



Monitoring report form
(Version 05.1)

MONITORING REPORT

Title of the project activity	12 MW hydropower plant in Bhandardara in Maharashtra, India	
UNFCCC reference number of the project activity	0430	
Version number of the monitoring report	01	
Completion date of the monitoring report	25/08/2015	
Monitoring period number and duration of this monitoring period	Crediting period number: 02 Period: 27/07/2008 – 26/07/2015 (renewal) Monitoring period number: 06 Period: 01/01/2013 – 26/07/2015 (both dates are included)	
Project participant(s)	1) Dodson–Lindblom Hydro Power Private Limited (DLHPPL) 2) IFC-Netherlands Carbon Facility (INCaF)	
Host Party	India	
Sectoral scope(s)	01, Energy Industries (renewable/non-renewable sources)	
Selected methodology(ies)	AMS-I.D. - Grid connected renewable electricity generation, version 13;	
Selected standardized baseline(s)	Not Applicable.	
Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD	89,986 tCO ₂ e	
Total amount of GHG emission reductions or net GHG removals by sinks achieved in this monitoring period	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards
	NA	63,293

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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Purpose of the project activity and the measures taken to reduce greenhouse gas emissions:

The main purpose of the project activity is to generate electricity from the potential energy in the water released from Bhandardara dam and export the net electricity to the grid to meet the ever-increasing demand for energy in the state. The project activity would reduce the greenhouse gas (GHG) emissions produced by the grid generation mix, which is mainly dominated by fossil fuel based power plants.

The project activity involves construction and commissioning of a 12 MW hydroelectric project. The project utilises water released from Bhandardara reservoir for irrigation purposes and generates electricity. The net electricity after auxiliary consumption is exported to state electricity grid owned and operated by Maharashtra State Transmission Company Ltd (MSTCL).

Brief description of the installed technology and equipment:

The Bhandardara dam is one of the oldest masonry gravity dams in Maharashtra state. The construction of the dam started in 1910 and was completed in 1926. There are two hydro power plants near Bhandardara dam. One is the project activity, which is 12 MW foot of dam hydropower plant and is known as BH-1. Another hydroelectric project of 34 MW was constructed later 10 kilometers downstream from BH-1, which is referred as BH-2. BH-1 is the small scale project activity.

The water released from the Bhandardara reservoir for irrigation purposes is conducted to a turbine in the power plant and jetted on to the turbine. This action rotates the turbine, which in turn causes the rotation of the alternator connected to the turbine, thereby producing electricity. One 12 MW Francis type turbine is installed in BH-1. The generated electricity from the project activity after auxiliary consumption is exported to MSTCL grid.

BH-1 has exported about 91730.60 MWh to grid during the current monitoring period. The plant and equipment facilities have been designed to comply with the applicable stipulations / guidelines of statutory authorities such as State Pollution Control Board etc.

The project activity (BH-1) is constructed at the foot of a hill adjacent to the Bhandardara dam. BH-1 was originally built by the Government of Maharashtra Irrigation Department (GOMID) with a single hydropower generating unit of 10 MW in 1984. In Maharashtra state, all state owned hydroelectric plants are constructed by Government of Maharashtra Water Resources Department (GOMWRD) and handed over to Maharashtra State Electricity Board (MSEB) (now Maharashtra State Electricity Generation Company) for operation and maintenance. The generating unit at BH-1 was commissioned in 1986 and started commercial operation in 1987. After operating for eight years, a mishap occurred which severely damaged the entire plant and the plant ceased to operate. The rehabilitation and operation of this plant was awarded on a lease, own, operate and transfer basis to Dodson – Lindblom International Inc (DLI), an Ohio, USA, based company. DLI is part of DLZ Corporation, one of the foremost engineering and water resource companies in the Midwestern United States. An operating company by the name of Dodson – Lindblom Hydro Power Private Limited (DLHPPL) was formed to implement and operate the hydropower plants in India. The generated power from the project activity is connected to state electricity grid owned and operated by Maharashtra State Transmission Company Ltd (MSTCL).

Relevant dates for the project activity:

The project has been registered with UNFCCC on 30/09/2006 with renewable crediting period. The duration of the second crediting period is from 27/07/2008 to 26/07/2015 which was renewed on 25/10/2008. The duration of the monitoring period considered under this monitoring report is 01/01/2013 to 26/07/2015. Further, the duration of the first crediting period was from 27/07/2001 to 26/07/2008 and the amount of issued CERs from this project was 214,154 during first crediting period. During the current monitoring period, the project has achieved emissions reduction of 63,293 tCO₂e.

