

**MONITORING REPORT FORM (CDM-MR)****Version 01****CONTENTS**

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**MONITORING REPORT****Version Number 04, 28/04/2011****Lohgarh, Chakbhai and Sidhana Mini Hydroelectric Projects****Reference No. UNFCCC - 0327****Fourth Monitoring Report (01/07/2008 to 31/03/2010)****SECTION A. General description of the project activity****A.1. Brief description of the project activity:**

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Three Mini Hydro electric projects aggregating to 5.20 MW at Lohgarh, Chakbhai and Sidhana on the Bathinda Branch Canal, District Ludhiana, Sangrur and Bathinda respectively in Punjab, India have been set-up. Mini Hydroelectric Project at Lohgarh (2 MW) was commissioned in October 2005, Chakbhai (2 MW) was commissioned in November 2004 and Sidhana (1.20 MW) was commissioned in October 2007. The plants are operating successfully.

The purpose of the project activity is to generate electricity by utilizing water flowing through the existing canal system as a renewable energy resource to meet the ever- increasing demand for energy in the region. The development of the project activity contemplates the production of clean hydroelectric power that will contribute to reduce the CO₂ emissions, which would have occurred otherwise, in the absence of these projects.

Lohgarh with total installed capacity of 2.0 MW, Chakbhai 2.0 MW and Sidhana 1.2 MW generate electricity and sell it to the Punjab State Electricity Board (PSEB) through Power Purchase Agreement (PPA) contract.

These projects are low head, canal drop based mini hydroelectric projects (project activity) located on the Bathinda Branch Canal, District Ludhiana, Sangrur and Bathinda respectively in Punjab. The projects are run-off-river renewable hydroelectric generating plants, which include forebay, mechanical intake gates, trashracks, draft tubes, vertical turbine and a powerhouse with its discharge channel and adjoining roads. The projects do not involve any type of displacement, rehabilitation or relocation.

The Projects are generating electricity successfully by converting the potential and kinetic energy of the canal water and the electricity produced is fed into the Punjab State Electricity Board Grid thereby replacing the equivalent amount of electricity produced from Thermal stations and thus reducing green house gas emissions.

Equipment Details:

The projects were completed with major equipment supplied by the supplier as under:

S.No.	MHP	Equipment	Qty/capacity	Supplier
1	Lohgarh	Turbine & its accessories	2*1,000 kW	Boving Fouress Limited, Bangalore



		Synchronous Generator	2*1,000 kW	Marelli Motori
2	Chakbhai	Turbine & its accessories	2*1,000kW	Boving Fouress Limited, Bangalore
		Synchronous Generator	2*1,000 kW	Marelli Motori
3	Sidhana	Turbine & its accessories	1*1,200kW	Boving Fouress Limited, Bangalore
		Synchronous Generator	1*1,200 kW	Marelli Motori

The projects were completed as planned and described in the Project Design Document (PDD).

During the present monitoring period i.e. 01/07/2008 to 31/03/2010, the net power exported to the grid by the three (3) plants is 57.669 Million kWh and have achieved 54,281 tCO₂ emissions reduction in this monitoring period.

A.2. Project Participants

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Aqua Power Pvt. Limited

The name of the Company has been changed from “Aqua Power Limited” to “Aqua Power Private Limited”. The fresh certificate of incorporation and Host Country approval for the same has been received by the project activity. The records at CDM Registry with respect to the revised modalities of communication signed by all Project Participants have been updated.

Name of Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Kindly indicate if the Party wishes to be considered as a project participant (Yes/No)
India (host)	Private entity - Aqua Power Private Limited	No

A.3. Location of the project activity:

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LOHGARH: The project is located on Bathinda branch canal.

Latitude 30° 35' 49.69" N ; Longitude 75° 40' 2.91" E
Town: Raikot
Distt: Ludhiana
State: Punjab
Country: India



CHAK BHAI : The project is located on Bathinda branch canal .

Latitude 30° 34' 38.94" N ; Longitude 75° 29' 54.51" E
Town : Mehal Kalan
Distt.: Barnala
State: Punjab
Country: India

SIDHANA : The project is located on Bathinda branch canal having

Latitude 30° 21' 5.29" N ; Longitude 75° 30' 42.43" E
Town : Rampura Phul
Distt.: Bathinda
State: Punjab
Country: India

A.4. Technical description of the Project

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The project consists of 3 sites of Small hydro Power Plant i.e. Chakbhai, Lohgarh & Sidhana utilizing the potential and kinetic Energy of the canal water to generate electricity.

