



**Verification and certification report form for  
CDM project activities  
(Version 04.0)**

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the project activity</b>	12 MW hydropower plant in Bhandardara in Maharashtra, India. UNFCCC ref. No- 0430		
<b>Scale of the project activity</b>	<input type="checkbox"/> Large-scale <input checked="" type="checkbox"/> Small-scale		
<b>Version number of the verification and certification report</b>	3.6		
<b>Completion date of the verification and certification report</b>	06/08/2021		
<b>Monitoring period number and duration of this monitoring period</b>	Monitoring Period: 03 (of the 3 <sup>rd</sup> Crediting Period) Period: 01/01/2018 to 31/03/2019 (both dates are included)		
<b>Version number of the monitoring report to which this report applies</b>	04.0		
<b>Crediting period of the project activity corresponding to this monitoring period</b>	3 <sup>rd</sup> crediting period (Renewal) Start date: 27/07/2015 Length: 7 years (27/07/2015 – 26/07/2022)		
<b>Project participants</b>	<ul style="list-style-type: none"> <li>▪ Dodson–Lindblom Hydro Power Private Limited (DLHPPL)</li> <li>▪ Statkraft Markets GmbH</li> <li>▪ WeAct Pty Ltd.</li> </ul>		
<b>Host Party</b>	India		
<b>Applied methodologies and standardized baselines</b>	Selected Methodology: AMS-I.D. – Grid connected renewable electricity generation, version 18; Dated: 28/11/2014 Selected standardized baseline: N/A		
<b>Mandatory sectoral scopes</b>	Sectoral scope : 1- Energy industries (renewable - / non-renewable sources)		
<b>Conditional sectoral scopes, if applicable</b>	NA		
<b>Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD</b>	43,680 tCO <sub>2</sub> e		
<b>Certified amount of GHG emission reductions or GHG removals for this monitoring period</b>	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021
	0	54,024 tCO <sub>2</sub> e	N/A
<b>Name and UNFCCC reference number of the DOE</b>	Earthood Services Private Limited UNFCCC Ref.: E-0066		

<b>Name, position and signature of the approver of the verification and certification report</b>	 Dr. Kaviraj Singh Managing Director

## SECTION A. Executive summary

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Earthood Services Private Limited (hereafter referred as ESPL) has been contracted by Dodson–Lindblom Hydro Power Private Limited (DLHPPL) to perform the third periodical verification of “12 MW hydropower plant in Bhandardara in Maharashtra, India” (UNFCCC Ref. No. 0430) applying the methodology AMS-I.D. Version: 18. The management of Dodson–Lindblom Hydro Power Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

### Scope of verification:

The verification is an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification includes the implementation and operation of the project activity as set out in the registered PDD in the monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period by the project participant and is based on the following:

- (i) The approved methodology AMS I. D. version 18 “Grid connected renewable electricity generation”, applied in the PDD
- (ii) The registered PDD and monitoring plan
- (iii) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
- (iv) The CDM Validation and Verification Standard (VVS) for Project Activity, version 2.0
- (v) The CDM Project Standard (PS) and Project Cycle Procedure (PCP) for Project Activity, version 2.0.
- (vi) Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity’s reported emission reductions.

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC, as appropriate to the Project activity. The verification is not meant to provide any consulting or recommendations to the project participant/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

### Verification Process:

The verification process is conducted as per internal CDM Quality Manual, which includes the following steps;

- a) Contract with Dodson–Lindblom Hydro Power Private Limited (DLHPPL) and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b) Completeness check of Monitoring Report
- c) Publication of Monitoring Report at UNFCCC website
- d) Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and planning of onsite audit (including sampling approach (refer Section C.4 of this report) to be applied)
- e) On site audit (refer Section D.2 of this report) (physical implementation and interview with relevant stakeholders) by verification team consistent of Team Leader and all Technical Experts, as a minimum
- f) Follow up activities e.g., interviews (refer Section D.3 of this report)
- g) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)
- h) Independent technical review of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences)
- i) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section E and F of this report).
- j) Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

**Verification Conclusion:**

Based on the outcome of the verification process of the registered Project activity “12 MW hydropower plant in Bhandardara in Maharashtra, India.” (UNFCCC Ref. No. 0430) for the monitoring period 01/01/2018 to 31/03/2019 (including both dates) we confirm that the implementation of referenced registered project activity is complying with applicable CDM rules and regulations as stated in the Monitoring Report (final) Version 4.0 dated 12/06/2021. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodologies, AMS- I.D. Version: 18 and the monitoring plan contained in the PDD.

Earthood Services Private Limited is able to certify that the emission reductions from the registered CDM project activity “12 MW hydropower plant in Bhandardara in Maharashtra, India.” (UNFCCC Ref. No. 0430) during the period 01/01/2018 to 31/03/2019 (including both days) amount to 54,024 tCO<sub>2</sub>e. Therefore, this is being submitted for request for issuance, as per UNFCCC procedures.

**SECTION B. Verification team, technical reviewer and approver****B.1. Verification team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader / Local Expert	EI	Ahirwar	Vivek Kumar	Central Office	Y	Y	Y	Y
2.	Technical Expert/Meth Expert	EI	Ahirwar	Vivek Kumar	Central Office	Y	Y	Y	Y

**B.2. Technical reviewer and approver of the verification and certification report**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Garg	Shreya	Central Office
2.	Expert to TR	IR	Garg	Shreya	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

**SECTION C. Application of materiality****C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	<b>Manual adjustment of otherwise automatically recorded activity levels:</b> This error may be due to manually recording of actual readings in-to original records.	Low	Monitoring Equipment (e.g. Energy Meters) has totalize which reduce the chance of error as initial readings and final readings can be cross-check in every record. For measurement of quantity of fuel (diesel); measurement	100 per cent of the data and information was checked from log book/3.8/, JMR record/3.3/ and cross-checked from supplier bill/3.4/ .

			carried out using scale and at the same time recorded in log book. The total quality can be cross-checked from fuel supply purchase bill/3.8/ and receipt from supplier/3.8/. The plant data was verified by plant manager in regular interval, so there is low potential risk of errors, omissions or misstatements.	
2.	<b>Human error in the quantification of emissions.</b> This error may be due to transfer of monitored data in-to Emission Reduction calculation sheet/4.3/ for calculation of actual emission reduction archived during monitoring period.	High	The monitoring data is transfer manually, so there is high potential risk of errors/errors, omissions or misstatements.	100 per cent of the data and information was checked from log book/3.8, JMR records/3.3/ record book/3.12/ and cross-checked from supplier bill/3.4/3.5/ .

## C.2. Consideration of materiality in conducting the verification

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In accordance with CDM VVS for PAs, Version 02.0 para 326(d) the prescribed thresholds for materiality for CDM PAs are as under;

Emission Reductions (tCO <sub>2</sub> e)/year	500,000 or more	300,001 to 499,999	300,000 or less	Small Scale CDM PAs	Micro Scale CDM PAs
Materiality Threshold (para 361)	0.5%	1.0%	2.0%	5.0%	10.0%

The applicable materiality threshold is 5% as this is a small scale CDM project activity.

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO <sub>2</sub> e) in this monitoring period	39,860 tCO <sub>2</sub> e	54,024 tCO <sub>2</sub> e
Applicable Threshold (%) as per para 326(d) of CDM VVS for PAs Version 02.0	5%	5%

Monitored Parameter (Symbol / Description n)	Reporting Frequency	Number of Discrete Data (Total) Total (100%)	Sample selected for verification-ion Sample (%)	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (Population based on extrapolation)
Electricity Exported (EGy)	Continuous monitoring, hourly measurement and at least monthly recording	15 (100%)	100%	Human error in the quantification of emissions.	14165 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e
Electricity Import (EImport)	Continuous monitoring, hourly measurement	15 (100%)	100%	Human error in the quantification of emissions.	0 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e

	and at least monthly recording					
Gross Electricity Generation (EGen)	Continuous monitoring, hourly measurement and at least monthly recording	15 (100%)	100%	Human error in the quantification of emissions.	14354 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e
Auxiliary Consumption	Data is calculated once in month.	15 (100%)	100%	Human error in the quantification of emissions.	342 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e
Hourly Electricity Export (HEEmain_Meter)	Continuous monitoring, hourly measurement and at least monthly recording	15 (100%)	100%	No error.	0 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e
Diesel Consumption (DC)	Continuously and recorded monthly basis.	15 (100%)	100%	Human error in the quantification of emissions.	1 tCO <sub>2</sub> e	0 tCO <sub>2</sub> e

All the monthly/daily/hourly reported figures for all monitoring parameter were verified with respective log book/ data Sheets and were found to be consistent in final Monitoring Report version 04 /1.2/ and ER sheet version 02.1/4.3/. Therefore, it can be stated that the verified value is free from any potential error / omission / misstatement. Therefore, there are no additional factors which might lead to introduction of error in emission reduction estimation. The values reported in the column of related final ER sheet version 02.1/4.3/ were cross checked from the originally recorded values. The total of all these values reported in that column was also cross verified from source values. This ensured that few errors were made while the values were transferred from source to ER sheet which led to the change in the achieved ERs.

Based on the above table it can be confirmed that the materiality threshold is not breached applicable for the registered PA as per CDM VVS for PAs, Version 02.0.

## SECTION D. Means of verification

### D.1. Desk/document review

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The Monitoring Report version 01 dated 02/05/2019/1.1/ submitted by the PP was made publicly available on the UNFCCC website before the verification activities started. The published MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD /1.6/& revised approved PDD/1.3/ and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid;
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents reviewed or referenced is available in Appendix 3 of this report.

