



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

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Asahan 1 Hydroelectric power Plant 2 x 90 MW UNFCCC reference number: 4118		
Scale of the project activity	<input checked="" type="checkbox"/> Large-scale <input type="checkbox"/> Small-scale		
Version number of the verification and certification report	01.2		
Completion date of the verification and certification report	08/12/2021		
Monitoring period number and duration of this monitoring period	4 th monitoring period of 1 st crediting period Monitoring period: 01/04/2016 to 31/03/2017 (including both days)		
Version number of the monitoring report to which this report applies	03, dated 07/12/2021		
Crediting period of the project activity corresponding to this monitoring period	7-year renewable crediting period from 01/03/2011 to 28/02/2018 (including both days)		
Project participants	PT Bajradaya Sentranusa and Agasco Limited		
Host Party	Republic of Indonesia		
Applied methodologies and standardized baselines	CDM Methodology: ACM0002: Grid-connected electricity generation from renewable sources --- Version 11.0		
Mandatory sectoral scopes	Scope: 1 / Technical Area: 1.2		
Conditional sectoral scopes, if applicable	N/A		
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	873,025 tCO ₂ e		
Certified amount of GHG emission reductions or GHG removals for this monitoring period	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021
	0 tCO ₂ e	859,326 tCO ₂ e	0 tCO ₂ e
Name and UNFCCC reference number of the DOE	KBS Certification Services Private Limited UNFCCC Ref. No. E-0051		
Name, position and signature of the approver of the verification and certification report	 Mr. Kaushal Goyal Managing Director		

SECTION A. Executive summary

KBS Certification Services Private Limited has been commissioned by “PT Bajradaya Sentranusa and Agasco Limited” to perform an independent verification of its registered CDM project, “Asahan 1 Hydroelectric power Plant 2 x 90 MW”, UNFCCC ref. no. 4118 for the reported GHG emission reductions for the given monitoring period from 01/04/2016 to 31/03/2017 (both dates included). The CDM projects must undergo independent third-party verification and certification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the registered PDD/3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report/1/ and other supporting documents/2//20//21/ are complete;
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology/6/ and approved monitoring plan as per registered PDD/3/ and PRC PDD Version 7 dated 06/09/2021 submitted to CDM EB for approval under the issuance track of the 3rd Monitoring period of the first crediting period/19/.

Scope:

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information and

- a) The registered PDD, including the monitoring plan and the corresponding validation opinion(s);
- b) Previous verification reports, deviation requests, requests for revision of monitoring plan;
- c) Monitoring report for the monitoring period under verification including CER calculations sheets and all supporting documents;
- d) The applied monitoring methodology;
- e) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- f) All information and references relevant to the project activity, resulting in emission reductions;
- g) The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance/13//14//15/.

KBS has, based on the recommendations in the latest version of CDM Validation and Verification Standard/13/ for project activity, employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Description of project:

Asahan 1 Hydroelectric Power Plant is a run-of-river hydroelectric power project with capacity of 180 MW, consisting of 2x90 MW turbines, located upstream of Asahan 2 Power Station (Siguragura Dam) in North Sumatera Province in the Republic of Indonesia. The objective of this Project is to supply zero emission energy to Sumatera Grid, with relatively carbon-intensive electricity supply that is located in Sumatera island and currently has no interconnection with the grid in other islands e.g. Java, Kalimantan.

The total installed capacity of the Project is 180 MW (2x90MW). The Project uses hydro power generation technology for electricity generation and transmission.

In general, the principal features of the project activity are the Intake, Headrace Tunnel, Surge Tank, Penstock, Tailrace, Powerhouse, switch yard and transmission lines of double-circuit line. Due to the topographical and geological conditions, the whole waterway, headrace and penstock have been designed as pressure tunnel and placed underground. The electricity was sent to step-up transformers and transmitted to PLN Grid System (Sumatera Grid). The project was commissioned on 28/06/2010.

Methodology:

KBS follows a rule-based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard. Subsequently, after the contract is signed, the monitoring report of the project activity is made publicly available at UNFCCC website as per CDM procedures. A desk review of the project documentation is undertaken, which is followed by a remote audit by the members of verification team in accordance with the latest version of CDM VVS. The verification protocol is filled by the verification team that is based on standard auditing practices and version 03 of CDM VVS for project activities, to capture the assessment of applicable CDM requirements viz., version 03 of CDM Project Standard for project activities/14/, registered PDD/3/, PRC PDD Version 7 dated 06/09/2021 submitted to CDM EB for approval under the issuance track of the 3rd Monitoring period of the first crediting period/19/, submitted and revised monitoring report/1/, applied methodology/6/, applied standardized baseline and/or tools/6//7//8//9/ and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document and is available on request. Following are the major milestones for the verification under consideration.