A.2. Location of project activity

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The project activity is located at a foot of a hill adjacent to the Bhandardara dam in Lake Arthur Hill reservoir in the upper Pravara river basin. Bhandardara is about 140 kilometres from Mumbai. The nearest town is Ghoti and closest railhead is at Igatpuri which is 40 kilometres away.

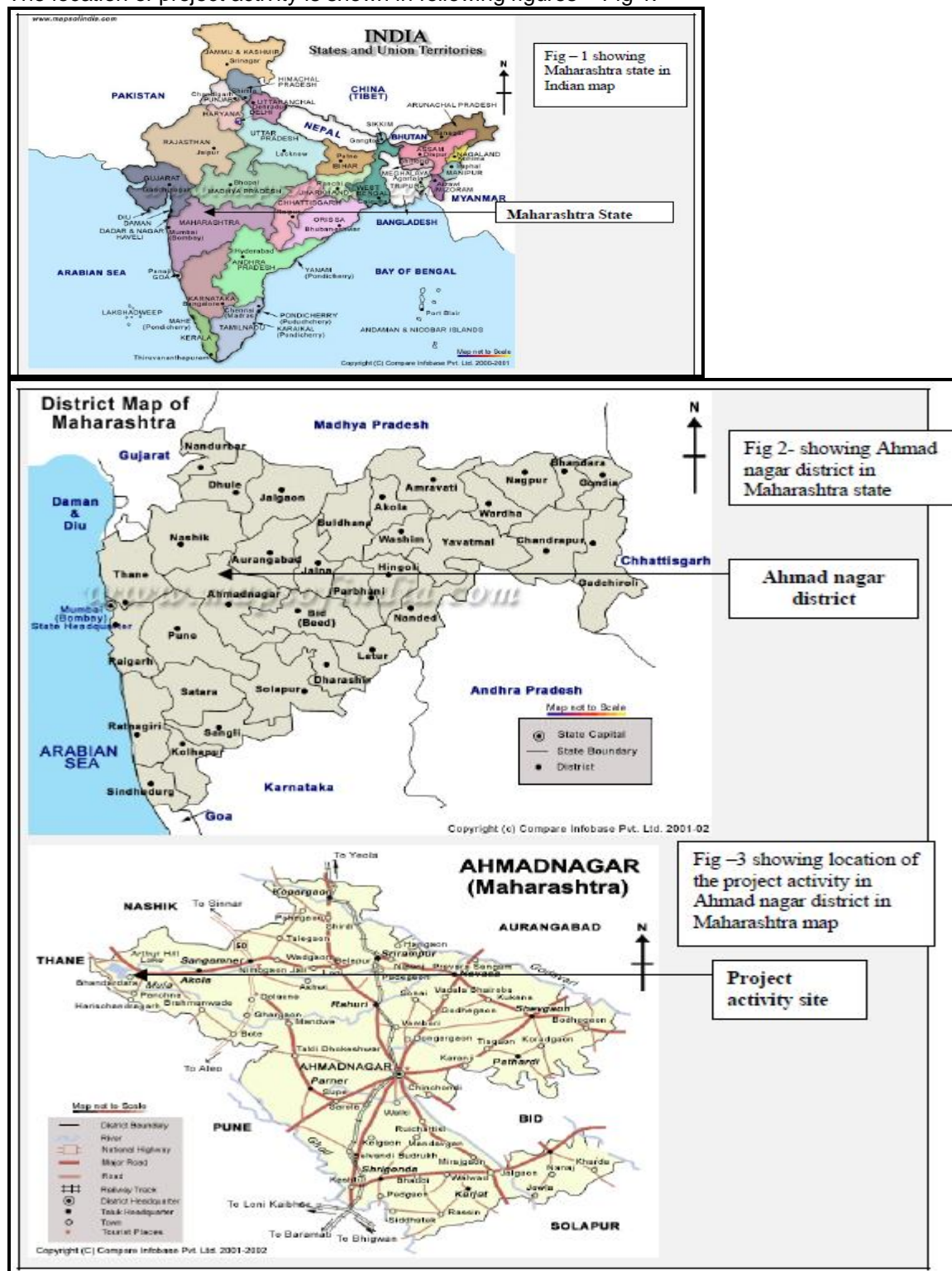
(a) Host Part(ies): India

(b) Region /State/Province: Maharashtra

(c) City/Town/Community: Bhandardara

(d) Physical/ Geographical location: Latitude 19° 3' 15" N and longitude 73° 45' 0" E.