**D.2. On-site inspection**

Duration of on-site inspection: 26/07/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Confirm the implementation and operation of the project;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
2.	Review the data flow for generating, aggregating and reporting the monitoring parameters;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
3.	Confirm the correct implementation of procedures for operations and data collection;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
4.	Cross-check the information provided in the MR documentation with other sources;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
5.	Check the monitoring equipment against the requirements of the PDD and the approved methodology, including calibrations, maintenance, etc.;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
6.	Review the calculations and assumptions used to obtain the GHG data and ER;	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar
7.	Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.	DLHPPL, Bhandardara village, Ahmednagar district, Maharashtra	26/07/2019	Vivek Kumar Ahirwar

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Jadav	R.V.	Senior Engineer, DLHPPL	26/07/2019	Project Activity Description, implementation and operation of the project	Vivek Kumar Ahirwar
2.	Gurao	B.T.	Senior Engineer, DLHPPL	26/07/2019	Procurement Records & Consumption , Bill & Energy Bills/Records	Vivek Kumar Ahirwar
3.	Vaidya	N. R.	Shift Engineer,	26/07/2019	Monitoring Data & Records	Vivek Kumar Ahirwar

			DLHPPL		Monitoring Plan, equipment, calibrations, maintenance, data records, certificates etc.; Calculations and assumptions used to obtain the GHG data and ER	
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#### D.4. Sampling approach

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Not Applicable, as all monitoring data as reported in MR and ER were verified and checked from actual records

#### D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR #1, CAR#2	-
Compliance of the project implementation and operation with the registered PDD	-	-	-
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines		-	
Compliance of monitoring activities with the registered monitoring plan	-	-	-
Compliance with the calibration frequency requirements for measuring instruments	CL#1	CAR #1	-
Assessment of data and calculation of emission reductions or net removals	-	CAR#2	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-		
<b>Total</b>	<b>1</b>	<b>2</b>	<b>-</b>

### SECTION E. Verification findings

#### E.1. Compliance of the monitoring report with the monitoring report form

<b>Means of verification</b>	The Monitoring Report version 04/1.2/ is compliant with Monitoring Report form (Version 08.0) /2.4/ and guidance as provided by UNFCCC. ESPL considers that the attachment “Instructions for filling out the monitoring report form” at the end of template “Monitoring report form (Version 08.0)” /2.4/ has been followed. Relevant information was provided by the project participant in the applicable Monitoring Report sections.
<b>Findings</b>	CAR #1 and CAR#2 were raised and resolved.
<b>Conclusion</b>	ESPL confirms that the monitoring report is in compliance with the relevant valid form and instructions therein as accordance to “Clean Development Mechanism Validation and Verification Standard for Project Activity” (CDM- VVS for PA) v02.0 §§ 352-353.

#### E.2. Remaining forward action requests from validation and/or previous verifications

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This is third periodic verification of the project. There are no pending issues from the validation/1.4/ or the previous verification/1.5/. This was verified and confirmed from the project documents on the UNFCCC project webpage /1.5/.

### E.3. Compliance of the project implementation and operation with the registered project design document

<b>Means of verification</b>	<p>The project activity (which is also referred to as BH-1 Hydro locally) was fully implemented according to the description presented in the approved revised PDD /1.3/. The assessment team confirms, through the visual inspection that all physical features of the CDM project activity including data collecting systems and storage have been implemented in accordance with the approved revised PDD /1.3/.</p> <p>The implementation status of the project was verified and it was found that the project activity was already implemented, commissioned and is in continuous operation since its starting date of operation i.e. 27/07/2001.</p> <p>During the site visit/6.1/ /6.2/, the assessment team verified the technology used and the capacity of equipments implemented at the project site through physical inspection and it can be confirmed that there are no changes in the project design against the revised approved project design document.</p> <p>Geo co-ordinates of the project location is at latitude 19° 33' 15" N and longitude 73° 45 ' 0" E. Location of the project was verified through Google Maps (<a href="https://www.gps-coordinates.net/">https://www.gps-coordinates.net/</a>) and found consistent with the same mentioned in the approved revised PDD/1.3/ and MR/1.2/.</p> <p>The line diagram of the metering system of the project activity showing metering points is indicated in Section C of the MR/1.2/. The same is found to be consistent during site visit.</p> <p>During the site visit, the assessment team verified the technology used and the capacity of hydro plant implemented at the project site through physical inspection and it can be confirmed that there are no changes in the project design against the revised PDD/1.3/.</p> <p>Actual emission reductions achieved during the current monitoring period are 23.68% higher than the same estimated in the revised CDM-PDD/1.3/ for comparable period. This is due to high plant load factor achieved during the current monitoring period (Kindly refer section E.8.6 of this report for further details).</p> <p>No events or situations that may impact the applicability of the methodology occurred during this monitoring period, which was confirmed by checking the operational/shut down details available at site office and interviewing the site personnel. The project was checked against the applicability criteria in the applied methodology AMS-I.D. Version 18 and it is confirmed that the methodology is applicable to the project activity. The data and variables provided in the Monitoring Report are the same as stated in the approved monitoring plan.</p>
<b>Findings</b>	<p>No non-conformability was observed during assessment for implementation of project activity against the description presented in the approved revised PDD/1.3/. Therefore, no finding was raised.</p>
<b>Conclusion</b>	<p>ESPL confirms that the implementation of project activity is in compliance with the CDM requirement stipulated under CDM- VVS for PA v02.0 §§ 354-356.</p> <ol style="list-style-type: none"> <li>The implementation and operation of the project activity has been conducted in accordance with the description contained in the registered and approved revised PDD/1.3/.</li> <li>By means of an on-site inspection the verification team is able to confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM project activity are in place and that the project participants have operated the project activity as per the approved revised PDD/1.3/.</li> <li>No information with regard to data and variables was identified that may surpass the estimated quantity of ERs in the approved revised PDD/1.3/.</li> <li>The emission reductions achieved during the current monitoring period are 54,024 tCO<sub>2e</sub> higher than the estimated quantity (43,680 tCO<sub>2e</sub>) in the registered PDD for the comparable period.</li> </ol>

**E.4. Post-registration changes****E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents<sup>1</sup>**

&gt;&gt;

There are no temporary deviations from the monitoring plan of registered PDD/1.6/ and revised PDD /1.3/ or applied methodology/2.3/ during the current monitoring period. It was verified and confirmed from the Monitoring Report/1.2/, approved PDD/1.3/ & registered PDD/1.6/, UNFCCC project webpage /1.5/ and on-site verification/6.1/ & /6.2/.

**E.4.2. Corrections**

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There are no corrections during the current monitoring period.

**E.4.3. Changes to the start date of the crediting period**

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There are no changes to the start date of crediting period identified during the current monitoring period. It was verified and confirmed from the UNFCCC project webpage /1.5/.

**E.4.4. Inclusion of a monitoring plan**

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There is no inclusion of a monitoring plan identified during the current monitoring period.

**E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents**

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There are no permanent changes from the monitoring plan/1.3/ or applied methodology/2.3/ during the current monitoring period.

**E.4.6. Changes to the project design**

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There is no change to project design of the registered project activity identified during the current monitoring period. It was verified and confirmed from the Monitoring Report/1.2/, approved revised PDD/1.3/, UNFCCC project webpage /1.5/ and on-site verification/6.1/&/6.2/.

**E.4.7. Changes specific to afforestation and reforestation project activities**

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Not Applicable.

**E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents**

<b>Means of verification</b>	The review of applied methodology and monitoring plan establishes that the monitoring plan presented in the PDD is consistent the approved AMS-I.D. Version 18 – “Grid connected renewable electricity generation” /2.3/.
<b>Findings</b>	No non-conformability was observed during assessment for monitoring plan against applied monitoring methodology. Therefore, no finding was raised.
<b>Conclusion</b>	ESPL confirms that the monitoring plan is in accordance with the approved methodology /2.3/ and correctly applied by the registered CDM project activity and CDM-VVS for PA v02.0 §§ 357-359 have been met.

<sup>1</sup> Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

**E.6. Compliance of monitoring activities with the registered monitoring plan****E.6.1. Data and parameters fixed ex ante or at renewal of crediting period**

<b>Means of verification</b>	The following three parameters are fixed ex-ante defined in registered PDD:			
	<b>Data/parameter:</b>	EF <sub>CO2,grid, y</sub>	NCV <sub>diesel</sub>	EF <sub>CO2_diesel</sub>
	<b>Unit</b>	tCO <sub>2</sub> /MWh	GJ/Ton	tCO <sub>2e</sub> / GJ
	<b>Description</b>	Combined Margin CO2 Emission Factor of the NEWNE grid	Net calorific value of diesel	CO <sub>2</sub> emission factor of diesel
	<b>Source of data</b>	Central Electricity Authority (CEA), CO2 baseline database for the Indian Power Sector, , Version 10 ,Dated 16 December 2014 (Combined Margin Emission Factor for Northern Regional Grid) published by Central Electric Authority (CEA), India, dated 15 December 2007 /6.3/	IPCC default values at the upper limit of uncertainty at 95% confidence intervals as provided in Table 1.2 of Chapter 1 of Vol 2 (Energy) of the 2006 IPCC guidelines on National GHG inventories, indicates that the NCV of diesel oil is 43.3 TJ/Gg which is equivalent to 43.3 GJ/ton	IPCC default values
	<b>Value(s) applied)</b>	0.6890	43.3	0.0748
The reported value is been verified and considered appropriately in the MR/1.2/ and the ER calculation excel sheet/4.3/.				
<b>Findings</b>	No non-conformability was observed about data and parameters fixed ex ante in registered PDD. Therefore, no finding was raised.			
<b>Conclusion</b>	Value of parameter reported in the monitoring report /1.2/ and corresponding emission reduction calculations spreadsheet /4.3/ are consistent with the approved revised PDD/1.3/. The applied values are correct and justified.			

**E.6.2. Data and parameters monitored**

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring mechanism, including the data collection system, is effective and reliable. During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the O&amp;M personnel from the plant are conscious of the importance of the monitoring activities</p> <p>On-site verification of “Quantity of electricity exported to the grid by the project activity” data has been done as follows</p>				
	Monitoring Report, onsite checks	Requirement in the applicable methodology and relevant EB Documents	Requirement in the revised monitoring plan (Revised PDD monitoring	Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/	DOE Conclusion

	<b>Revised Monitoring Plan &amp; Approved Methodology</b>		<b>Plan)</b>	<b>check and consistency with actual monitoring practice at project site )</b>	
	<b>Data/Parameter</b>	EG <sub>BL,y</sub>	EG <sub>y</sub>	EG <sub>y</sub>	This is in compliance with the applicable methodology and monitoring plan.
	<b>Description</b>	Quantity of electricity exported to the grid by the project activity	Quantity of electricity exported to the grid by the project activity	Quantity of electricity exported to the grid by the project activity	The net power exported to the grid is equivalent to the amount of electricity supplied to the grid. Hence, this is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated /Default</b>	Measured	Measured	Measured and calculated based on measured parameters.	The meters installed at grid substation near to the project site directly measure the exported and imported electricity. EG <sub>y</sub> (net electricity exported to the grid) is the simple difference of these two directly measured values. Hence this is in compliance with the applicable methodology and monitoring

					plan.
	<b>Source of data</b>	On site measurement	Joint Meter Readings (JMRs) taken and signed by authorized officials of MSEDCL	Joint Meter Readings (JMRs)/3.3/ taken and signed by authorized officials of MSEDCL	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	<b>Monitoring equipment</b>	Energy meter	Energy meter	Energy Meters: Readings are recorded by a main meter and check meter which measures and records the electricity exported to the grid by the project activity. The main and check meters are connected at the secondary (132 kV) side of the step-up transformer in the switchyard of the project activity.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measuring/Reading/Recording frequency</b>	Monthly	Continuous monitoring, hourly measurement and at least monthly recording	Continuous monitoring, hourly measurement and at least monthly recording	This is in compliance with the applicable methodology and monitoring plan.
	<b>Calculation method (if applicable)</b>	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	$EG_y =$ (Electricity exported to the grid – Electricity imported from grid)	More specific information is provided. This parameter is calculated based on the measured parameter. This is in compliance with the applicable methodology and monitoring

					plan.
	QA/QC procedures	Applied methodology does not provide any details.	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. 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.	The energy meters (main and check) are calibrated in regularly interval. There is no calibration delay observed during current monitoring period. The calibration frequency is found to be consistent with registered monitoring plan. The electricity export values recorded in form of Joint Meter Reading (JMR) /3.3/ each month from the main meter were cross-verified with the corresponding invoices for that particular month raised by the Project Participant on MSEDCL for the sale of electricity.	Methodology does not provide any specifications; this is as per actual practice. But, this is in line with the general CDM requirements.
	Value (s) of Monitored parameter	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its

				project site.	values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the assessment team.
<b>Findings</b>	CL#1 was raised and resolved.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v02.0 §§ 360-364 have been met.</p>				

