxiliary consumption from it.

B.7.2 Description of the monitoring plan:

>> The authority and responsibility for monitoring, measurement, reporting and reviewing of the data rests with the Chief Project Officer. The identified person will be in charge of the GHG monitoring activities within project's functioning. The Chief Project Officer will be assisted by a team of experienced personnel for the project. The primary responsibility of the team is to measure, monitor, and record and report the information on various data items to the Chief Project Officer, in accordance with the applicable standards. Periodic calibration of various instruments used in the monitoring of GHG related data and record keeping of the same also will be the responsibility of the team.

The responsibility of review, storage and archiving of information in good condition lies with the Chief Project Officer. The Chief project Officer will undertake periodic verifications and onsite inspections to ensure the quality of the data collected by the team and initiate steps in case of any abnormal conditions. The Chief Project Officer will review the data collected by the team and suggest corrective actions wherever required. An internal audit report will be prepared for review and will be examined.
Also refer Annex IV

B.8 Date of completion of the application of the baseline and monitoring methodology and the name of the responsible person(s)/entity(ies)

>> Date of completion of the application of the baseline and monitoring methodology:
01/07/2007

Contact information of the person / entity responsible for the application of the baseline and monitoring methodology:
Gensol Consultants Pvt. Ltd.
H. No. – I -122, Army Flats,
Sector -4, Mansa Devi Complex,
Panchkula, Haryana – 134114

The entity is not a project participant.

SECTION C. Duration of the project activity / crediting period

C.1 Duration of the project activity:

C.1.1. Starting date of the project activity:

>> >> 10/05/2007

C.1.2. Expected operational lifetime of the project activity:

>> 30 Years

C.2 Choice of the crediting period and related information:

C.2.1. Renewable crediting period

C.2.1.1. Starting date of the first crediting period:

>> Date of Registration of the Project or Date of Commissioning of the Project (expected 1st March 2008) whichever is later

C.2.1.2. Length of the first crediting period:

>> 7 Years

C.2.2. Fixed crediting period:

C.2.2.1. Starting date:

>> N.A.

C.2.2.2. Length:

>> N.A.

SECTION D. Environmental impacts

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D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:

>> EIA has been carried out as required by the Laws of the Host Country. A copy of the EIA would be provided during the validation phase.

D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party:

>> N.A.

SECTION E. Stakeholders' comments

>>

E.1. Brief description how comments by local stakeholders have been invited and compiled:

>> Stakeholders for the project activity:
The local inhabitants, industries, municipal body were identified as the primary local stakeholders in the project activity.

The Stakeholders were invited by advertising in two newspaper dailies which clearly mentioned the date, time and venue of the CDM Stakeholders meeting.

Stakeholders' Involvement:
The project participant had involved all the stakeholders for setting up the Project and had convened a meeting to hold extensive discussions with the stakeholders. After an address by the Project Participant regarding the project, its benefits and the CDM activities, queries were invited from them which were answered to their satisfaction. The local population welcomed the project due to its inherent benefits of improving the environment.
An attendance of the stakeholders present in the meeting was carried out and also the stakeholders were asked to present their comments in a written format in one month time duration from the meeting.

Hence, the project passed through due public consultation process.

E.2. Summary of the comments received:

>> Positive feedback for the project in the form of comments were received from the local stakeholders. The stakeholders were unanimously in favor of the project and had the opinion that it would be advantageous for the region.

E.3. Report on how due account was taken of any comments received:

>> All comments received were archived and since there was no negative comment or any clarifications sought, the project passed through the local stakeholder consultation process.

Annex 1

CONTACT INFORMATION ON PARTICIPANTS IN THE PROJECT ACTIVITY

Organization:	Durgapur Chemicals Ltd.
Street/P.O.Box:	-
Building:	-
City:	Durgapur
State/Region:	West Bengal
Postfix/ZIP:	713215
Country:	India
Telephone:	0343- 2555762
FAX:	0343- 2556667
E-Mail:	dcldgp@sancharnet.in
URL:	
Represented by:	
Title:	Managing Director
Salutation:	Mr.
Last Name:	Upadhayay
Middle Name:	K.
First Name:	A.
Department:	-
Mobile:	-
Direct FAX:	0343-2556667
Direct tel:	0343-2555762
Personal E-Mail:	-

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

No ODA has been utilised in the project activity.