Verification contract	29/06/2021
Publication of MR	01/07/2021
Remote audit (Zoom application interview)	06/08/2021
Draft Verification Report	07/09/2021
Final Verification Report	08/12/2021

KBS Certification Services Pvt. Ltd. confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 859,326 tCO₂e emission reductions during period from 01/04/2016 to 31/03/2017 (Including both the days).

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, Technical Expert (1.2), local expert	IR	Chaudhari	Tushar	Central office	x	Remote audit	x	x

2.	Verifier – Trainee	IR	Pundlik	Deepak	Central office	x	Remote audit	x	x
3.	Local Expert	EL	Sembiring	Yenni	Central office	x			x

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 (TA 1.2)	IR	Kandari	Sanjay	Central office
2.	Manager (Technical & Certification)	IR	Kandari	Sanjay	Central office
3.	Authorizer	IR	Goyal	Kaushal	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.	The data monitoring is done through electronic meters and errors can be perceived during the information transfer from the source to the emission reduction sheet.	High	Electricity supplied to the grid $EG_{facility,y}$ is measured using two-way energy meters. Errors can be perceived during the information transfer from the source to the emission reduction sheet.	The complete dataset for the monitoring parameters $EG_{facility,y}$ was checked on monthly basis and it can be confirmed that the values are consistent with their sources. Other necessary cross-checks have also been considered to ensure plausibility of the data provided in the ER sheet/2/.

C.2. Consideration of materiality in conducting the verification

The prescribed thresholds for materiality, as per VVS PA, Version 03

Prescribed range of ERs/annum (tCO ₂ e)	500,000+	300,000+ to 500,000	< 300,000	SSC PAs	MSC PAs
Prescribed Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The identified/selected materiality threshold for the project activity under current monitoring period is 0.5% as the project activity is a large scale project activity with annual emission reductions more than 500,000 tCO₂e.

	MR Version (Draft)	MR Version (Final)
Emission reductions (total)	859,332 tCO ₂ e	859,326 tCO ₂ e
Identified Threshold	0.5.0%	0.5%

The impact of errors observed during verification for each monitoring parameter on the emission reduction calculation is provided below:

Parameter	Population size	Sample size	Type of error identified	Impact on ERs	
				Population size (Qty)	Within Threshold

				and %)	
EG _{facility,y}	All values	All values	No error identified, ER are rounded down as conservative approach.	Not applicable. The whole data was checked.	Yes

The complete dataset for the project activity was checked and it can be confirmed that the values are consistent with their sources. The assessment team confirms that the reported emission reductions are free from material errors, omissions or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying attention to the frequency of measurements, the quality of metering equipments including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'Appendix 3' of this report.

D.2. On-site inspection

As a result of the COVID-19 pandemic, taking into account the CDM Executive Board announcement/17/ to relax mandatory site visits till 31 December 2021, rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), A DOE may postpone site visits for onsite inspections required by the “CDM validation and verification standard for project activities”, version 03.0 (VVS-PA)/13/.

If the site visits cannot be postponed, a proper justification should be provided by the DOE why the site visits cannot be postponed, including the demonstration of a significant impact of delaying the site visits on the DOE, or project participants or coordinating/ managing entity (e.g. commitment/ timeline as per the validation or verification contract, CER delivery commitment by project participants) reliance on applicable force majeure provisions in the validation or verification contracts, if needed.

For this project activity, The PP has informed that they had signed ERPA and had commercial obligation to deliver the ER of the project activity. Therefore, they needed to perform the verification of the current monitoring period as soon as possible. Furthermore, the PP has contractual commitment for the verification process with KBS and site visit was not undertaken due to COVID-19 travel restrictions within the host country and country of origin for DOE. Therefore, the site visit could not be postponed for this project activity. Hence, the DOE has skipped the on-site visit. However as per the CDM EB, the DOE may use other standard auditing techniques for validation or verification as referred to in sections 9.1.3 of the VVS for PA.

Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted remote audit interview as follows:

Duration of remote inspection: 06/08/2021				
No.	Activity performed on-site	Site location	Date	Team member
1.	A complete desk review of the MR, registered and revised PDD, Invoices, Power Purchase Agreement, commissioning certificates, calibration certificates etc. as well as all applicable country legal requirement and supportive evidences have been checked by the verification team	Remote audit	06/08/2021	Tushar Chaudhari, Deepak Pundlik
2.	Verification team has performed Zoom application interview with PP in order to check implementation, project boundary, current situation, evaluation of data management, QA/QC system, monitoring and metering equipment, monitoring procedures, calibration etc. Interview questions were filled as per Verification team interview checklist and also photos were captured.			
3.	Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.			
4.	Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents			

Details of interviewees, topics covered and additional information presented in the below section “D.3 Interviews”.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Suharso	Bambang	PT Bajradaya Sentranusa	06/08/2021	Operational and implementation data, CDM Requirements, Data collection, Calibration Requirements, Monitoring and data recording etc.	Tushar Chaudhari, Deepak Pundlik
2.	Oktiviana	Hariati				
3.	Syafri	Irwansyah				
4.	Fathullah	Maulana Yusuf	Agasco Ltd.			
5.	Hayes	Tom				
6.	Sheppard	Bonnie				
7.	Iqbal	Muhammad				

D.4. Sampling approach

No Sampling Approach is used during verification.

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	--	--	--
Compliance of the project implementation and operation with the registered PDD	01	--	--
Post-registration changes	--	--	01
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	--	--	--
Assessment of data and calculation of emission reductions or net removals	01	01	--
Assessment of reported sustainable development co-benefits	--	--	--
Global stakeholder consultation	--	--	--
Others (supporting documents to verify project implementation, methodology application, monitoring requirements and implementation)	--	--	--
Total	02	01	01

SECTION E. Verification findings**E.1. Compliance of the monitoring report with the monitoring report form**

Means of verification	Verification team checked the monitoring report with "Instructions for filling out the monitoring report form" mentioned as attachment to Monitoring report form/16/ (version 09.0)
Findings	No finding was raised
Conclusion	In accordance with §352 of CDM validation and verification standard for project activities, Version 03.0, verification team confirms that final monitoring report is completed using the latest valid version of the applicable monitoring report form.

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

The current verification is for the 4th monitoring period of the 1st crediting period of project activity. A FAR was raised during 2nd verification report/18/ which is addressed in appendix 4. Furthermore, no FAR was raised in the current verification.

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

Means of verification	<p>The project activity is a run-of-river hydroelectric power plant with capacity of 180 MW, consisting of 2x90 MW turbines, located upstream of Asahan 2 Power Station (Siguragura Dam). In general, the principal features in the Project are the Intake, Headrace Tunnel, Surge Tank, Penstock, Tailrace, Powerhouse, Switchyard and transmission lines of double-circuit line. Due to the topographical and geological conditions, the whole waterway, headrace and penstock have been designed as pressure tunnel and placed underground. The electricity was sent to step-up transformers and transmitted to PLN Grid System (Sumatera Grid).</p> <p>Through remote auditing (Zoom application interview) and document review, the verification team confirms that all physical features of the project activity including technology, data collection systems and storage systems have been implemented in accordance with the revised monitoring report.</p> <p>The monitoring plan requires the ex-post monitoring of the electricity supplied by the project activity ($EG_{\text{facility},y}$) to the Sumatera grid, measured through energy meters installed at 275 kV switchyard.</p> <p>The energy meters were found to be installed at the respective places as observed through captured photographs by the verification team.</p> <p>The verification team has reviewed the power purchase agreement/25/ to confirm that the power from the project activity is being supplied to the Sumatera grid in compliance to the applied methodology ACM0002: Grid-connected electricity generation from renewable sources, Ver. 11.0/6/.</p> <p>The power from the project activity is being supplied to Sumatera Grid. Verification team has reviewed the Electricity Generation Records and invoices/20/ raised by the project proponent to confirm the same.</p> <p>The installed equipment such as turbines, generators, transformers and meters (location, serial number, class, manufacturer, etc.) were verified from the photographic evidences and found to be consistent with the information provided in the MR.</p> <p>The project boundaries and all key equipment are in line with the registered PDD and MR. The verification team confirmed during the remote auditing (video conferencing) that the CDM project is completely operational and the name plate details of all key equipment are in line to the registered PDD.</p> <p>The details of operation of the project activity were cross checked through interviews and found consistent. Some internal breakdowns have been observed during the monitoring period which has not affected the applicability of the applied methodology as reported in the MR.</p> <p>Further, the project complies with all prevailing host country legal regulatory requirements the same can be verified by assessing following documents.</p> <ul style="list-style-type: none"> a) the clearance 292/KPTS/1997 issued by the Department of Mining and Energy, Directorate General of Electricity and Energy Development issued state that no EIA required for the project activity/26/. b) Legal and other regulatory environmental clearances and compliances secured for the current monitoring/27/. <p>The allocation of the responsibilities is followed as described in the registered PDD. Routines for the data archiving are defined and documented. Calculations laid down in the monitoring report are in line with registered PDD.</p> <p>Interviews (refer section D.3 of this report) were carried out with the plant personals during the Zoom application interview to verify the actual monitoring system practiced by PP. It was found that the plant personals are well aware of</p>
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	<p>their roles & responsibilities.</p> <p>The actual monitoring system practiced for the monitoring period is in line with the monitoring plan provided in the registered PDD.</p> <p>The actual emission reductions are 859,326 tCO₂e for the current monitoring period, which are lower (1.57%) than the estimated emission reductions in registered PDD i.e., 873,025 tCO₂e for corresponding current monitoring period.</p>	
Findings	No finding was raised	
Conclusion	<p>According to §354-356 of CDM VVS for project activities (version 03.0), the verification team confirms that:</p> <ol style="list-style-type: none"> The project activity is implemented as per the registered PDD, the project activity was fully commissioned at the time of remote site visit. The actual operation of the CDM project activity is in line to the registered PDD, the power generated from the project activity is supplied to Sumatera grid. All physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM project activity specified in the registered PDD are in place and that the project participants have operated the project activity as per the approved PDD The actual emission reductions are lower than the expected emission reductions for the current monitoring period <p>Verification team has reviewed the registered PDD/3/ including the monitoring plan and the corresponding validation report/4/, the applied monitoring methodology, webhosted and revised monitoring reports/, relevant decisions from the CMP and the CDM EB and found that the revised MR for this monitoring period is in line with all the above mentioned documents.</p>	