**Parameter 2: Electricity Imported from the grid by the project activity: E<sub>Import,y</sub>**

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring mechanism, including the data collection system, is effective and reliable. During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the O&amp;M personnel from the plant are conscious of the importance of the monitoring activities</p> <p>On-site verification of “Electricity Imported from the grid by the project activity” data has been done as follows</p>				
	Monitoring Report, onsite checks	Requirement in the applicable methodology and relevant EB Documents	Requirement in the revised monitoring plan (Revised PDD monitoring Plan)	Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/ check and consistency with actual monitoring practice at project site )	DOE Conclusion
	Revised Monitoring Plan & Approved Methodology				
	Data/Parameter	Not Specified	E <sub>import</sub>	E <sub>import</sub>	This is in compliance with the applicable methodology and monitoring plan.
	Description	Not Specified	Electricity Imported from	Electricity Imported from	Electricity imported by

			the grid by the project activity	the grid by the project activity	the project activity is measured by a separate import Meter installed near the switchyard.  Hence, this is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated /Default</b>	Not Specified	Measured	Measured and calculated based on measured parameters.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Source of data</b>	Not Specified	Monthly electricity bills raised by MSEDCL	Monthly electricity bills raised by MSEDCL/3.4/	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	<b>Monitoring equipment</b>	Not Specified	Energy meter	Energy Meters: Readings are recorded by a main meter and check meter which measures and records the electricity import from the grid by the project activity. A separate Import Meter installed near the switchyard at project activity site.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measuring/Reading/ Recording frequency</b>	Not Specified	Continuous monitoring, monthly recording	Continuous monitoring, monthly recording	This is in compliance with the applicable methodology and monitoring plan.
	<b>Calculation method</b>	Not Specified	Not Applicable as this is a	Not Applicable as this is a	More specific information is



	(if applicable)		measured parameter	measured parameter	provided. This is in compliance with the applicable methodology and monitoring plan.
	QA/QC procedures	Applied methodology does not provide any details.	Monthly electricity bills raised by MSEDCL. The meter is calibrated	Import meter is under the custody of MSEDCL, and DLHPPL has no access to meter and the calibration details pertaining to the same. Hence, calibration records are not maintained by DLHPPL for the import meter.	Methodology does not provide any specifications; this is as per actual practice. But, this is in line with the general CDM requirements.
	Value (s) of Monitored parameter	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at project site.	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the assessment team.
<b>Findings</b>	CL#1 was raised and resolved.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2 have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for</p>				

v02.0 §§ 360-364 have been met.

**Parameter 3: Gross Electricity Generated by the project activity;  $E_{Gen}$** 

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring mechanism, including the data collection system, is effective and reliable. During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the O&amp;M personnel from the plant are conscious of the importance of the monitoring activities</p> <p>On-site verification of “Gross electricity generated by the project activity” data has been done as follows</p>				
	<b>Monitoring Report, onsite checks</b>  <b>Revised Monitoring Plan &amp; Approved Methodology</b>	<b>Requirement in the applicable methodology and relevant EB Documents</b>	<b>Requirement in the revised monitoring plan (Revised PDD monitoring Plan)</b>	<b>Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/ check and consistency with actual monitoring practice at project site )</b>	<b>DOE Conclusion</b>
	<b>Data/Parameter</b>	Not Specified	$E_{Gen}$	$E_{Gen}$	This is in compliance with the applicable methodology and monitoring plan.
	<b>Description</b>	Not Specified	Gross Electricity generated by the project activity	Gross Electricity generated by the project activity	Gross Electricity Generation is measured at the Gross Generation Meter installed at the generator end within the control room of the plant. Hence, this is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated /Default</b>	Not Specified	Measured	Measured and calculated based on measured	Meter installed at the generator end within the

				parameters.	control room of the plant at the project site for directly measure the generated electricity. Hence this is in compliance with the applicable methodology and monitoring plan.
	<b>Source of data</b>	Not Specified	Joint Meter Readings (JMRs) taken and signed by authorized officials of MSEDCL	The readings from this meter are recorded jointly in the presence of authorized officials of MSEDCL, DLHPPL, MSETCL and GOMWRD monthly. This reading also forms part of the JMR/3.3/.	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	<b>Monitoring equipment</b>	Not Specified	Energy meter	Energy Meters: Readings are recorded by a meter which measures and records the electricity generated by the project activity.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measuring/Reading/Recording frequency</b>	Not Specified	Continuous monitoring, monthly recording	Continuous monitoring, monthly recording	This is in compliance with the applicable methodology and monitoring plan.
	<b>Calculation method (if applicable)</b>	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	<b>QA/QC procedures</b>	Applied methodology does not	The data are directly measured and	The energy meter is calibrated in	Methodology does not provide any

		provide any details.	monitored at the project site. The meters installed at the generator end shall be checked for accuracy for every six months and the calibration is done once in a year. If the accuracy of meter is found to be beyond permissible limit even after calibration then the meter shall be replaced with spare tested, calibrated meter. DLHPPL shall archive all the JMRs and the complete metering data at generation end on paper and all the data would be preserved for at least two years after end of the crediting period.	regularly interval. There is no calibration delay observed during current monitoring period. The calibration frequency is found to be consistent with registered monitoring plan. The electricity generated values recorded also in form of Joint Meter Reading (JMR)/3.3/ each month.	specifications; this is as per actual practice. But, this is in line with the general CDM requirements.
	<b>Value (s) of Monitored parameter</b>	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at project site.	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the

					assessment team.
<b>Findings</b>	CL#1 was raised and resolved.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v02.0 §§ 360-364 have been met.</p>				

#### Parameter 4: Auxiliary Consumption

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring mechanism, including the data collection system, is effective and reliable. During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the O&amp;M personnel from the plant are conscious of the importance of the monitoring activities</p> <p>On-site verification of "Unit consumed by the project activity" data has been done as follows</p>				
	<b>Monitoring Report, onsite checks</b>  <b>Revised Monitoring Plan &amp; Approved Methodology</b>	<b>Requirement in the applicable methodology and relevant EB Documents</b>	<b>Requirement in the revised monitoring plan (Revised PDD monitoring Plan)</b>	<b>Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/ check and consistency with actual monitoring practice at project site )</b>	<b>DOE Conclusion</b>
	<b>Data/Parameter</b>	Not Specified	Auxiliary Consumption	Auxiliary Consumption	This is in compliance with the applicable methodology and monitoring plan.
	<b>Description</b>	Not Specified	Unit consumed by the project activity	Unit consumed by the project activity	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated</b>	Not Specified	Calculated	Calculated based on	This value is calculated as

	/Default			measured parameters.	difference between a) gross generation and b) the export to the grid. This is in compliance with the applicable methodology and monitoring plan.
	Source of data	Not Specified	Joint Meter Readings (JMRs) taken and signed by authorized officials of MSEDCL	Joint Meter Readings (JMRs)/3.3/ taken and signed by authorized officials of MSEDCL	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	Monitoring equipment	Not Specified	Not Applicable as parameter calculated	Not Applicable as parameter calculated	This is in compliance with the applicable methodology and monitoring plan.
	Measuring/Reading/Recording frequency	Not Specified	Continuous monitoring, monthly recording	Continuous monitoring, monthly recording	This is in compliance with the applicable methodology and monitoring plan.
	Calculation method (if applicable)	Not Specified	The data is calculated using the gross electricity generation ( $E_{Gen}$ ) and electricity exported to the grid ( $E_{Gy}$ ) as per the JMR.	The data is calculated using the gross electricity generation ( $E_{Gen}$ ) and electricity exported to the grid ( $E_{Gy}$ ) as per the JMR /3.3/.	More specific information is provided. This parameter is calculated based on the measured parameter. This is in compliance with the applicable methodology and monitoring plan.
	QA/QC procedures	Applied methodology does not provide any details.	The data is calculated using the gross electricity generation ( $E_{Gen}$ ) and electricity	The data is calculated using the gross electricity generation ( $E_{Gen}$ ) and electricity	As per the monitoring plan in the approved revised PDD, the auxiliary consumption values shall be

			exported to the grid (EG <sub>y</sub> ) as per the JMR. This data are also used in calculating electricity export in the event of simultaneous failure and/or defect in accuracy of both the main meter & check meter.	exported to the grid (EG <sub>y</sub> ) as per the JMR /3.3/. This data are also used in calculating electricity export in the event of simultaneous failure and/or defect in accuracy of both the main meter & check meter.	used for the calculation of electricity export in the event of simultaneous failure and/or defect in accuracy of both main and check meters. During the current verification period, however, there were no such occurrences. Methodology does not provide any specifications; this is as per actual practice. But, this is in line with the general CDM requirements.
	Value (s) of Monitored parameter	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at project site.	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the assessment team.
<b>Findings</b>	CL#1 was raised and resolved.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and</p>				

reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v02.0 §§ 360-364 have been met.