The location of project activity is shown in following figures – Fig 1:



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 whether the Party involved wishes to be considered as project participant (yes/no)
India (host)	Dodson –Lindblom Hydro Power Private Limited (DLHPPL) (Private Entity)	No
The State of the Netherlands	IFC-Netherlands Carbon Facility (INCaF) (Private Entity)	Yes.

A.4. Reference of applied methodology and standardized baseline

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Title of approved baseline and monitoring methodology:

Renewable electricity generation for a grid in accordance with approved small scale methodology AMS I.D.

Type I : Renewable energy project

Sectoral Scope : 01, Energy Industries

Category I.D : Grid connected renewable electricity generation, version 13¹.

Reference : Reference has been taken from the list of the small-scale CDM project activity categories contained in „Appendix B of the simplified M&P for small-scale CDM project activities.

Tool reference : “Tool to calculate the emission factor for an electricity system” (version 01).

Standardized baseline:

Not applicable.

¹ 2 <http://cdm.unfccc.int/methodologies/DB/RSCTZ8SKT4F7N1CFDXCSA7BDQ7FU1X/view.html>

A.5. Crediting period of project activity

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Crediting Period : Renewable crediting period (3*7 years).

Start date of the 2nd Crediting Period : 27/07/2008Duration of the 2nd Crediting Period : 27/07/2008 – 26/07/2015

Duration of the Current Monitoring Period : 01/01/2013 – 26/07/2015

Previous Crediting Period : 27/07/2001 – 26/07/2008

A.6. Contact information of responsible persons/entities

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Dodson–Lindblom Hydro Power Private Limited (DLHPPL)
Mumbai (India).

(Contact details are provided in Appendix 1)

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

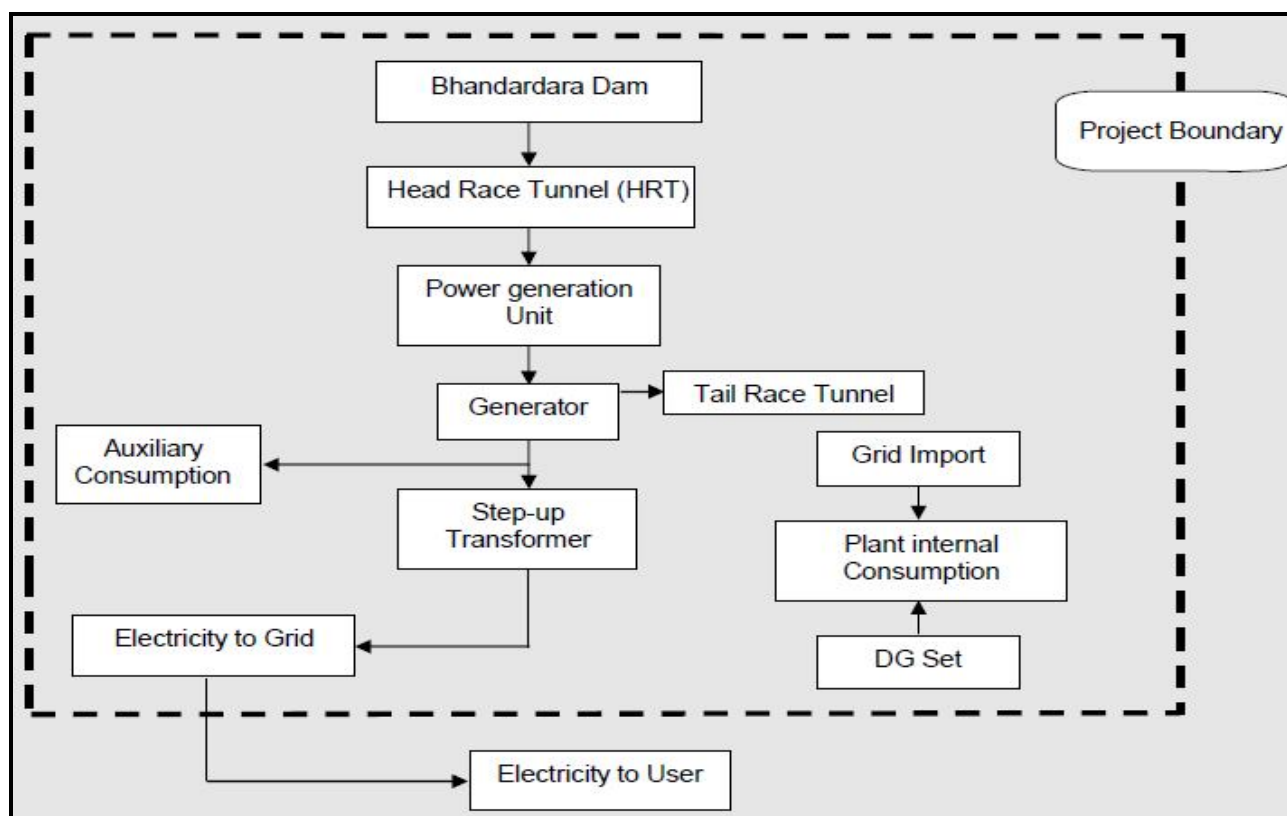
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The project activity (BH-1) was originally built by the GOMID with a single hydropower generating unit of 10 MW in 1984. In Maharashtra state, all state owned hydroelectric plants are constructed by GOMWRD and handed over to Maharashtra State Electricity Board (MSEB) (now Maharashtra State Electricity Generation Company) for operation and maintenance. The generating unit at BH-1 was commissioned in 1986 and entered commercial operation in 1987. After operating for eight years, a mishap occurred which severely damaged the entire plant and the plant ceased to operate. The rehabilitation and operation of this plant was awarded on a lease, own, operate and transfer basis to Dodson – Lindblom International Inc (DLI), an Ohio, USA, based company.