Lohgarh:- The Powerhouse comprises of two synchronous generators of capacity 1,000 kW each coupled to two numbers of vertical Full Kaplan turbines. The power is generated at a voltage of 6.6 kV, which is further stepped- up to 11 kV to match the nearest substation voltage level.

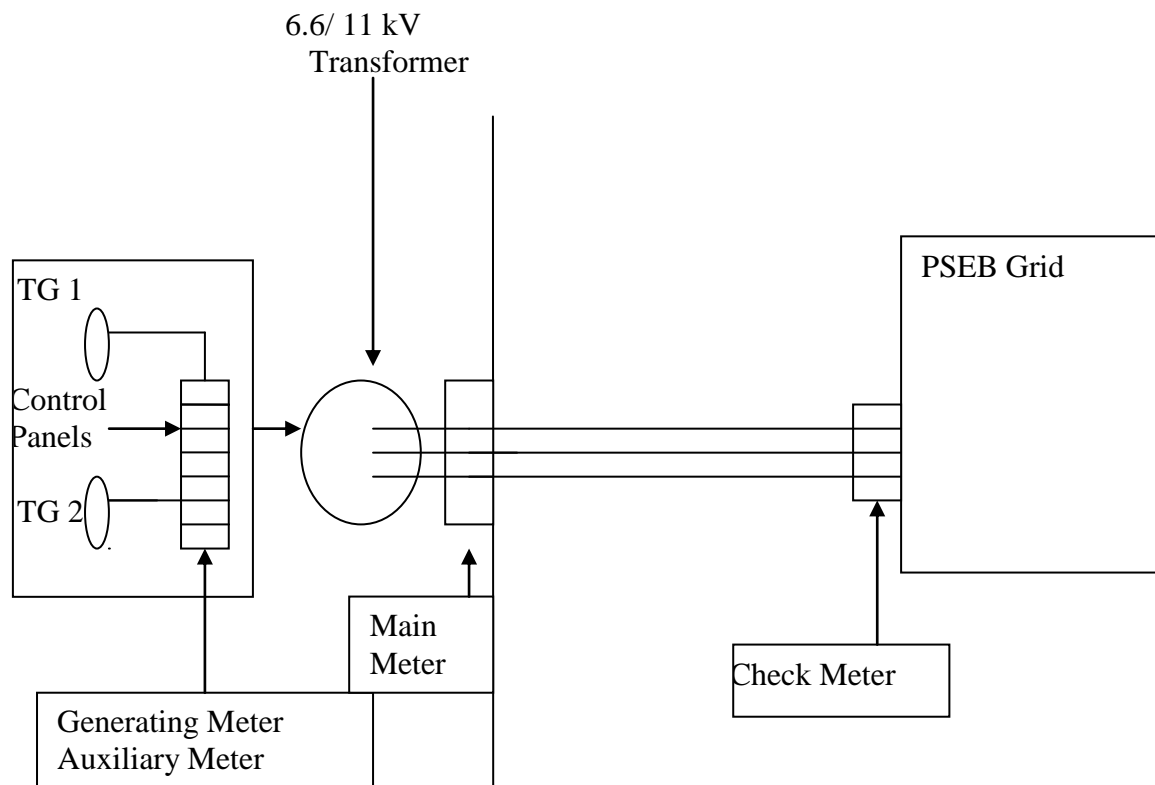
Chakbhai: The powerhouse comprises of two synchronous generators of capacity of 1,000 kW each coupled to two numbers of vertical Full- Kaplan turbines. The power is generated at a voltage of 6.6 kV which is further stepped-up to 11 kV to match the nearest substation voltage level.

Sidhana: The Powerhouse comprises of one synchronous generator of capacity 1,200 kW coupled to a vertical Full-Kaplan turbine. The power is generated at a voltage of 6.6 kV, which is further stepped-up to 11 kV to match the nearest substation voltage level.

The principal components of each scheme are:-

- (a) Forebay and Intake: Forebay is partly trapezoidal and RCC and trough section where the water is diverted towards the powerhouse upon closure of main canal gates via the intake.
- (b) Power House:- A semi outdoor type powerhouse has been provided to house the turbines, generators and related electro- mechanical equipment.
- (c) Draft Tube:- RCC draft tube has been provided to convey the tail water emerging from discharge side of the turbine to the main canal via tailrace channel.