**Parameter 5: Diesel consumption by the standby DG set, DC<sub>y</sub>**

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring plan includes the verification of GHG emission by diesel consumption in the project activity.</p> <p>On-site verification of “Diesel consumed by the standby DG set” has been done as follows:</p>				
	<b>Monitoring Report, onsite checks</b>  <b>Revised Monitoring Plan &amp; Approved Methodology</b>	<b>Requirement in the applicable methodology and relevant EB Documents</b>	<b>Requirement in the revised monitoring plan (Revised PDD monitoring Plan)</b>	<b>Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/ check and consistency with actual monitoring practice at project site )</b>	<b>DOE Conclusion</b>
	<b>Data/Parameter</b>	Amount of fossil fuel	DC <sub>y</sub>	DC <sub>y</sub>	This is in compliance with the applicable methodology and monitoring plan.
	<b>Description</b>	Amount of fossil fuel used shall be monitored	Diesel consumed by the standby DG set	Diesel consumed by the standby DG set	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated /Default</b>	Measured	Measured	Measured	This is in compliance with the applicable methodology and monitoring plan.
	<b>Source of data</b>	On site measurement	Daily records of levels in the diesel storage tanks as per the plant log book.	Log book issued by DLHPPL/3.6/	The consumption of diesel in the D.G. Set for the current verification period is verified from



					the daily records maintained in the "Diesel consumption daily Log Book records" /3.6/ at the plant site. It was cross checked with the Store records for issuance of diesel for the D.G Set /3.5/. This is in compliance with the applicable methodology and monitoring plan.
	<b>Monitoring equipment</b>	Not specified	Quantity available in diesel tank	Quantity of diesel available in diesel tank, fed in log book	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measuring/Reading/Recording frequency</b>	Not specified	Continuously and recorded monthly basis.	Continuously and recorded monthly basis.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Calculation method (if applicable)</b>	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	This is in compliance with the applicable methodology and monitoring plan.
	<b>QA/QC procedures</b>	Applied methodology does not provide any details.	Not required	No procedure implementation required	Methodology does not provide any specifications; This is in compliance with the applicable methodology and monitoring plan.

	Value (s) of Monitored parameter	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at project site.	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the assessment team.
<b>Findings</b>	CL#1 was raised and resolved.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v02.0 §§ 360-364 have been met.</p>				

**Parameter 6: Hourly Electricity Export: HEE<sub>main\_meter</sub>**

<b>Means of verification</b>	<p>The monitoring of reductions in GHG emissions resulting from the registered project have been implemented in accordance with the monitoring plan contained in the revised approved PDD/1.3/. The monitoring mechanism, including the data collection system, is effective and reliable. During the site visit, personnel involved at various levels of operation of the project activity have been interviewed. It has been confirmed that the O&amp;M personnel from the plant are conscious of the importance of the monitoring activities</p> <p>On-site verification of “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” data has been done as follows</p>				
	<div>Monitoring Report, onsite checks</div> <div>Revised Monitoring Plan &amp; Approved</div>	Requirement in the applicable methodology and relevant EB Documents	Requirement in the revised monitoring plan (Revised PDD monitoring Plan)	Means of Verification (MR/1.2/ and ER calculation in excel sheet /4.3/ check and consistency)	DOE Conclusion

	<b>Methodology</b>			<b>with actual monitoring practice at project site )</b>	
	<b>Data/Parameter</b>	Not specified	HEE <sub>main_meter</sub>	HEE <sub>main_meter</sub>	This is in compliance with the applicable methodology and monitoring plan.
	<b>Description</b>	Not specified	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.	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) /3.3/ pertaining to the project activity do not match the individual verification periods.	This is in compliance with the applicable methodology and monitoring plan.
	<b>Measured/Calculated /Default</b>	Not specified	This data is recorded on an hourly basis by DLHPPL based on data recorded at the main meter.	This data is recorded on an hourly basis by DLHPPL based on data recorded/3.8/ at the main meter.	This parameter is based on the hourly recording of the readings of main and check meter maintained in the plant log book /3.8/. These readings are referred to deduce an apportioning ratio, in the event of mismatch of the start or end dates of the verification

					<p>period with the dates of the JMR.</p> <p>Hence this is in compliance with the applicable methodology and monitoring plan.</p>
	<b>Source of data</b>	Not specified	Log Book Records for the main meter	Log Book/3.8/ Records for the main meter	<p>More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.</p>
	<b>Monitoring equipment</b>	Not specified	Energy meter	<p>Energy Meters: Readings are recorded by a main meter and check meter which measures and records the electricity exported to the grid by the project activity. The main and check meters are connected at the secondary (132 kV) side of the step-up transformer in the switchyard of the project activity.</p>	<p>This is in compliance with the applicable methodology and monitoring plan.</p>
	<b>Measuring/Reading/Recording frequency</b>	Not specified	<p>Continuous monitoring, hourly measurement and at least monthly recording. This parameter is relevant to conditions/ circumstances (those days) where the dates of Joint</p>	<p>Continuous monitoring, hourly measurement and at least monthly recording. This parameter is relevant to conditions/ circumstances (those days) where the dates of Joint</p>	<p>This is in compliance with the applicable methodology and monitoring plan.</p>

			Meter Readings (JMRs) pertaining to the project activity do not match the individual verification periods.	Meter Readings (JMRs) pertaining to the project activity do not match the individual verification periods.	
	Calculation method (if applicable)	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	Not Applicable as this is a measured parameter	More specific information is provided. This is in compliance with the applicable methodology and monitoring plan.
	QA/QC procedures	Applied methodology does not provide any details.	For measuring the hourly energy exported to the grid, one main meter and one check meter are maintained. The hourly meter reading of the main meter is the basis of emission reduction calculations, so long as the meter is found to be within prescribed limits of accuracy during the periodic check. Hourly meter reading of the check meters would be used for cross checking.  The meters are checked for accuracy and calibration by the MSETCL as per the provisions in	The energy meters (main and check) are calibrated in regularly interval. There is no calibration delay observed during current monitoring period. The calibration frequency is found to be consistent with registered monitoring plan. The electricity export values recorded in form of Joint Meter Reading (JMR) each month from the main meter were cross-verified with the corresponding invoices for that particular month raised by the Project Participant on MSEDCL for the sale of electricity.	Methodology does not provide any specifications; this is as per actual practice. But, this is in line with the general CDM requirements.

			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.		
	Value (s) of Monitored parameter	Not Specified	Not Specified	Month wise data is represented in MR /1.2/ and ER sheet /4.3/. The values are found to be correct and consistent with raw data available at project site.	The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ and ER sheet /4.3/ have been correctly reported and confirmed by the assessment team.
	There are no such events fall under current verification when verification period dates and JMR dates in the project activity, do not coincide. Hence, data is found consistent with JMRs and hence accepted.				
<b>Findings</b>	No non-conformability was observed during assessment for this monitoring parameter against applied monitoring methodology and monitoring plan which is described in the revised approved PDD/1.3/. Therefore, no finding was raised.				
<b>Conclusion</b>	<p>ESPL confirms that the actual monitoring activities observed on site are in compliance with the approved monitoring plan and the same is in line with the monitoring methodology /2.3/.</p> <p>The applicable parameter stated in the approved revised monitoring plan and the applied methodology/2.3/ have been sufficiently monitored. The responsibilities and authorities for monitoring and reporting are in accordance with what is stated in the revised approved PDD/1.3/. The information flow (data generation, aggregation, recording, calculation and reporting) for the parameters to be monitored including its values in the final version of the MR/1.2/ have been correctly reported and confirmed. Hence, the requirement of CDM-VVS for v02.0 §§ 360-364 have been met.</p>				

**E.6.3. Implementation of sampling plan**

<b>Means of verification</b>	No sampling plan is defined in the registered approved monitoring plan. All the data and information has been checked during verification assessment, thus no sampling plan has been applied in the Project.
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**E.7. Compliance with the calibration frequency requirements for measuring instruments**

Means of verification	All the monitoring parameters have been monitored and the monitoring results are consistently recorded as per the frequency mentioned under the approved revised monitoring plan. Accuracy of all equipment has been observed to be maintained within the specified limits.		
	The metering equipment for electricity measurement mainly consists of a main meter, a check energy meter and Gross Generation meter (bidirectional tri-vector type) which are used to monitor the quantity of electricity export and import by the project activity and gross generation by turbine generator. All the meters are 0.2s accuracy class. The calibration was done by qualified and authorised personnel by MSEDCL's Testing division at the site itself. The assessment team has checked the calibration certificates/5.1/ for accuracy and validity, so as to assure reliability and steadiness of monitoring results. The calibrations results have been verified as below.		
	Main and Check Meters:		
	Monitoring equipment	Energy Meter	
	Monitoring parameter	EG <sub>y</sub>	
	Unique Identification Number/Sr. No.	14831461 (Main Meter)	14831477 (Check Meter)
	Make	Elester	Elester
	Accuracy Level	0.2s	0.2s
	Calibration frequency requirement	Annual	Annual
	Date of Calibration	05/12/2017 11/07/2018	15/12/2017 11/07/2018
	Validity of calibration	04/12/2018 10/07/2019	14/12/2018 10/07/2019
	Delays in calibration (if any )	No Delay	No Delay
	Calibration Conducting Entity	State utility	State utility
Accreditation Certificate for the calibration entity issuing authority relevant	NABL accredited	NABL accredited	
Gross Electricity Generation Meter:			
Monitoring equipment	Energy Meter		
Monitoring parameter	E <sub>Gen</sub>		
Unique Identification Number/Sr. No.	73932341		
Make	Siemens Landis&Gyr Z.U		

	Accuracy Level	0.2s
	Calibration frequency requirement	Annual
	Date of Calibration	06/12/2017 13/07/2018
	Validity of calibration	05/12/2018 12/07/2019
	Delays in calibration (if any )	No Delay
	Calibration Conducting Entity	State utility
	Accreditation Certificate for the calibration entity issuing authority relevant	NABL accredited
<p>During the current monitoring period; it is verified that the calibration of energy meters (main &amp; check) and generation meter is carried out as per the frequency mentioned in the revised approved PDD/1.3/.The validity of calibration is one year as per the NABL certified Lab but PP has adopted &amp; followed the six monthly accuracy check &amp; yearly calibration validity period throughout the current monitoring period. It was verified based on review of calibration certificate that there was no delay of energy meters calibrations. All the energy meters were ultimately checked for accuracy in every six months and the calibration validity is once in a year.</p> <p>In light of the guidance as outlined under CDM-VVS for PA v02.0 §§ 367, the assessment team checked the calibration procedures. As per the monitoring plan outlined in the revised approved PDD /1.3/, the calibration interval is annual.</p>		
<b>Findings</b>	CL#1 and CAR#1 were raised and resolved.	
<b>Conclusion</b>	ESPL confirms that the calibration is conducted at the frequency following the relevant industry standard as specified by the methodology /2.3/ and the revised approved PDD monitoring plan /1.3/. Therefore, the requirement of CDM-VVS for PA v02.0 §§ 367 have been met.	