The project was registered with UNFCCC on 30/09/2006 and the renewal of crediting period is approved by UNFCCC on 25/10/2008. Project proponent requested for revision in registered PDD and the same was accepted by the CDM-EB on 16/10/2010. The rated turbine capacity mentioned in the initial version of the PDD was 12 MW. However, the revised PDD which got accepted by the UNFCCC on a date of 16/10/2010 mentions the total capacity of the turbine as 14.84 MW in order to incorporate the maximum overload capacity up and above the nominal rated capacity of the corresponding turbine. The Plant is in operation continuously since 27th July 2001 and the project has already issued 214,154 CERs from its first crediting period (27/07/2001 to 26/07/2008).

There is one Francis turbine is employed in the project activity. The flowing water is guided through a head race tunnel and penstock gate and jetted on to a turbine. This action rotates the turbine, which is connected to a synchronous generator. The rotation of turbine causes the rotation of the generator thereby producing electricity. The generated electricity is stepped up to 132 kV and exported to MSTCL grid, which is part of regional grid. The technical specifications of the employed technology are provided in Annex 1.

Schematic Diagram of the Project Activity:



The capacities of the project equipments are not changed during this monitoring period and no emergency incidents occurred during this period which may change the applicability of the methodology or change the emission reductions. Further, the plant was shut down in the months of Jan, May, Jun & Nov in 2013 and Jun & Oct in 2014 and in Jun 2015 which falls under the monitoring period, it was in operational mode during rest of the months of across the monitoring period.

B.2. Post-registration changes

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

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Not Applicable.

B.2.2. Corrections

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Not Applicable.

B.2.3. Changes to start date of crediting period

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Not Applicable.

B.2.4. Inclusion of a monitoring plan to the registered PDD that was not included at registration

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Not Applicable.

B.2.5. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

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Not applicable.

B.2.6. Changes to project design of registered project activity

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The project proponent had requested for revision in registered PDD and same was approved by the CDMEB.

Approval date : 16/10/2010

Reference number : 0430

Reference link : <http://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view?cp=1>

B.2.7. 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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According to the registered PDD, following parameters are being monitored in the project activity:

- Electricity exported to the grid by the project activity in kWh (EG_y)
- Electricity imported from the grid by the project activity in kWh (E_{import})
- Gross electricity generated by the project activity in kWh (E_{Gen})
- Auxiliary Units consumed by the project activity in kWh
- Diesel consumed by the stand by DG Set (DC) in Ton
- Hourly electricity exported to the grid by the project activity as recorded at the main meter and check meter in kWh (HEE_{main_meter})

The electricity exported to the grid is measured continuously and a Joint meter reading statement is made which gives the electricity exported to the grid by the project activity in kWh. The Joint Meter reading is taken on the last day of every month. The measurement at 132 kV side for supply to MSETCL grid gives the energy supply reading. Monthly joint meter reading (JMR) of main and check meters installed at the substation shall be taken and signed by authorized officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Joint meter reading of the main meter shall be the basis for monthly invoice of energy exported to the grid. Records of the joint meter reading of energy exported to the grid shall be maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD. Daily and monthly reports stating the electricity export shall be prepared by the shift in-charge and verified by the plant manager of DLHPPL.