- (d) Turbine:- Vertical full Kaplan has been provided for all the three projects.
- (e) Tailrace:- The discharge emerging out the draft tubes is carried back to main canal on downstream of the project by trapezoidal shaped tailrace channel connecting draft tube exit to the main canal.
- (f) Switchyard:- Surface type switchyard has been provided with necessary equipment for interfacing with the Grid.



Note:- Control panels comprise of Relays, Breakers, Generation Meters and Auxiliary Meters.

A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:

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Type I- Renewal Energy Projects

Category: I.D.: Renewable electricity generation for a grid

Version: 07

**A.6. Registration date of the project activity:**

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30/04/2006

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

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Crediting Period for this project activity is 20/11/2004 to 19/11/2014 (fixed).

This is the fourth monitoring report associated with the project activity. The previous monitoring report covered the period from 20/11/2004 to 31/3/2006 (both days included) and the second monitoring report covered the period from 01/04/2006 to 30/04/2007 (both days included) third monitoring report covered the period from 01/05/2007 to 30/06/2008 (both days included) and the CERs for the same have already been issued.

The period covered in this monitoring report is from 01/07/2008 to 31/03/2010 (both days included). This monitoring report does not cover any period of time covered by the previous monitoring report.

A.8. Name of responsible person(s)/entity(ies):

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Name:- Pushpinder Singh

Contact No. +919779450009

Email:- pushpindersingh68@gmail.com

SECTION B. Implementation of the project activity**B.1. Implementation status of the project activity**

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The projects were completed as planned and described in the Project Design Document (PDD).

The project at Lohgarh (2 MW) is in operation continuously (with outages – forced & planned) since October 2005, Chakbhai (2 MW) is in operation since November 2004 and Sidhana (1.2 MW) is in operation since October 2007.

Details of down time from 1st July 2008 to 31st March, 2010

PROJECT	DOWNTIME (IN HOURS)
Lohgarh	2918.38
Chakbhai	2358.00
Sidhana	2069.50

**BREAKUP OF DOWN TIME**

PROJECT	DOWNTIME	REASON
Lohgarh	330.10	Grid failure
	249.44	Tripping/ Maintenance/ other beaks down
	2338.44	Low discharge
Chakbhai	212.42	Grid failure
	120.07	Tripping/ Maintenance/ other beaks down
	2025.11	Low discharge
Sidhana	474.40	Grid failure
	144.54	Tripping/ Maintenance/ other beaks down
	1450.16	Low discharge

B.2. Revision of the monitoring plan

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The monitoring plan has not been revised.