## E.8. Assessment of data and calculation of emission reductions or net removals

### E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

<b>Means of verification</b>	<p>The verification team verified that</p> <ol style="list-style-type: none"> <li>A complete set of data for the monitoring period was available for the monitoring period and the verification of each monitoring parameter is elaborated under Section E.6.2 of this report. The complete monitoring data is also presented in the corresponding ER sheet /4.3/ of final Monitoring Report /1.2/.</li> <li>The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.6.2 of this report.</li> <li>The calculations of baseline emissions as presented in the corresponding ER sheet/4.3 of final Monitoring Report/1.2/ were checked and found to be consistent with the formulae and methods described in the registered monitoring plan and the applied methodology.</li> <li>All assumptions used in the emission calculations were found appropriate and therefore justified</li> <li>Appropriate emission factors and other reference values have been correctly applied. This has also been elaborated under Section E.6.1 of this report.</li> <li>No standardized baseline was prescribed in the registered PDD/1.6/ and therefore it has not been applied.</li> <li>There is no pro-rate approach was applied in the current monitoring period</li> </ol>
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	<p>as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.</p> <p>The baseline emissions are the product of net electricity supplied to the grid <math>EG_y</math> expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors.</p> $BE_y = EG_y * EF_{CO2,grid,y}$ <p>Where:</p> <p><math>BE_y</math>: Baseline Emissions in year y; t CO<sub>2</sub></p> <p><math>EG_y</math>: Net electricity supplied to the grid by the project activity</p> <p><math>EF_{CO2,grid,y}</math> = Combined margin CO<sub>2</sub> emission factor (tCO<sub>2</sub>/MWh)</p> <p>As per the approved revised PDD/1.3/, combined margin emission factor is 0.6890 tCO<sub>2</sub> /MWh. Hence the baseline emissions for the project activity for the current monitoring period are as follows.</p> $BE_y = 78469.29 * 0.6890 = 54,065 \text{ tCO}_2\text{e (rounded down value)}$
<b>Findings</b>	No non-conformability was observed during assessment for this monitored parameter. Therefore, no finding was raised.
<b>Conclusion</b>	<p>ESPL confirms that the requirement outlined under CDM-VVS for v02.0 §§ 373 have been met as:</p> <ul style="list-style-type: none"> <li>• A complete set of data for the monitoring period is available.</li> <li>• Information on the baseline GHG emission calculation provided in the monitoring report /1.2/ has been cross-checked with other sources.</li> <li>• Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document.</li> <li>• Appropriate emission factor of the power grid has been correctly applied.</li> </ul>

#### E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

<b>Means of verification</b>	<p>The project 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:</p> $PE_{\text{Diesel}} = \sum DC_y \times \text{Density}_{\text{Diesel}} \times \text{NCV}_{\text{Diesel}} \times EF_{CO2\text{Diesel}}$ <p>Where,</p> <p><math>PE_{\text{Diesel}}</math> = Project Emission due to use of Diesel consumed during this monitoring period in DG set</p> <p><math>DC_y</math> = Diesel Consumption in Litres (L)</p> <p><math>\text{Density}_{\text{Diesel}}</math> = Density of Diesel (0.86Kg/Lit)</p> <p><math>\text{NCV}_{\text{Diesel}}</math> = Net Calorific Value of Diesel</p> <p><math>EF_{CO2\text{Diesel}}</math> = IPCC 2006 Emission factor for Diesel</p> <p>The values are:</p> <p><math>DC_y = 189 \text{ L}</math></p> <p><math>\text{Density}_{\text{Diesel}} = 0.88\text{Kg/Lit}</math></p> <p>Net Calorific Value of Diesel = 43.3 GJ/tonne</p> <p><math>EF_{CO2\text{Diesel}} = 0.0748 \text{ tCO}_2 / \text{GJ}</math></p> <p>Project emission due to Diesel for current monitoring period is calculated as <math>PE_{\text{Diesel,y}} = 0.539 \text{ t CO}_2\text{e}</math></p> <p><b>Project Emission due to Electricity Imported (<math>PE_{\text{Import,y}}</math>) :</b></p> <p>The project activity also involved the import of electricity, which is considered in calculation of project emission as shown below:</p>
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	<p><math>PE_{import,y} = E_{import,y} * EF_{westerngrid,CM,y}</math> Where</p> <p><math>PE_{import,y}</math> – Project emission from import of electricity from the grid during the year y</p> <p><math>E_{import,y}</math> – Electricity imported from the grid by the project activity during the year y</p> <p><math>EF_{Western\ grid,\ CM\ y}</math> – Baseline emission factor for the western regional grid (combined margin approach) whose value is fixed for crediting period at 0.6890 tCO<sub>2</sub>e /MWh</p> <p><math>PE_{import,y} = 58.16\ MWh \times 0.6890\ tCO_2e = 40.07\ tCO_2e</math></p> <p>Overall Project emission due to Diesel and import from grid for current monitoring period is calculated as</p> <p><math>PE_y = PE_{import,y} + PE_{Diesel,y} = 40.07\ tCO_2e + 0.539\ tCO_2e = 40.61\ tCO_2e = 41\ tCO_2e</math> (Rounded up Value)</p>
<b>Findings</b>	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
<b>Conclusion</b>	<p>ESPL confirms that the requirement outlined under CDM-VVS for v02.0 §§ 373 have been met as:</p> <ul style="list-style-type: none"> <li>• A complete set of data for the monitoring period is available.</li> <li>• Information on the project GHG emission calculation provided in the monitoring report /1.2/ has been cross-checked with other sources.</li> <li>• Calculations of project emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document.</li> <li>• Appropriate emission factor of the Diesel has been correctly applied.</li> </ul>

### E.8.3. Calculation of leakage GHG emissions

<b>Means of verification</b>	The verification team has verified that the energy generating equipment in the project activity is not transferred from another activity and as per AMS I.D of - Version 18.0; if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered. As there is neither any energy generating equipment transferred from another activity nor any existing energy generating equipment transferred to another activity. Same was confirmed during site visit. Hence there is no requirement of calculating leakage emission.
<b>Findings</b>	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
<b>Conclusion</b>	No leakage emissions were required to be calculated.

### E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

<b>Means of verification</b>	<p>As elaborated above, the entire emission reductions from the project activity were based on baseline emissions. The calculations presented in this regard in the final monitoring report and corresponding ER calculation sheet/4.3/ were found appropriate and complying with the provisions prescribed in the registered monitoring plan of approved PDD and applied methodology.</p> <p>The verification team confirms that an audit trail that contains the evidence and records that validated the stated figures were checked and found acceptable.</p>
<b>Findings</b>	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
<b>Conclusion</b>	<p>ESPL confirms that the requirement outlined under CDM-VVS for PA v02.0 §§ 373 have been met as:</p> <ul style="list-style-type: none"> <li>• A complete set of data for the monitoring period is available.</li> <li>• Information provided in the monitoring report /1.2/ has been cross-checked with other sources;</li> <li>• Calculations of baseline emissions, and project activity emissions and leakage, as appropriate, been carried out in accordance with the formulae</li> </ul>

	<p>and methods described in the monitoring plan and the applied methodology document.</p> <ul style="list-style-type: none"> <li>• There are no assumptions in emission reductions calculation.</li> <li>• Appropriate emission factor of the power grid has been correctly applied.</li> </ul>
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#### E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	As verified and evident from the final Monitoring Report /1.2/ and corresponding ER sheet /4.3/, the actual emission reductions achieved by the project activity in the current monitoring period were found higher than the estimated quantity in the approved revised PDD/1.3/ for the comparable period as per below:			
	.			
	Annual CERs estimated in the revised approved PDD (tCO <sub>2</sub> e)	Estimated CERs for current monitoring period , tCO <sub>2</sub> e	Actual CERs achieved in the current monitoring period, tCO <sub>2</sub> e	Difference
	35,042	43,680	54,024	+23.68%
	The Verification team has observed that there was 23.68% higher generation during the current monitoring period as compared to the ex-ante estimate for the equivalent period. This increase in generation was discussed with the project site team during the on-site audit and it was found that this increase in generation was mainly caused by more amount of water release during the current monitoring period as compared to a regular water year (i.e. June to May month cycles). A detailed justification has been submitted by PP under the section E.6 of the MR, supported by plant level records, communication letters and statements/6.4/. The verification team reviewed all the information and supporting documents and justification is found to be reasonable, hence accepted.			
	Further it was verified by DOE's Verification Team has conducted a detailed assessment by means of following verification approach:			
	<ul style="list-style-type: none"><li>• The operation of the project plant (also referred to as BH-1) is mainly dependent on irrigation water release from Bhandardara reservoirs (as referred under registered PDD, the project was designed as an irrigation based power project. It can be verified from the section A.1 of the registered PDD which states that "<i>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</i>". Also, the design and operation of the plant was also physically verified by the verification team during the site visit). Therefore, generation of BH-1 is directly related to the amount of water release from the Bhandardara Dam. Additionally, there is another irrigation Dam at lower catchment area called "Jaikwadi Paithan Dam" which water level is controlled and dependent on the water release from the Bhandardara dam.</li><li>• During a regular operational year, the "June" is generally the zero-generation or lowest generation month of the year as it is the start of the monsoon, hence water requirement for irrigation is not there. Similarly, water release from BH-1 in the month of July, Oct and Nov are generally less in regular years due to monsoon season in the state when dam water requirement for irrigation is limited.(The generation pattern and related information were verified from the past generation comparison sheet submitted by PP/6.6/.)</li><li>• However, during the current monitoring period there was low water availability in the lower catchment area (i.e.at Paithan dam area) which has affected the irrigation water requirement as compared to regular demand. This low water condition at lower catchment area was mainly caused by low rainfall during the monsoon season.</li><li>• This information was reported by PP in their plant records/6.4/ and declaration/6.7/. However, verification team has further verified the rainfall related data from the IMD Report, 2018/6.5/. Under the Table 24&amp; Table</li></ul>			

28, page 72 & 101 for district Nashik, it can be seen that there was visible % departures of district-wise seasonal and annual rainfall in 2018 compared to their normal rainfall. Also, from the figure 46 (page 28) of the report shows that actual rainfall graph during the monsoon season (June to Sep) was mostly below the normal rainfall graph during the year 2018. Therefore, verification team could confirm that low water availability in the lower catchment area was justifiable.

- Consequently, in Year 2018; the water requirement in the lower catchment area was more which allowed the Bhandardara Dam to release unplanned water during the month of June, Oct and November due to which BH-1 plant achieved more power generation as compared to regular water years.

In order to verify this water release conditions, the verification team has further verified the water data from the plant records/6.4/, /6.7/ and it was confirmed that during the beginning of the monsoon in AY 2018-19, the water level in the Bhandardara dam was 728.72 mtrs./6.7/ which was above the minimum draw down level (MDDL, i.e.720.70mtrs). Hence, this release of water from Bhandardara dam was possible; hence generation of the BH-1 plant was justified.