The energy is imported at 33 kV feeder and a separate independent energy meter has been installed by MSEDCL to measure the units imported by DLHPPL. The units imported are recorded monthly and bills are issued by MSEDCL. Bills of MSEDCL shall be the source of data for electricity imported. This data is used to estimate the emissions due to the electricity imported from the grid and it is considered as part of project emissions when on a monthly basis the electricity imported is equal to or more than 0.5 % of the electricity exported.

The generation meter measures the units generated by the project activity. The Monthly joint meter reading (JMR) of the generation meter shall be taken and signed by authorized officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Records of the joint meter reading of energy generated shall be maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD. Daily and monthly reports stating the electricity generated shall also be prepared by the shift in-charge and verified by the plant manager of DLHPPL which shall be used to cross check the generation. The generation is measured in plant premises at generator terminals and is monitored and recorded continuously through PLC.

The difference between the gross electricity generation (E_{Gen}) and electricity exported to the grid (EG_y) as per the JMR gives the total Auxiliary Consumption in the plant. This Auxiliary consumption includes losses in Generator step up transformer, in cables and in excitation system, which are not actually measured.

The diesel quantity available in the diesel storage tanks is recorded daily by DLHPPL in the plant log book. The diesel consumption would be recorded in the logbook in litres. However, based on the density of diesel of about 0.88 kg/litre, the diesel consumption in tons would be calculated for use in the equation to compute project emissions (PE). The quantity of diesel combusted (mass unit) for the year will be considered in the emission reduction estimation if the project emissions due to diesel consumption is equal to or more than 0.5% of the emission reductions for that period.

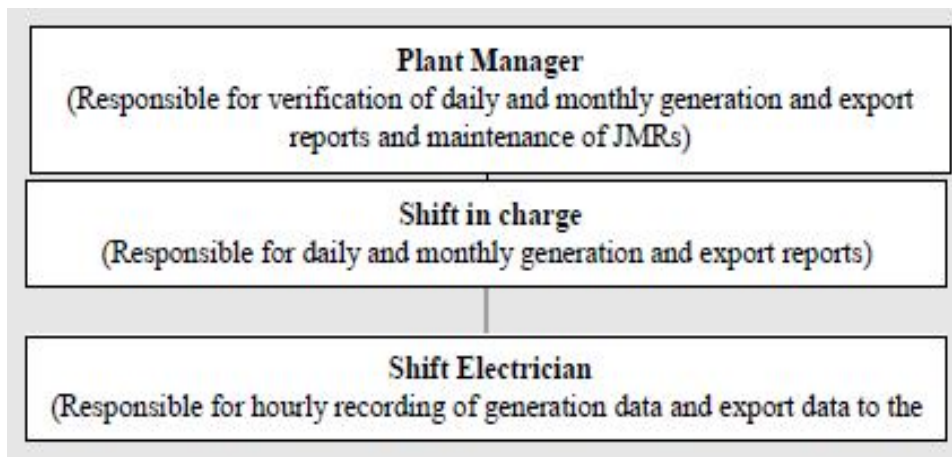
Hourly electricity exported to the grid by the project activity as recorded at the main meter and check meter. This parameter is relevant to conditions/ circumstances (those days) where the dates of Joint Meter Readings (JMRs) pertaining to the project activity do not match the individual verification periods. DLHPPL has archived and preserved all the JMRs pertaining to the energy generated and exported by the project activity, for at least two years after end of the crediting period. DLHPPL also archived the complete metering data at generation end and export data on paper and all the data would be preserved for at least two years after end of the crediting period.