B.3. Request for deviation applied to this monitoring period

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Not Applicable

B.4. Notification or request of approval of changes

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Not Applicable

SECTION C. Description of the monitoring system

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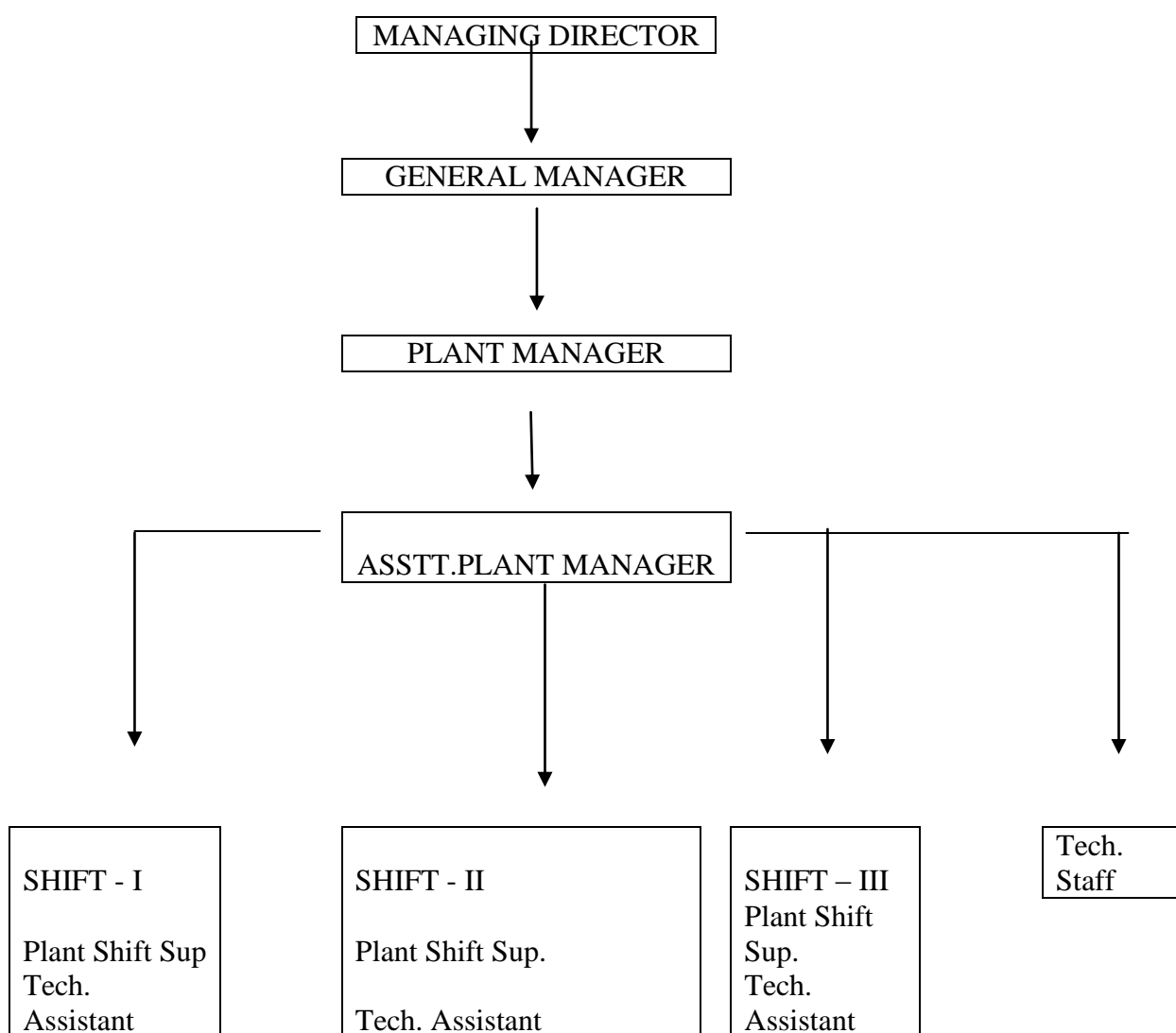
For this project activity the monitoring procedure was followed as described below.

- i. The Energy exported (kWh) and Energy imported (kWh) at the interconnection point have been measured from the electronic energy meters (i.e. bidirectional Tri-vector Meters) installed at the interconnection points at all 3 (three) project schemes.
- ii. The Net saleable energy has been calculated as a difference between energy exported and energy imported. It is based on monthly joint meter readings.
- iii. Monthly joint meter readings were taken at interconnection point and certified by representatives of Aqua Power Private Limited (APPL) and the purchaser i.e. Punjab State Electricity Board (PSEB).
- iv. The joint meter readings were used to raise invoice for sale of net energy to PSEB.
- v. The energy generated has been measured by the energy meters installed at the generation end on an hourly basis.
- vi. The auxiliary energy consumption has been measured by the auxiliary energy consumption meters installed at the plant on an hourly basis.
- vii. The data of the aforesaid parameters are recorded on hourly basis which are summed into a daily reading.



- viii. The Daily readings were aggregated to monthly readings.
- ix. Monthly reports stating the energy exported, energy imported, energy generated and auxiliary energy consumption were prepared by shift-in-charge and verified by plant managers.
- x. The finance department cross checked the data provided by plant managers.

The Organizational structure responsible for monitoring the various parameters as per Monitoring Plan for each site is as below:-



The Hourly data is monitored and recorded in the log books by the Shift Staff comprising of Plant Shift Supervisor and Technical Assistant. The daily data is checked and countersigned by the Assistant Plant Manager. The daily and monthly data is checked and verified by the



Plant Manager. The data is audited annually by the auditor of the Company having financial background.

The Diagram showing all relevant monitoring points has been displayed in Section A.4.