- Additionally, the more water release for the lower catchment area was also required during the month of Oct and Nov 2018, as presented by PP. In order to verify this water release conditions, the verification team has further verified the plant water data/6.7/ and also cross checked with the other documents/6.4/ such as daily logs, daily energy calculation and performance sheets, request from Jalsampada Bibhag (i.e. Govt. of Maharashtra Water Resources Department, GoMWRD) recorded at plant log, letter from local Village Authority etc. Based on all these data and supporting the verification team could confirm that there was requirement for water release in Oct and Nov month and also the water data in the Bhandardara dam was above the MDDL in all these months, hence power generation was justified.
- **Due to the combined effects of above situations and reasons, the overall generation in the current monitoring period was higher than expected. The verification team could confirm that such scenarios are unplanned and completely beyond the control of PP as the project was designed based on irrigation dam and hence the irrigation water requirement is the first priority that directly regulates the water flow for power generation in BH-1 plant.**

The verification team also confirms that the comparison of generation data was verified from the plant generation records and also referred from the previous CDM verification records. The information and a comparative analysis has been performed by PP and are shown in the Appendix-3 of MR version 04, which is found to be accurate and hence accepted.

Additionally, the verification team has further assessed the possible impact on project additionality due to this unexpected higher generation during the current assessment year. However, the verification team could conclude that there is no direct or indirect impact on project additionality because project established additionality at the time of registration based on barrier analysis, where generation was not identified as a sensitive parameter. However, the verification team has evaluated the past trend of Emission Reductions for an equivalent period for which generation data was compared. It confirms that in last seven years of consecutive monitoring & verification, the actual emission reductions achieved by the project activity have been always lower than the ex-ante estimates. The summary is presented in the table below:

Monitoring Period	Actual ER achieved (tCO <sub>2</sub> )	Variation compared to ex-ante
MP 01 Jan 2018 - 31 Mar 2019 (current) =	54,024	23.68%

	MP 01 Nov 2016 - 31 Dec 2017 =	39,849	-2.56%																																																								
	MP 27 Jul 2015 - 31 Oct 2016 =	42,996	-3.27%																																																								
	MP 01 Jan 2013 - 26 Jul 2015 =	63,160	-29.78%																																																								
	MP 01 Apr 2012 - 31 Dec 2012 =	17,852	-32.38%																																																								
	Based on above data, following average ERs variation calculated:																																																										
	Result1: Average (01/04/2012 to 31/12/2017 )		-17.00%																																																								
	Result 2: Average (01/04/2012 to 31/03/2019)		-8.86%																																																								
	From the above both results it 1 & 2; can be verified that across the years from 01/04/2012 to 31/12/2017, there are less ERs achieved by the project as compared to the ex-ante estimate (i.e.an average decrease in 17% ERs since 01/04/2012 to 31/12/2017). Also, the total average out value of the variation including the current monitoring period (i.e. 01/04/2012 to 31/03/2019) shows that there is a net decrease of 8.86% ERs as compared to the ex-ante estimate.																																																										
	Furthermore, the verification team has done a comparative assessment of generation data and PLF year wise and also checked the variation against the year 2018 which was observed to be the peak generation year due to the reasons described above. The details are submitted in the table below:																																																										
	<table><tr><th>Year</th><th>Annual generation data (kWh)</th><th>Calculated PLF*2</th><th>Variation Against Projected PLF</th><th>Variation against data for Yr 2018</th></tr><tr><td>2018</td><td>71170680</td><td>67.70%</td><td>19.32%</td><td>NA</td></tr><tr><td>2017</td><td>59025400</td><td>56.15%</td><td>7.77%</td><td>-17.07%</td></tr><tr><td>2016</td><td>27407890</td><td>26.07%</td><td>-22.31%</td><td>-61.49%</td></tr><tr><td>2015</td><td>55883220</td><td>53.16%</td><td>4.78%</td><td>-21.48%</td></tr><tr><td>2014</td><td>34353220</td><td>32.68%</td><td>-15.70%</td><td>-51.73%</td></tr><tr><td>2013</td><td>39621460</td><td>37.69%</td><td>-10.69%</td><td>-44.33%</td></tr><tr><td>2012</td><td>42106000</td><td>40.06%</td><td>-8.32%</td><td>-40.84%</td></tr><tr><td>Average:</td><td>47081124</td><td>44.79%</td><td>-3.59%</td><td></td></tr><tr><td colspan="5"></td></tr><tr><td>Values as per PDD :</td><td>5,08,57,000</td><td>48.38%</td><td colspan="2">(Reference: PDD, version 09, dt 16/07/2016, page no. 29)</td></tr></table>					Year	Annual generation data (kWh)	Calculated PLF*2	Variation Against Projected PLF	Variation against data for Yr 2018	2018	71170680	67.70%	19.32%	NA	2017	59025400	56.15%	7.77%	-17.07%	2016	27407890	26.07%	-22.31%	-61.49%	2015	55883220	53.16%	4.78%	-21.48%	2014	34353220	32.68%	-15.70%	-51.73%	2013	39621460	37.69%	-10.69%	-44.33%	2012	42106000	40.06%	-8.32%	-40.84%	Average:	47081124	44.79%	-3.59%							Values as per PDD :	5,08,57,000	48.38%	(Reference: PDD, version 09, dt 16/07/2016, page no. 29)
Year	Annual generation data (kWh)	Calculated PLF*2	Variation Against Projected PLF	Variation against data for Yr 2018																																																							
2018	71170680	67.70%	19.32%	NA																																																							
2017	59025400	56.15%	7.77%	-17.07%																																																							
2016	27407890	26.07%	-22.31%	-61.49%																																																							
2015	55883220	53.16%	4.78%	-21.48%																																																							
2014	34353220	32.68%	-15.70%	-51.73%																																																							
2013	39621460	37.69%	-10.69%	-44.33%																																																							
2012	42106000	40.06%	-8.32%	-40.84%																																																							
Average:	47081124	44.79%	-3.59%																																																								
Values as per PDD :	5,08,57,000	48.38%	(Reference: PDD, version 09, dt 16/07/2016, page no. 29)																																																								
From the above analysis, it can be referred that actual avg. PLF of the plant is below the projected PLF. Also, the variation in generation in previous years as compared to the year 2018 is always negative. Therefore, recognizing the current monitoring period as separate impact year may not be a fair assessment.																																																											
Hence from the above assessment the verification team could conclude that increase in ER during the current monitoring period will not have any impact on overall additionality of the project.																																																											
Findings	CAR#2 were raised and closed successfully.																																																										
Conclusion	ESPL confirms that the requirement outlined under CDM-PS for PA v02.0 §§ 268 have been meet as: <ul style="list-style-type: none"><li>A comparison of actual GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during this monitoring period with the estimates in the approved revised PDD /1.3/ has been provided in the Monitoring Report /1.2/.</li><li>The verification team confirms that the calculation of the comparison is correct. There is no impact on proiect additionality.</li></ul>																																																										

#### E.8.6. Remarks on difference from estimated value in registered PDD

<b>Means of verification</b>	The verification team has assessed the cause of any variation in the actual GHG emission reductions achieved during the current monitoring period. There is
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<sup>2</sup> Calculation of PLF = (Annual generation units in kWh) / (12 MW \* 10<sup>3</sup> \* 24 \* 365)

	<p>increase of around 23.68% in the actual emission reductions achieved during the current monitoring period from that stated in the approved revised CDM-PDD.</p> <p>This is largely due to high plant load factor achieved during the current monitoring period. It is to be noted that PLF is completely governed by the availability of water from power plant which is beyond the control of PP. (Furthermore details, refer section E.8.5 of this verification report.)</p>
<b>Findings</b>	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
<b>Conclusion</b>	<p>ESPL confirms that the requirement outlined under CDM-PS for PA v02.0 §§ 269 and CDM-VVS for PA v02.0 §§ 356 (d) have been met as:</p> <ul style="list-style-type: none"> <li>The verified emission reductions are higher than the estimated value in the monitoring period. The project participants have explained the cause of any increase in the actual GHG emission reductions achieved during the current monitoring period and including all information (i.e. data and/or parameters) that is different from that stated in the approved revised PDD /1.3/.</li> <li>The variation is deemed to be reasonable.</li> </ul>

#### **E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards**

<b>Means of verification</b>	Based on the assessment done in section E.8.1 to E.8.6, the verification team is able to certify that the emission reductions from the CDM project activity 0430 “12 MW hydropower plant in Bhandardara in Maharashtra, India.” in India during the period 01/01/2018 – 31/03/2019 (including both days) is 54,024 tCO <sub>2</sub> e.
<b>Findings</b>	No non-conformability was observed during assessment for this section. Therefore, no finding was raised.
<b>Conclusion</b>	ESPL confirms that the requirement outlined under CDM-PS for PA v02.0 §§ 266 as the project participants has calculated GHG emission reductions.

#### **E.9. Assessment of reported sustainable development co-benefits**

<b>Means of verification</b>	Not applicable
<b>Findings</b>	Not applicable
<b>Conclusion</b>	Not applicable

#### **E.10. Global stakeholder consultation**

<b>Means of verification</b>	Not applicable
<b>Findings</b>	Not applicable
<b>Conclusion</b>	Not applicable

### **SECTION F. Internal quality control**

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A draft verification report prepared by verification team is reviewed by an independent technical review team (one or more members) to confirm whether all the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion were reached in an objective manner that complies with the applicable CDM rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process, additional findings may be identified, or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the Managing Director on behalf of Earthood Services Private Limited.

### **SECTION G. Verification opinion**

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Earthood Services Private Limited (ESPL) has been contracted by Dodson–Lindblom Hydro Power Private Limited (DLHPPL) to perform the verification of the emission reductions reported for the CDM project “12 MW hydropower plant in Bhandardara in Maharashtra, India” in the period 01/01/2018 – 31/03/2019.

ESPL concludes that the CDM Project “12 MW hydropower plant in Bhandardara in Maharashtra, India”, as described in the revised approved PDD /1.3/ (Version 9, 16/07/2016) and Monitoring Report /1.2/ (Version 04, 12/06/2021), meets all relevant requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board. The verification is conducted in line with the (CDM-VVS for PA) Version 02.0 /2.1/ requirements. The Project is implemented according to selected monitoring methodology /2.3/ and the monitoring plan contained in the revised approved PDD /1.3/. The monitoring equipment was installed, calibrated and maintained in a proper manner. The monitoring system is in place and the Project is generating GHG emission reductions as a CDM project.