Details of Calibration

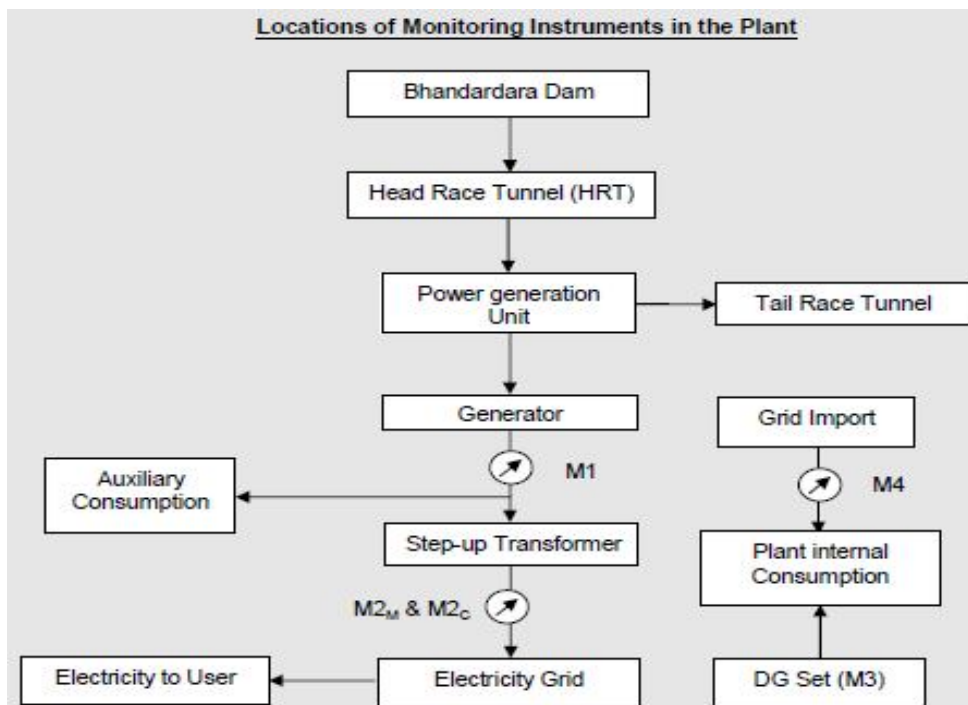
There is no delay in calibration during the monitoring period. Also, the meters have been found within the permissible limits on calibration.

Operational and Management structure for this project activity:

Hourly data recording of the generation and export to the grid are made by the electrician of the shift and verified by the shift in charge of DLHPPL and these data are stored at generation end. Daily and monthly reports stating the generation and electricity export are prepared by the shift in-charge and verified by the plant manager of DLHPPL. Records of joint meter reading would be maintained by plant manager of DLHPPL at site. MSEDCL (MSEB) also maintains the records of joint meter readings at their office. Monthly invoice are prepared based on Joint meter readings, which are used for cross checking the energy exported to the grid. The plant manager is a qualified engineer with considerable experience in power industry. All the shift incharges are qualified engineers and have undergone related training including plant operations, data monitoring, report generation etc.

Schematic diagram for the monitoring data flow at plant

Schematic diagram for monitoring system involved in the project activity is provided below-



- M1 : Gross Energy Meter
- M2_M : Main Export meter
- M2_C : Check Meter
- M3 : Measuring scale to monitor diesel consumption in DG set
- M4 : Electricity Import Meter

SECTION D. Data and parameters

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

Data/parameter:	EF _y
Unit	tCO ₂ /MWh
Description	Combined Margin CO ₂ emission factor of the NEWNE regional grid
Source of data	CO ₂ baseline database for the Indian Power Sector, version 3, 15 Dec 2007 – Central Electricity Authority (CEA), Ministry of Power
Value(s) applied)	0.69
Choice of data or measurement methods and procedures	CEA has estimated the simple operating margin and build margin emission factor for the NEWNE regional grid. For calculating the CO ₂ emission factor as per combined margin method for the renewable power generation project activities in the first and subsequent crediting periods, the weights of 0.25 for operating margin and 0.75 for build margin have been considered as 'Tool to calculate the emission factor for an electricity system'
Purpose of data	Calculation of baseline emission.
Additional comments	The emission factor has been fixed for the second crediting period.