SECTION D. Data and parameters

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D.1 Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors	
Data / Parameter:	Grid Emission Factor
Data unit:	kg of CO ₂ / kWh
Description:	The Grid Emission Factor has been calculated as the weighted average of the operating Margin Emission Factor (EF _{OM}) and the Build Margin Emission Factor (EF _{BM}).
Source of data used:	Northern Region Grid's emission from Central Electricity Authority
Value(s) :	0.942
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission calculations
Additional comment:	This parameter is fixed ex-ante for the full crediting period

D.2.1 Data and parameters monitored

Data / Parameter:	Energy exported
Data unit:	kWh
Description:	Energy Exported to grid
Measured /Calculated /Default:	Measured
Source of data:	Main meters
Value(s) of monitored parameter:	57,712,364 (Chakbhai: 23,880,170, Lohgarh: 19,842,230 and Sidhana: 13,989,964)



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Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions		
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Lohgarh	Chakbhai	Sidhana
	Electronic Bidirectional meter(L&T) S. No.04223075 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 15.01.2008 to 16.07.2008 16.07.2008 to 16.01.2009 18.03.2009 to 18.09.2009 20.08.2009 to 20.02.2010 22.02.2010 to 22.08.2010	Electronic Bidirectional meter(L&T) S. No.04187462 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 20.06.2008 to 20.12.2008 24.01.2009 to 24.07.2009 30.05.2009 to 31.11.2009 26.11.2009 to 26.05.2010 15.05.2010 to 15.11.2010	Electronic Bidirectional meter(L& T) S. No.05271089 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 19.08.2008 to 19.02.2009 09.03.2009 to 09.09.2009 09.09.2009 to 09.03.2010 20.03.2010 to 20.09.2010
Measuring/ Reading/ Recording frequency:	Monthly		
Calculation method (if applicable):	Not Applicable		
QA/QC procedures applied:	As per the registered PDD the general principles for monitoring the energy exported to the grid are based on: Monthly joint meter reading of main meter installed at interconnection point shall be taken and signed by authorised official of APPL and PSEB on any day of the first week of every month as mutual consent. Records of this joint meter reading would be maintained by APPL. The principle of Frequency, Data recoding and Reliability as mentioned in the PDD are strictly adhered to. The Main Meters and Check Meters were subject to calibration every six months by Punjab State Electricity Board.		
D.2.2 Data and parameters monitored			
Data / Parameter:	Energy imported		
Data unit:	kWh		
Description:	Energy imported from grid		
Measured	Measured		



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/Calculated /Default:			
Source of data:	Main meters		
Value(s) of monitored parameter:	43,218 (Chakbhai: 8,930, Lohgarh: 15,060 and Sidhana: 19,228)		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions		
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Lohgarh	Chakbhai	Sidhana
	Electronic Bidirectional meter(L&T) S. No.04223075 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 15.01.2008 to 16.07.2008 16.07.2008 to 16.01.2009 18.03.2009 to 18.09.2009 20.08.2009 to 20.02.2010 22.02.2010 to 22.08.2010	Electronic Bidirectional meter(L&T) S. No.04187462 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 20.06.2008 to 20.12.2008 24.01.2009 to 24.07.2009 30.05.2009 to 31.11.2009 26.11.2009 to 26.05.2010 15.05.2010 to 15.11.2010	Electronic Bidirectional meter(L& T) S. No.05271089 accuracy: $\pm 0.5\%$ Calibration Frequency- 6 month Date of Calibration Date Valid Upto 19.08.2008 to 19.02.2009 09.03.2009 to 09.09.2009 09.09.2009 to 09.03.2010 20.03.2010 to 20.09.2010
Measuring/ Reading/ Recording frequency:	Monthly		
Calculation method (if applicable):	Not Applicable		
QA/QC procedures applied:	<p>As per the registered PDD the general principles for monitoring the energy exported to the grid are based on:</p> <p>Monthly joint meter reading of main meter installed at interconnection point shall be taken and signed by authorised official of APPL and PSEB on any day of the first week of every month as mutual consent. Records of this joint meter reading would be maintained by APPL.</p> <p>The principle of Frequency, Data recoding and Reliability as mentioned in the PDD are strictly adhered to. The Main Meters and Check Meters were subject to calibration every six months by Punjab State Electricity Board.</p>		



D.2.3 Data and parameters monitored	
Data / Parameter:	Net saleable energy
Data unit:	kWh
Description:	Net saleable energy to grid
Measured /Calculated /Default:	Calculated
Source of data:	Joint meter reading statements and invoices
Value(s) of monitored parameter:	57,669,146 (Chakbhai: 23,871,240, Lohgarh: 19,827,170 and Sidhana: 13,970,736)
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	As this is calculated, this section is not applicable for this monitoring parameter.
Measuring/ Reading/ Recording frequency:	Monthly
Calculation method (if applicable):	Net Saleable Energy = Energy exported – Energy imported
QA/QC procedures applied:	Net Saleable energy is the net exported energy which is the difference of energy exported and energy imported. Joint Meters reading are taken from the Main and Check Meter every month to arrive at Net Saleable energy. Main meter readings are the basis for net saleable energy and billing purpose.