ESPL confirms that the project is implemented in accordance with the validated and approved revised Project Design Document/1.3/. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 54,024 tCO<sub>2</sub>e emission reductions during the period 01/01/2018 – 31/03/2019 (both days included).

ESPL therefore issues the positive verification opinion expressed in the Certification statement in Section H.

## **SECTION H. Certification statement**

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ESPL has been engaged by Dodson–Lindblom Hydro Power Private Limited (DLHPPL) to perform the third periodical verification of the ‘12 MW hydropower plant in Bhandardara in Maharashtra, India’ (UNFCCC Ref. No. 0430).

The management of Dodson–Lindblom Hydro Power Private Limited (DLHPPL) is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the revised approved PDD Version 9 /1.3/, completed on 16/07/2016 and the applied methodology AMS-I.D. Version: 18 /2.3/.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the project design document approved by the EB;
- the approved monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for ‘12 MW hydropower plant in Bhandardara in Maharashtra, India.’ for the monitoring period 01/01/2018 – 31/03/2019 as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period:

From 01/01/2018 – 31/03/2019

Verified emissions in the above reporting period:

Leakage emissions

00,000 tCO<sub>2</sub> equivalents

**CDM-VCR-FORM**

Project emissions	00,041 tCO <sub>2</sub> equivalents
Baseline emissions	54,065 tCO <sub>2</sub> equivalents
Emission reductions in this monitoring period (i.e. 01/01/2018 – 31/03/2019)	54,024 tCO <sub>2</sub> equivalents
Emission reductions achieved during the period up to 31 December 2012	Nil
Emission reductions achieved during the period from 1 January 2013 onwards. (i.e. 01/01/2018 – 31/03/2019)	54,024 tCO <sub>2</sub> equivalents



## Appendix 1. Abbreviations

Abbreviations	Full texts
AMS	Approved Methodology Small-scale
BM	Build Margin
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CL	Clarification Request
CM	Combined Margin
CO <sub>2e</sub>	Carbon Dioxide equivalent
CoP/MoP/CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DG	Diesel Generator
DLHPPL	Dodson – Lindblom Hydro Power Private Limited
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	CDM Executive Board
EF	Emission Factor
ER	Emission Reductions
GCESS	Green Carbon Energy and Environment Services
GCV	Gross Calorific Value
GHG	Greenhouse Gas(es)
GOMWRD	Government of Maharashtra Water Resource Department
GPS	Global Positioning System
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardisation
JMR	Joint Meter Reading
KWh	Kilowatt hour
MEDA	Maharashtra Energy Development Agency
MERC	Maharashtra Electricity Regulatory Commission
MP	Monitoring Plan
MPCB	Maharashtra Pollution Control Board
MR	Monitoring Report
MSEB	Maharashtra state Electricity Board
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSETCL	Maharashtra State Electricity Transmission Company Limited
MW/MWh	Megawatt/ Megawatt hour
NCV	Net Calorific Value
OM	Operating Margin
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
PS	Project Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

## Appendix 2. Competence of team members and technical reviewers

Competence Statement			
<b>Name</b>	Vivek Kumar Ahirwar		
<b>Country</b>	India		
<b>Education</b>	B.E. (Mechanical Engineering) M.Tech (Energy Management)		
<b>Experience</b>	10 Years +		
<b>Field</b>	Climate Change & Environment		
Approved Roles			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	ACM0002, AMS.I.D		
<b>Local expert</b>	YES (India)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	NO		
<b>TA Expert</b>	YES (1.1, 1.2, 13.1)		
<b>Reviewed by</b>	Shreya Garg	<b>Date</b>	11/10/2018
<b>Approved by</b>	Anshika Gupta	<b>Date</b>	11/10/2018

Competence Statement			
<b>Name</b>	Shreya Garg		
<b>Country</b>	India		
<b>Education</b>	M.Sc. (Climate Science & Policy), TERI University		
<b>Experience</b>	6 Years +		
<b>Field</b>	Climate Change		
Approved Roles			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
<b>Local expert</b>	YES (India)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (TA 1.2, TA 3.1)		
<b>Reviewed by</b>	Abhishek Mahawar	<b>Date</b>	01/03/2018
<b>Approved by</b>	Ashok Gautam	<b>Date</b>	01/03/2018

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	<b>Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)</b>			
1.1	DLHPPL	MR, version 01 (Published)	Dated 02/05/2019	PP
1.2	DLHPPL	MR, version 04 (Final)	Dated 12/06/2021	PP
1.3	DLHPPL	Revised approved PDD, version 9 (Renewal of 3 <sup>rd</sup> crediting period from 27/07/2015 – 26/07/2022)	Dated 16/07/2016	PP
1.4	ESPL	Validation Report for Revised approved PDD version 09 (Renewal of 3 <sup>rd</sup> crediting period from 27/07/2015 – 26/07/2022)	Dated 24/07/2016	Other: UNFCCC
1.5	UNFCCC	CDM Project activity view page “12 MW hydropower plant in Bhandardara in Maharashtra, India” <a href="https://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view">https://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view</a>	30/09/2006	Other: UNFCCC
1.6	DLHPPL	Registered PDD, version 03	Dated 04/08/2006	PP
1.7	DLHPPL	MR, version 02	Dated 29/07/2019	PP
1.8	DLHPPL	MR, version 03	Dated 23/11/2019	PP
2.	<b>References and requirements at UNFCCC/IPCC/etc.</b>			
2.1	UNFCCC website	Clean Development Mechanism Validation and Verification Standard for Project Activity (CDM-VVS for PA), version 02.0 as per EB 93, Annex 5	Dated 29/11/2018	Other: UNFCCC
2.2	UNFCCC website	CDM Project Standard for Project Activity (CDM-PS for PA), version 02.0 as per EB 93, Annex 4	Dated 29/11/2018	Other: UNFCCC
2.3	UNFCCC website	AMS-I.D. (version 18.0.0): “Grid connected renewable electricity generation”	Dated 28/11/2014	Other: UNFCCC
2.4	UNFCCC website	Guidance to Complete “Monitoring Report Form (CDM-MR-FORM), Version 08.0” as accordance with the Attachment “Instructions for filling out the monitoring report form”	Dated 06/04/2021	Other: UNFCCC
2.5	UNFCCC website	Tool to calculate the emission factor for an electricity system, Version 05	27/11/2015	Other: UNFCCC
2.6	IPCC	IPCC Guidelines Vol. 2	Year 2006	Other: IPCC
3.	<b>Project implementation information</b>			
3.1	MSETCL	Commissioning Certificate for the project activity by MSETCL for synchronisation to grid as First JMR of project activity	Dated 27/07/2011	Other: MSETCL
3.2	MSEB	Power Purchase Agreements (PPA) for the project activity between DLHPPL and MSEB AND Irrigation department, Government of Maharashtra	Dated 21/01/1999	PP
3.3	DLHPPL	Monthly Joint Meter Reports (JMRs) issued by AHPL verified by MPPKVVCL	For the period 01/01/2018 - 31/03/2019	PP

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3.4	DLHPPL	Power Supply bills towards MSETCL raised	For the period 01/01/2018 - 31/03/2019	PP
3.5	DLHPPL	Diesel consumption data maintained on monthly basis	For the period 01/01/2018 - 31/03/2019	PP
3.6	DLHPPL	Diesel consumption daily log book records	For the period 01/01/2018 - 31/03/2019	PP
3.7	DLHPPL	Machine Tripping Outage Details	For the period 01/01/2018 - 31/03/2019	PP
3.8	DLHPPL	Sample copy for Daily Energy & log Sheet	For the period 01/01/2018 - 31/03/2019	PP
3.9	DLHPPL	Generation Comparison (CDM-0430) spread sheet	-	PP
4.	<b>ER calculation and cross-checking issue</b>			
4.1	DLHPPL	Emission reduction calculation sheet, Version 01	Dated 02/05/2019	PP
4.2	DLHPPL	Emission reduction calculation sheet, Version 02	Dated 29/07/2019	PP
4.3	DLHPPL	Emission reduction calculation sheet, Version 02.1 (final)	Dated 12/06/2021	PP
5.	<b>Calibration issues</b>			
5.1	State utility	Calibration test certificates for Main and check, gross generation meter energy meters	For the period 01/01/2018 - 31/03/2019	PP
6.	<b>Others</b>			
6.1	ESPL	Site Visit Attendance Sheet	Dated 26/07/2019	-
6.2	ESPL	Site Visit Photograph	Dated 26/07/2019	-
6.3	CEA	Baseline Carbon Dioxide Emission Database, Version 10.0, from the Central Electricity Authority (CEA), Ministry of Power, Government of India Website <a href="http://www.cea.nic.in/">http://www.cea.nic.in/</a>	Dated 16/12/2014	Other: CEA
6.4	DLHPPL	Supporting documents - Plant records, daily logs, notification from GoMWRD. Request letter from local authority 'Bhandardara Dharan Sakha' etc.	-	-
6.5	IMD	Rainfall Statistics of India 2018 from India Metrological Department (IMD)- (page 28, 46, 71, 101) <a href="http://hydro.imd.gov.in/hydrometweb/(S(pl3lapy22fejlqdogus5pza))/PRODUCTS/Publications/Rainfall%20Statistics%20of%20India%20-%202018/Rainfall%20Statistics%20of%20India%202018.pdf">http://hydro.imd.gov.in/hydrometweb/(S(pl3lapy22fejlqdogus5pza))/PRODUCTS/Publications/Rainfall%20Statistics%20of%20India%20-%202018/Rainfall%20Statistics%20of%20India%202018.pdf</a>	Year 2018	Other:IM D
6.6	DLHPPL	Generation comparison and analysis sheet for previous years	-	-
6.7	DLHPPL	Declaration letter with reasons for higher generation along with water and rainfall data	-	-

## Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verifications

<b>FAR ID</b>	Xx	<b>Section no.</b>	-	<b>Date:</b> DD/MM/YYYY
<b>Description of FAR</b>				
<b>Project participant response</b>				<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by project participant</b>				
<b>DOE assessment</b>				<b>Date:</b> DD/MM/YYYY