Data / Parameter	NCV _{diesel}
Unit	GJ/Ton
Description	Net calorific value of diesel used on standby DG set
Source of data	CO ₂ baseline database for the Indian Power Sector, version 8– Central Electricity Authority (CEA), Ministry of Power (http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)
Value(s) applied	43.30
Choice of data or measurement methods and procedures	Regional or National default values.
Purpose of data	Calculation of project emission
Additional comment	-

Data / Parameter	EF _{CO₂_diesel}
Unit	tCO ₂ e / GJ
Description	CO ₂ emission factor of diesel
Source of data	IPCC
Value(s) applied	0.0748
Choice of data or measurement methods and procedures	IPCC default values
Purpose of data	Calculation of project emission
Additional comment	-

D.2. Data and parameters monitored

Data/parameter:	EG _y
Unit	MWh
Description	Quantity of electricity exported to the grid in year y
Measured/calculated/default	Measured
Source of data	Joint Meter Readings (JMRs) taken and signed by authorized officials of MSEDCL
Value(s) of monitored parameter	91730.60 (Unit wise monthly details are provided in the emission reduction spread sheet)
Monitoring equipment	<p>Main Energy Meter and Check Energy Meters are used for net energy export</p> <p>Main Energy Meter Details: Make : ABB Accuracy Class : 0.2 Serial Number : 02173601 Calibration Frequency : Once in a year Date of previous calibration : 12/12/2012, 01/06/2012 Date of recent calibration : 12/12/2013,01/06/2014,12/12/2014,01/06/2015</p> <p>Check Meter Details: Make : ABB Accuracy Class : 0.2 Serial Number : 02173600 Calibration Frequency : Once in a year Date of previous calibration : 12/12/2012, 01/06/2012 Date of recent calibration : 12/12/2013,01/06/2014,12/12/2014,01/06/2015</p>
Measuring/reading/recording frequency:	Continuous monitoring, hourly measurement and at least monthly recording
Calculation method (if applicable):	Not applicable as the data is directly monitored.
QA/QC procedures:	<p>For measuring the energy exported to the grid, one main meter and one check meter are maintained. Joint meter reading of the main meter is the basis of billing and emission reduction calculations, so long as the meter is found to be within prescribed limits of accuracy during the periodic check.</p> <p>Monthly joint meter reading of main and check meters are taken and signed by authorized officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Records of this joint meter reading are maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD.</p> <p>The Meters are checked for accuracy and calibration by the MSETCL as per the provisions in the power purchase agreement (PPA) prevailing at the time of respective accuracy check or calibration. As per the current PPA, the meters are checked for accuracy every six months and the calibration is done once in a year.</p>
Purpose of data:	Calculation of baseline emission
Additional comments:	The data would be archived upto two years after the end of crediting period.

Data / Parameter	DC _y
Unit	Litres
Description	Diesel consumption by the standby DG set
Source of data	Log Book
Value(s) applied	112
Monitoring equipment	The diesel quantity available in the diesel storage tanks is recorded daily by DLHPPL in the plant log book. The diesel consumption would be recorded in the logbook in litres. However, based on the density of diesel of about 0.88 kg/litre ⁴ , the diesel consumption in tons would be calculated.
Monitoring frequency	Continuously and recorded monthly basis.
Calculation method (if applicable):	Not applicable as the data is directly monitored.
QA/QC procedures	Not required.
Purpose of data	Calculation of project emission
Additional comment	Project emissions due to diesel consumption will be calculated as below: $PE_{DC,y} = DC_y \times NCV_{diesel} \times EF_{CO2_diesel}$ The data would be archived upto two years after the end of crediting period.

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 procedures and formulas used for estimation of the baseline emission factor and the assumptions made have been detailed below.

The emission reduction of the small scale project activity is the net electricity exported to the grid (EG_y) in MWh multiplied by the baseline emission factor in tCO_2/MWh .

Baseline emission factor

The Baseline emission factor (EF) is $0.69 tCO_2 /MWh$ has been estimated and validated for Western regional grid of India, the applicable grid for the project activity. This is fixed ex-ante for the crediting period as per the registered PDD.

DLHPPL has exported net 91730.60 MWh from the plant in this monitoring period. Hence, the Baseline Emission is calculated as below; Baseline Emissions = $(0.89 tCO_2e/MWh \times 91730.60 MWh) = 63,294 tCO_2e$.

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

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Diesel consumption

The project also involved consumption of minor quantity of Diesel in standby DG Set.