D.2.4 Data and parameters monitored	
Data /	Energy generated



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Parameter:			
Data unit:	kWh		
Description:	Gross energy generated		
Measured /Calculated /Default:	Measured		
Source of data:	Generation Meters		
Value(s) of monitored parameter:	59,340,258 (Chakbhai: 24,365,521, Lohgarh: 20,531,921, and Sidhana: 14,442,816)		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions		
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Lohgarh Make: Minsun Digital Power Meter 882-332 Unit1:6851013 Unit 2:68B0512 Accuracy (+)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010 15.05.2010 to 15.11.2010	Chakbhai Make: Minsun Digital Power Meter 882-332 Unit 1: 6851001 Unit 2 : 6790517 Accuracy (+)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010 15.05.2010 to 15.11.2010	Sidhana Make: Enercon EM 6400 66927/3665-0605 Accuracy (+)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010 15.05.2010 to 15.11.2010
Measuring/ Reading/ Recording frequency:	Hourly		
Calculation	Not Applicable		



CDM – Executive Board

method (if applicable):	
QA/QC procedures applied:	Readings of the energy generated are taken from the meters installed at generation end in the daily log sheet book by the shift supervisor. These are subjected to calibration every six months.

D.2.5 Data and parameters monitored

Data / Parameter:	Auxiliary energy consumption		
Data unit:	kWh		
Description:	Auxiliary energy consumed for running the plant		
Measured /Calculated /Default:	Measured		
Source of data:	Auxiliary Meters		
Value(s) of monitored parameter:	802,815 (Chakbhai: 215,893, Lohgarh: 300,362 and Sidhana: 286,560)		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emissions		
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Lohgarh	Chakbhai	Sidhana
	Make: Enercon 56248/1285-3404 Accuracy (\pm)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010 15.05.2010 to 15.11.2010	Make: Enercon E 64/1640-903 Accuracy (\pm)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010 15.05.2010 to 15.11.2010	Make: Enercon New meter replaced on 20/12/2008 having serial no. 148153/13538-1608 (Old meter S. No 66927/3667-0605) Accuracy (\pm)1% Frequency of calibration- 6 month Date of calibration Date Valid Upto 07.06.2008 to 07.12.2008 04.12.2008 to 04.06.2009 (Old meter replaced on 20.12.2008 with new meter) 20.12.2008 to 20.6.2009 01.06.2009 to 01.12.2009 30.11.2009 to 31.05.2010



			15.05.2010 to 15.11.2010
Measuring/ Reading/ Recording frequency:	Hourly		
Calculation method (if applicable):	Not Applicable		
QA/QC procedures applied:	Auxiliary energy consumption readings are taken from the auxiliary meters installed at the plant sites in the daily log sheet book by the shift supervisor. These are subjected to calibration every six months.		

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

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Code	Description	Formula	Unit	Value
A	Energy exported		kWh	57,712,364
B	Maximum inaccuracy specification in the meter		%	0.50%
C	Less: Maximum inaccuracy specification in the meter during the month of January 2009, February 2009 and March 2009 and February 2010 at MHP Lohgarh	$C = \text{Energy exported (January 2009, February 2009 and March 2009 and February 2010)} * 0.50\%$	kWh	18,514.35
D	Less: Maximum inaccuracy specification in the meter during the month of December 2008 and January 2009 at MHP Chakbhai	$D = \text{Energy exported (December 2008 \& January 2009)} * 0.50\%$	kWh	8,688.00