Annex 3
BASELINE INFORMATION

CENTRAL ELECTRICITY AUTHORITY: CO2 BASELINE DATABASE

VERSION
DATE
BASELINE
METHODOLOGY

EMISSION FACTORS

Weighted Average Emission Rate (tCO2/MWh) (excl. Imports)

	2003-04	2004-05	2005-06
North	0.71	0.71	0.71
East	1.10	1.08	1.08
South	0.84	0.78	0.74
West	0.90	0.92	0.87
North-East	0.43	0.32	0.33
India	0.85	0.84	0.82

	2003-04	2004-05	2005-06
North	0.71	0.72	0.72
East	1.08	1.05	1.05
South	0.84	0.78	0.74
West	0.90	0.92	0.88
North-East	0.43	0.48	0.33
India	0.85	0.84	0.81

Simple Operating Margin (tCO2/MWh) (excl. Imports)

	2003-04	2004-05	2005-06
North	0.99	0.97	0.99
East	1.23	1.20	1.16
South	1.00	1.00	1.01
West	0.99	1.01	0.99
North-East	0.74	0.71	0.70
India	1.03	1.03	1.02

Simple Operating Margin (tCO2/MWh) (incl. Imports)

	2003-04	2004-05	2005-06
North	0.99	0.98	0.99
East	1.20	1.17	1.13
South	1.00	1.00	1.01
West	0.99	1.01	0.99
North-East	0.74	0.84	0.70
India	1.02	1.02	1.02

Build Margin (tCO2/MWh) (excl. Imports)

	2003-04	2004-05	2005-06
North		0.53	0.60
East		0.90	0.97
South		0.71	0.71
West		0.77	0.63
North-East		0.15	0.15
India		0.70	0.68

Build Margin (tCO2/MWh) (not adjusted for imports)

	2003-04	2004-05	2005-06
North		0.53	0.60
East		0.90	0.97
South		0.71	0.71
West		0.77	0.63
North-East		0.15	0.15
India		0.70	0.68

Combined Margin (tCO2/MWh) (excl. Imports)

	2003-04	2004-05	2005-06
North	0.76	0.75	0.80

Combined Margin in tCO2/MWh (incl. Imports)

	2003-04	2004-05	2005-06
North	0.76	0.75	0.80

East	1.07	1.05	1.06	East	1.05	1.04	1.05
South	0.86	0.85	0.86	South	0.86	0.85	0.86
West	0.88	0.89	0.81	West	0.88	0.89	0.81
North-East	0.44	0.43	0.42	North-East	0.44	0.49	0.42
India	0.86	0.86	0.85	India	0.86	0.86	0.85

Annex 4

MONITORING INFORMATION

The entire process of monitoring has been streamlined and will be made available in the required format during the verification process and for subsequent useful purposes the power Consumption would be maintained.

The calibration of monitoring equipment would be done in a way to maintain best industry practices. Power consumption would be recorded twice daily and the same would be put up to the Chief Project Officer on a weekly basis. These records would be sent to Head Office for review by the Director and for corrective actions if necessary.

The Plant is equipped with power meters for monitoring purpose. The power meters shall be tested and calibrated utilizing a standard meter. The standard meter shall be calibrated once in a year at the approved laboratory of Govt. of India as per terms and conditions of supply. The tests of meters shall be conducted by authorised representatives. The power meters shall not be interfered with, tested or checked except in the presence of representatives of company. If any of the meters is found to be registered inaccurately, the affected meter will be immediately replaced.

Monitoring Approach
The general monitoring principles are based on:
- Frequency
- Reliability
- Registration and reporting

As the emission reduction units from the project are determined by the number of units of F.O. and Hydrogen consumed it becomes important for the project to monitor the parameter.

Frequency of monitoring
The project parameter will install all metering and check metering facilities within the plant premises. The measurement will be recorded and monitored on a continuous basis.

Reliability
All measurement devices will be of microprocessor based with best accuracy and will be procured from reputed manufacturers. Since the reliability of the monitoring system is governed by the accuracy of the measurement system and the quality of the equipment to produce the result all power measuring instruments must be calibrated once a year for ensuring reliability of the system. All instruments carry tag plates, which indicate the date of calibration and the date of next calibration. Therefore the system ensures the final generation is highly reliable.

Reporting
Daily, weekly and monthly reports are prepared stating the generation.