The formula used to calculate the project emissions due to diesel consumption is provided below:

$$PE_{\text{Diesel}} = \sum DC_y \times \text{Density}_{\text{Diesel}} \times NCV_{\text{Diesel}} \times EF_{CO_2\text{Diesel}}$$

Where,

PE_{Diesel} = Project Emission due to use of Diesel consumed during this monitoring period in DG set

DC_y = Diesel Consumption in Liters (L)

$\text{Density}_{\text{Diesel}}$ = Density of Diesel (.86Kg/Lit)

NCV_{Diesel} = Net Calorific Value of Diesel

$EF_{CO_2\text{Diesel}}$ = IPCC 2006 Emission factor for Diesel

$$PE_{\text{Diesel}} = 112 L \times (0.86 \times 10^{-3}) \text{ tonne/L} \times 43.3 \text{ GJ/tonne} \times 0.0748 tCO_2 /GJ \\ = 0.319 tCO_2$$

E.3. Calculation of leakage

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As per category I.D of Appendix B of the simplified M&P for small-scale CDM project activities, leakage is to be considered only if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity. Since this does not apply for the project activity hence there is no leakage issues associated with the project activity and no formula is used to estimate leakage due to the project activity.

E.4. Summary of calculation of emission reductions or net 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)	GHG emission reductions or net GHG removals by sinks (t CO ₂ e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
Total	63,294	0.319	0	NA	63293.681	63,293 (rounded down)

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

Item	Values estimated in ex ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO ₂ e)	89,986 ²	63,293

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

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There is no increase in the emission reductions during the current monitoring period relative to the estimation in the registered CDM-PDD. However, there is around 29.7% lesser emission reduction relative to estimation in the registered CDM-PDD for the equivalent duration of the monitoring period. This is envisaged mainly due to the lower PLF because of no-generation months during the monitoring period.

² The emission reductions have been extrapolated for 692 days as this monitoring period is of the duration 01/01/2013 to 26/07/2015 that counts 936 days. Calculation for the same has been provided in ER sheet.

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

Project participant and/or responsible person/ entity	<input checked="" type="checkbox"/> Project participant <input checked="" type="checkbox"/> Responsible person/ entity for application of the selected methodology (ies) and, where applicable, the selected standardized baselines to the project activity
Organization name	Dodson-Lindblom Hydro Power Private Limited
Street/P.O. Box	Tejpal Scheme Road 5, Vile Parle
Building	6, Shiv Vastu,
City	Mumbai
State/Region	Maharashtra
Postcode	400 057
Country	India
Telephone	+91 Ph: 022 26826819
Fax	+91 20 25885234
E-mail	dlhppl@dlz.com
Website	
Contact person	
Title	Director (Maharashtra Projects)
Salutation	Mr.
Last name	Paunikar
Middle name	S.
First name	Prem
Department	
Mobile	+91 98206 11688
Direct fax	
Direct tel.	
Personal e-mail	dlhppl@dlz.com

Annex 1

Technical specification of BH-1:

The power plant consists of water conductor, intake, power house, generation unit and a transformer.

Bhandardara reservoir	
Type of dam	Masonry gravity dam
Gross storage	318 million cubic meter (Mm ³)
Live storage for power	249 Mm ³
Top of dam	746.04 m
Water conductor	
Number	1
Type	Steel
Design discharge	24 m ³ /s
Size	3.0 m dia
Length	318.8 m
Intake	
Full supply level	744.73 m
Minimum draw down level for power	720.7 m

Power house	
Type	Surface, RCC and masonry
Size	21.5 m x 29.25 m
Floor level	674.15 m
Level of CL of turbine	665.5 m
Capacity of OH crane	65/15 tonnes
Turbine unit	
Max gross head	77 m
Net design head	69 m
Design discharge	19.25 m ³ / sec
Type of generating unit	Vertical, Francis, top mounted thrust bearing
Number	1
Installed capacity	12.564 MW
Excitation	Static
Serial No.	V – 0037/1
Generator unit	
Guaranteed output	12 MW
Rated power factor	0.9
Efficiency at 0.9 power factor	97.62 % at 100 % load

	97.38 % at 75% load 96.69 % at 50% load 94.90 % at 25% load
Rated voltage	11 kV
Serial No.	C21 /001
Connection to grid	
Transformer capacity	132kV,17.5MVA, 3 phase, OMAN
Connection point	BH-1 switchyard
Protection System	Multi functional digital relay system
Control & monitoring operation	Computer based c/w interface for remote operation

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: <ul style="list-style-type: none"> • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement.
04.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>; • Editorial improvement.
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net 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		