Table 2. CL from this verification

<b>CL ID</b>	01	<b>Section no.</b>	E.7	<b>Date :</b> 20/07/2019
<b>Description of CL</b>				
1) PP is requested to submit the scanned copies of JMR & Invoices for the monitoring period. 2) PP is requested to submit the calibration details of the energy meters 3) PP is requested to submit the Diesel consumption details and the supporting for the same. 4) PP is requested to submit Emission Reduction calculation sheet.				
<b>Project participant response</b>				<b>Date : 29/07/2019</b>
1) PP is submitting the scanned copies of JMR (Joint Meter Reading) & Invoices for the current monitoring period i.e. from Jan 2018 to Mar 2019. 2) PP is submitting the scanned copies of Energy Meter testing reports covering the current monitoring period. 3) PP is submitting the diesel purchase bills for the current monitoring period and also the monthly records of diesel consumption data are provided in excel sheet. 4) PP is hereby submitting emission reduction calculation sheet.				
<b>Documentation provided by project participant</b>				
1. JMRs & Invoices for the months "Jan 2018 to Mar 2019". 2. Energy meter calibration certificates. 3. Diesel Purchase bills & monthly diesel consumption details. 4. Emission Reduction calculation excel sheet.				
<b>DOE assessment</b>				<b>Date: 02/08/2019</b>
<p>Verification team found all documents relevant as per the requirement.</p> <p>Further, as part of the submitted documents from PP, verification team has also received updated MR version 02 and ER sheet version 01. It was observed that all the Monitored Values in section D.2 of Published MR version 01 were changed in updated MR version 02. In published MR, some month's values were incorrect, so the PP has rectified these values in updated MR version 02 and submitted along with ER sheet version 01. These changes are found to be consistent in MR version 02 and ER version 01. The values of parameters in MR and ER were verified against supporting source documents (i.e. JMRs / Purchase bills &amp; monthly diesel consumption etc) provided by the PP for the entire monitoring period and found to be correct, hence accepted and close the finding successfully.</p> <p><b>CL#1 Closed</b></p>				

Table 3. CAR from this verification

<b>CAR ID</b>	01	<b>Section no.</b>	E.1 and E.7	<b>Date :</b> 20/07/2019
<b>Description of CAR</b>				

1. PP not applied latest version 7 of "Monitoring report form for CDM project activity". Please clarify why?
2. PP is requested to clarify net anthropogenic GHG removal estimated ex-ante for this monitoring period in footnote 1.
3. PP is requested to clarify when "WeAct Pty Ltd" included as Project participant, no information available in registered PDD.
4. "CO2 emission factor of grid (EFy)" parameter source link not working please update.
5. "CO2 emission factor of diesel" parameter Choice of data or Measurement methods and procedures not inline with PDD please update
6. PP should update the monitoring parameter, all monitoring parameter description must be inline with registered PDD.
7. PP is requested to include meter calibration validity.
8. PP is requested to include technical specification of power plant in text form. Change image details into text.
9. PP is requested to add meter calibration and technical specification in Appendix form.

Project participant response	Date :29/07/2019
<ol style="list-style-type: none"> <li>1. PP has applied latest version 7 of "Monitoring Report form for the CDM project activity".</li> <li>2. PP has revised MR to provide the reference of relevant section E.5.1 of MR under the footnote 3, the net anthropogenic GHG removal estimated ex-ante for this monitoring period has been explained transparently under section E.5.1.</li> <li>3. PP has provided a footnote mentioning the date of joining (i.e. 03/02/2017) the "WeAct Pty Ltd" as an authorized project participant as per the information available at the UNFCCC webpage; <a href="https://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view?cp=1">https://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view?cp=1</a></li> <li>4. PP has revised MR section D.1 to provide the updated CO2 emission factor of grid (EFy)" parameter source link. <a href="http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf">http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf</a></li> <li>5. PP has revised the MR Section D.1 to maintain the consistency in reporting the information required for "CO2 emission factor of diesel" parameter under "Choice of data or Measurement methods and procedures" in line with the registered PDD.</li> <li>6. PP has revised MR Section D.2 to maintain the consistency in reporting the information regarding monitoring parameter, all monitoring parameter description in line with the registered PDD.</li> <li>7. PP has revised the MR to include energy meter calibration validity dates under Appendix - 2.</li> <li>8. PP has revised the MR to include technical specification of power plant in text form under Appendix - 1.</li> <li>9. PP has revised the MR to add meter calibration and technical specification under Appendix-1 &amp; Appendix - 2.</li> </ol>	

Documentation provided by project participant	
MR Version 02 (updated version as per MR Form latest version 7)	
DOE assessment	Date: 02/08/2019
<ol style="list-style-type: none"> <li>1. Verification team confirm that PP has updated the monitoring report form latest version 7. Which is accepted by Verification team,</li> <li>2. Verification team confirm that PP has revised MR to provide the reference of relevant section E.5.1 of MR under the footnote 3, the net anthropogenic GHG removal estimated ex-ante for this monitoring period has been explained transparently under section E.5.1.</li> <li>3. Verification team confirm that WeAct Pty Ltd as an authorized project participant.</li> <li>4. Verification team confirm that PP has updated CO2 emission factor of grid source link in MR.</li> <li>5. Verification team confirm that PP has updated information required for "CO2 emission factor of diesel" parameter under "Choice of data or Measurement methods and procedures" and it's in line with the registered PDD.</li> <li>6. Verification team confirm that PP has revised MR Section D.2 to maintain the consistency in reporting the information regarding monitoring parameter, all monitoring parameter description in line with the registered PDD.</li> <li>7. Verification team confirm that PP has revised the MR to include energy meter calibration validity dates under Appendix - 2.</li> <li>8. Verification team confirm that PP has revised the MR to include technical specification of power plant in text form under Appendix - 1.</li> <li>9. Verification team confirm that PP has revised the MR to add meter calibration and technical specification under Appendix-1 &amp; Appendix - 2.</li> </ol>	

CAR#1 Closed

CAR ID	02	Section no.	E.8.5 and E.1	Date :12/06/2021
Description of CAR				

1. MR Version 03 dated 23/11/2019; section E.5.1 (on page 17), mentioned that the actual ER achieved is 39,860 tCO<sub>2</sub>e where as section E.5 mentioned that the actual ER achieved as 54,024 tCO<sub>2</sub>e. Please clarify the inconsistency of information.
2. MR Version 03 dated 23/11/2019; section E.6, mentioned that the there is around 23.68% higher emission reduction achieved during the current monitoring period as compared to the projected ERs of equivalent period. The PP is requested to further justify the reason for increase in PLF with appropriate supporting information in MR.
3. The PP is requested to update the Monitoring Report as per latest Monitoring Report Template version 08 available on CDM UNFCCC web site.

**Project participant response****Date :12/06/2021**

1. This was a typo error in the MR page 17, all other sections of the MR contain the correct value. The values are now corrected and revised MR is submitted to DOE.
2. PP would like to clarify that there was 23.68% increase in power generation during the current monitoring period which was mainly due to unexpected water availability during lean seasons. This information was reported under the ER sheet and also under the Section E.6 of the MR.

However, for a better presentation PP would like to clarify as follows:

PP has prepared a separate sheet with generation details of previous years (since 2012) and also comparison with respect to the generation of 2018. From these past generation trend of the project (as referred in the separate sheet), it is evident that in all the previous years the month of 'June' has been either the 'no-generation month' and/or the lowest generation month in a year; also July, October & November month are generally the low generation months every year. Whereas, during the year 2018 it was observed that there was NO 'zero-generation' month. Additionally the June, July, Oct & Nov months, which are generally the low generation months in past years, also achieved comparatively good generation during the year 2018.

These details were submitted to DOE during the course of verification. Also, in the revised MR (version 04, dated 12/06/2021), the justification under section E.6 has been now revised to provide more appropriate presentation of the increase in generation. The generation past trend is also submitted under the Appendix-3 of the MR. The revised MR is submitted to DOE.

Thus, from these previous generation trend it can be easily verified that the increase in ER due to higher generation in the current monitoring period is not a regular event. It was mainly because of more water availability during the lean seasons which is not the regular case and such situation is also not under the control of PP by any means.

**Justification related to Additionality:**

Additionally, PP would further like to justify that the increase in generation will not have direct impact on project additionality as the project was validated and approved based on barrier analysis and hence generation/plf was not identified as sensitive parameter for additionality. Moreover, PP has compared the actual ER generation against the ex-ante estimates for last few monitoring periods, which shows that in last four consecutive monitoring periods (i.e. for the equivalent period since 2012), the actual emission reductions achieved by the project activity have been always lower than the ex-ante estimates. A summary table is attached below for easy reference. This further confirms that increase in ER during the current monitoring period will have no impact on overall additionality of the project.

Monitoring Period	Actual ER achieved	Variation compared to ex-ante
MP: 01 Jan 2018 - 31 Mar 2019 (current) =	54024	23.68%
MP: 01 Nov 2016 - 31 Dec 2017 =	39849	-2.56%
MP: 27 Jul 2015 - 31 Oct 2016 =	42996	-3.27%
MP: 01 Jan 2013 - 26 Jul 2015 =	63160	-29.78%
MP: 01 Apr 2012 - 31 Dec 2012 =	17852	-32.38%

3. PP has updated the final revised version of the MR with the latest MR template (version 08). However, for reference PP is submitting the track change version of the MR (version 04, dated 12/06/2021) in the original MR template and the final version (clean track) of the MR (version 04, dated 12/06/2021) in the latest template version 08.

<b>Documentation provided by project participant</b>	
1) Revised MR, version 04, dated 12/06/2021 (track change version in original MR template) 2) Revised MR, version 04, dated 12/06/2021 (clean final version in MR template version 08) 3) Excel sheet - generation data from past years and comparison analysis 4) ER sheet, updated version 02.1, dated 12/06/2021.	
<b>DOE assessment</b>	<b>Date:</b> 15/06/2021
1. The PP has corrected the value of actual ER in section E.5.1 in updated MR. Same is found be correct and hence accepted. 2. The PP has provided justification for increase of emission reduction achieved during the current monitoring period as compared to the projected ERs of equivalent period; same has been verified and justified by the PP based on past verification generation data and water flow pattern and its availability in respective month and year. This is not in under control of the PP and same has been justified in MR and spread sheet. Additionally, PP has provided justification on additionality confirming that there is no impact of project additionality due to such increase in generation, which are verifiable. Hence, accepted. 3. This was checked and verified that the PP has updated the final revised version of the MR with the latest MR template (version 08). Hence, accepted.	
<b>CAR#2 Closed</b>	

Table 4. FAR from this verification

FAR ID	N/A	Section No.	N/A	Date:N/A
<b>Description of FAR</b>				
N/A				
<b>Project participant response</b>				<b>Date:N/A</b>
N/A				
<b>Documentation provided by project participant</b>				
N/A				
<b>DOE assessment</b>				<b>Date:N/A</b>
N/A				

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## Document information

Version	Date	Description
04.0	6 April 2021	Revision to: <ul style="list-style-type: none"> <li>Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).</li> </ul>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);</li> <li>Make structural and editorial improvements.</li> </ul>
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.



<i>Version</i>	<i>Date</i>	<i>Description</i>
Decision Class: Regulatory		
Document Type: Form		
Business Function: Issuance		
Keywords: project activities, verifying and certifying		