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

No temporary deviation is requested during this monitoring period. Therefore, this section is not applicable.

E.4.2. Corrections

PP has requested for the following corrections in the revised PDD-PRC, version 07 dated 06/09/2021 submitted along with 3rd monitoring report for issuance track for PRC approval/19/. The following corrections are proposed and validated.

a) A correction was made to section B.3. table as blank fields were found in the registered PDD.

Corrections are also made to the PDD based on newly available information:

- Agasco Limited has been added as a project participant and hence included in the PRC PDD.
- Contact information revised based on latest MOC.
- Type of crediting period' in section C.3.1 is updated to mention 'first crediting period' in line with latest PDD template guidelines
- The start date of the crediting period has also been revised in line with actual start date which is 01/03/2011.

¹ 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).

The corrections requested have has no material impact on the applicability of the applied methodologies or the other applied methodological regulatory documents, or the accuracy and completeness of the monitoring.

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

No change in crediting period during this monitoring period. Therefore, this section is not applicable.

E.4.4. Inclusion of a monitoring plan

No inclusion of a monitoring plan has occurred in current monitoring period. Therefore, this section is not applicable

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

PP has requested for the following post-registration changes in the revised PDD-PRC, version 07 dated 06/09/2021 submitted along with 3rd monitoring report for issuance track for PRC approval/19/.

- a) The calibration of the electricity meters will be performed annually. In the registered PDD applicable to the first crediting period, the calibration frequency was set to be performed semi-annually.
 - The revised calibration frequency for the electricity meters brings calibration in line with manufacturer's specifications.
- b) The monitoring parameter FC_y : Quantity of fuel combusted in the generator during the year y is not considered for the project activity.
 - During earlier verification, a FAR was raised for this parameter and same is addressed in Appendix 4.
- c) $EG_{import,y}$: Quantity of electricity imported from the grid in year y is not considered under monitoring parameter.
 - The electricity meters installed for the monitoring of the electricity generation measures both the export and import of electricity and therefore directly provides a net export figure which is used in the calculation of emissions reductions.
 - Net electricity supplied to grid is measured by Meter 1 and Meter 2 installed in 275kV switchyard and during the first crediting period the electricity imported was measured by Meter 3. This meter and connection was discontinued by PLN in July 2015.

As detailed, it is validated that all of the above changes are fully in compliance with the applied methodology and thus do not have any impact on the applicability of the methodology. Moreover, the changes do not impact the accuracy and completeness of the monitoring procedure.

Changes that have been approved by the Board as applicable from the period prior to 3rd monitoring period:

PRC Ref: PRC-4118-002

Approved 10 February 2015

One correction requested in the first verification, rectifying the information presented on section A.3, table A.4.3.2.