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E	Less: Maximum inaccuracy specification in the meter during the period July 2008, August 2008, February 2009, March 2009 and March 2010 at MHP Sidhana	E=Energy exported (July 2008, August 2008, February 2009, March 2009 and March 2010)*0.50%	kWh	18,439.62
F	Energy exported based on maximum inaccuracy specification of the meters	F=A-C-D-E	kWh	57,666,722.03
G	Energy exported based on maximum inaccuracy specification of the meters – Considered (Round Down)		kWh	57,666,722
H	Energy imported		kWh	43,218.00
I	Maximum inaccuracy specification in the meter		%	0.50%
J	Add: Maximum inaccuracy specification in the meter during the month of January 2009, February 2009 and March 2009 and February 2010 at MHP Lohgarh	J=Energy imported (January 2009, February 2009 and March 2009 and February 2010)*0.50%	kWh	13.60
K	Add: Maximum inaccuracy specification in the meter during the month of December 2008 and January 2009 at MHP Chakbhai	K=Energy imported (December 2008 and January 2009)*0.50%	kWh	7.25
L	Add: Maximum inaccuracy specification in the meter during the period July 2008, August 2008, February 2009, March 2009 and March 2010 at MHP Sidhana	L=Energy imported (July 2008, August 2008, February 2009, March 2009 and March 2010)*0.50%	kWh	17.84
M	Energy imported based on maximum inaccuracy specification of the meters	M=H+J+K+L	kWh	43,256.69
N	Energy imported based on maximum inaccuracy specification of the meters – Considered (Round up)		kWh	43,257.00
O	Net Saleable Energy (after applying correction)	O=G-N	kWh	57,623,465
P	Carbon Emission Factor as per the baseline adopted		kg CO ₂ /kWh	0.942
Q	Baseline Emissions (Round down)	Q=(O*P) / 1000	ton CO ₂	54,281

E.2. Project emissions calculation

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No project emissions are associated with the project activity during this monitoring period. This is also in line with the PDD and methodology.

E.3. Leakage calculation

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As the energy generating equipment is not transferred from another activity or the existing equipment is also not transferred to another activity, leakage is not considered. The same is in line with the methodology and the registered PDD.

E.4. Emission reductions calculation / table

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Baseline Emissions : 54,281
Project Emissions : NIL
Emission Reductions: Baseline emissions – Project emissions
= 54,281
= 54,281 tCO₂

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

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Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO ₂ e)	47,181	54,281

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

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There is an increase of 7,100 CERs in the present monitoring period which covers 2008-2009 and 2009-2010 which is 15.05% increase. This is because of the fact that the said hydro projects are run of the canal power projects and the power generation is a function of head and discharge. Since, the head is fixed therefore the increase or decrease in generation is purely based on release of discharge in the canal which is further dependent upon the discharge in the rivers of the state and the demand pattern. The discharge in the rivers is dependent on the various weather phenomena like snow fall, rainfall, maximum temperature during the summer etc. The increase of discharge in the canal is beyond the control of the PP.

Annexure - I

The month-wise data on energy generated is given in Table 3 below: This monthly data is based on the hourly reading taken at the meters installed at the Generation end.

Table 3: Energy Generation (kWh)

Billing Month	Year	Chakbhai	Lohgarh	Sidhana	Total
Jul	2008	1,433,095	1,145,490	752,726	3,331,311
Aug	2008	1,366,550	1,078,170	744,094	3,188,814
Sep	2008	1,415,285	1,271,297	827,357	3,513,939
Oct	2008	984,793	850,385	639,013	2,474,191
Nov	2008	898,557	717,078	570,925	2,186,560
Dec	2008	826,570	760,469	397,600	1,984,639
Jan	2009	946,495	818,785	608,325	2,373,605
Feb	2009	1,144,055	973,737	685,250	2,803,042
Mar	2009	1,261,347	1,060,896	804,743	3,126,986
Apr	2009	536,111	450,508	355,157	1,341,776
May	2009	1,495,930	1,144,520	902,440	3,542,890
June	2009	1,364,870	1,237,846	838,460	3,441,176
July	2009	1,333,160	1,265,106	763,555	3,361,821
August	2009	1,497,335	1,144,752	835,458	3,477,545
Sept.	2009	1,372,064	1,114,533	770,620	3,257,217
Oct.	2009	634,531	528,061	325,427	1,488,019
Nov.	2009	861,390	730,152	562,583	2,154,125
Dec.	2009	1,275,965	1,106,972	776,437	3,159,374
Jan	2010	1,162,044	1,041,185	738,242	2,941,471
Feb	2010	1,194,774	989,218	722,688	2,906,680
Mar	2010	1,360,600	1,102,761	821,716	3,285,077
Total		24,365,521	20,531,921	14,442,816	59,340,258

Annexure II

The month-wise data on auxiliary energy consumption is given in Table 4 below: This monthly data is based on the hourly reading taken at the Auxiliary meters installed at the Panel.

Table 4: Auxiliary Energy Consumption

Billing Month	Year	Chakbhai	Lohgarh	Sidhana	Total
Jul	2008	12,971	15,829	14,885	43,685
Aug	2008	13,077	14,417	14,831	42,325
Sep	2008	12,061	16,246	15,260	43,567
Oct	2008	9,472	15,254	11,497	36,223
Nov	2008	8,610	11,837	11,957	32,404
Dec	2008	8,709	13,875	10,386	32,970
Jan	2009	8,503	12,162	14,383	35,048
Feb	2009	7,605	14,054	15,805	37,464
Mar	2009	8,770	17,192	17,403	43,365
Apr	2009	6,887	11,011	9,393	27,291
May	2009	13,123	18,184	17,771	49,078
June	2009	11,324	16,142	16,546	44,012
Jul	2009	14,036	16,802	16,036	46,874
Aug	2009	13,876	14,456	15,499	43,831
Sep	2009	12,090	13,703	15,632	41,425
Oct	2009	9,200	11,999	8,037	29,236
Nov	2009	9,558	11,595	11,065	32,218
Dec	2009	9,135	13,958	12,568	35,661
Jan	2010	8,849	15,801	12,946	37,596
Feb	2010	8,452	12,850	11,494	32,796
Mar	2010	9,585	12,995	13,166	35,746
Total		215,893	300,362	286,560	802,815

The Gross energy generated data and auxiliary Energy consumption data is not used for calculation of emission reductions as the calculations of emission reductions is based on Net Saleable Energy i.e the difference of Energy exported and Energy imported.



Annexure III

Power Generation:

Month-wise data on Net Saleable Energy for the monitoring period is given in Table 5 below:

As per the Project Design Document, Emission reductions are calculated based on the energy exported minus energy imported.

Table 5: Net Saleable Energy (kWh)

Billing Month	Year	Energy Exported				Energy Imported				Net Saleable Energy
		Chakbhai	Lohgarh	Sidhana	Total	Chakbhai	Lohgarh	Sidhana	Total	
Jul	2008	1,403,730	1,108,570	726,144	3,238,444	330	810	1,408	2,548	3,235,896
Aug	2008	1,338,180	1,043,850	719,760	3,101,790	510	770	1,040	2,320	3,099,470
Sep	2008	1,386,140	1,232,220	802,920	3,421,280	240	590	440	1,270	3,420,010
Oct	2008	964,390	819,810	616,580	2,400,780	50	270	400	720	2,400,060
Nov	2008	880,820	690,690	547,520	2,119,030	10	90	180	280	2,118,750
Dec	2008	809,210	730,230	381,360	1,920,800	30	350	2,300	2,680	1,918,120
Jan	2009	928,390	787,600	588,820	2,304,810	1,420	2,120	1,860	5,400	2,299,410
Feb	2009	1,123,600	938,330	664,060	2,725,990	40	300	600	940	2,725,050
Mar	2009	1,238,690	1,022,920	779,060	3,040,670	40	200	340	580	3,040,090
Apr	2009	524,410	433,750	341,740	1,299,900	2,310	3,470	3,520	9,300	1,290,600
May	2009	1,465,250	1,107,960	875,860	3,449,070	160	670	480	1,310	3,447,760

**CDM – Executive Board**

June	2009	1,337,700	1,202,530	812,900	3,353,130	130	470	1,000	1,600	3,351,530
Jul	2009	1,305,280	1,228,260	741,260	3,274,800	740	1,130	1,140	3,010	3,271,790
Aug	2009	1,466,110	1,112,440	811,160	3,389,710	340	420	700	1,460	3,388,250
Sep	2009	1,344,330	1,081,200	746,720	3,172,250	90	500	580	1,170	3,171,080
Oct	2009	620,300	507,450	315,600	1,443,350	1,800	1,890	2,260	5,950	1,437,400
Nov	2009	843,300	703,600	545,340	2,092,240	510	720	420	1,650	2,090,590
Dec	2009	1,252,490	1,069,230	754,960	3,076,680	60	50	100	210	3,076,470
Jan	2010	1,139,300	1,000,550	716,180	2,856,030	40	40	140	220	2,855,810
Feb	2010	1,172,850	954,020	703,120	2,829,990	50	100	140	290	2,829,700
Mar	2010	1,335,700	1,067,020	798,900	3,201,620	30	100	180	310	3,201,310
Total		23,880,170	19,842,230	13,989,964	57,712,364	8,930	15,060	19,228	43,218	57,669,146