- The Turbine rated speed was corrected from 273 rpm to 300 rpm

- The generator rated current was corrected from 4,184 A to 4,183.7 A

E.4.6. Changes to the project design

No post registration changes have occurred during this monitoring period. Therefore, this section is not applicable

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

This section is not applicable.

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

Means of verification	<p>The verification team was able to confirm that the monitoring plan contained in registered PDD and MR is in accordance with the approved methodology applied for the project activity i.e. ACM0002: Grid-connected electricity generation from renewable sources - Version 11.0/6/.</p> <p>All parameters stated in the monitoring plan and the applied methodology has been fulfilled in the current monitoring period. The discussion regarding each parameter has been elaborated in the further sections (E.6.1 and E.6.2) of this verification report.</p>
Findings	No findings raised.
Conclusion	As per § 357 and 358 of CDM VVS for project activity version 03.0, in the opinion of the verification team the monitoring plan of the registered PDD complies with the monitoring requirement of the applied approved methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 11.0 in the context of the project activity.

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

Means of verification	As per the registered PDD, the following parameter is listed as fixed ex-ante parameter for estimating emission reductions.		
	Parameter	Value	Verification Assessment
	$EF_{grid,OM,y}$ Operating Margin emission factor of Sumatera	0.906 tCO _{2e} /MWh	<p>The parameter is calculated in accordance with the Tool to calculate the emission factor for an electricity system using data available at the time of validation.</p> <p>The value has been correctly taken as per the registered PDD and hence accepted by the verification team.</p>
	$EF_{grid,BM,y}$ Build Margin emission factor of Sumatera	0.581 tCO ₂ /MWh	<p>The parameter is calculated in accordance with the Tool to calculate the emission factor for an electricity system using data available at the time of validation.</p> <p>The value has been correctly taken as per the registered PDD and hence accepted by the verification team.</p>
	W_{OM}	0.50%	Taken from para 87 of Tool to calculate the emission factor

	Weighting of operating margin emissions factor		for an Electricity system. The value has been correctly taken as per the registered PDD and hence accepted by the verification team.
	W _{BM} Weighting of build margin emissions factor	0.50%	Taken from para 87 of Tool to calculate the emission factor for an Electricity system. The value has been correctly taken as per the registered PDD and hence accepted by the verification team.
	EF _{grid,CM,y} Combined Margin emission factor of Sumatera	0.743 tCO ₂ /TJ	Calculated in accordance with the Tool to calculate the emission factor for an electricity system using the above BM and OM weighting. The value has been correctly taken as per the registered PDD and hence accepted by the verification team.
Findings	No findings raised.		
Conclusion	<p>As per § 360 to 361 of CDM VVS for project activity version 03.0, the assessment team concludes that the ex-ante parameters of the project activity are in accordance with the registered monitoring plan and meets the requirements of the applied monitoring methodology.</p> <p>The verification team confirms that the grid emission factor is calculated ex-ante for the crediting period and it is correctly applied in MR and emission reduction spread sheet and justified.</p>		

E.6.2. Data and parameters monitored

Means of verification	<u>Data/Parameter, Unit: EG_{facility,y} (MWh)</u>						
	<p>The verification team confirms through remote audit (Zoom application interview) verification and from the document review, the actual monitoring system complies with the monitoring plan mentioned in the registered PDD.</p> <p>During the verification, the monitoring parameter of the monitoring plan have been verified with regard to the appropriateness of the verification method; the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The value applied are found conservative and accepted by the verification team.</p> <p>The assessment for the monitoring parameter is given below:</p>						
	<table><tr><th></th><th>Discussion and verification assessment</th></tr><tr><td><i>Purpose of data</i></td><td>Baseline Emissions</td></tr><tr><td><i>Calculation of baseline emissions</i></td><td>The monitoring parameter is measured through bidirectional meters (two main and two check meter) to measure the amount of electricity exported and imported to grid as confirmed from the remote audit interviews.</td></tr></table>		Discussion and verification assessment	<i>Purpose of data</i>	Baseline Emissions	<i>Calculation of baseline emissions</i>	The monitoring parameter is measured through bidirectional meters (two main and two check meter) to measure the amount of electricity exported and imported to grid as confirmed from the remote audit interviews.
		Discussion and verification assessment					
<i>Purpose of data</i>	Baseline Emissions						
<i>Calculation of baseline emissions</i>	The monitoring parameter is measured through bidirectional meters (two main and two check meter) to measure the amount of electricity exported and imported to grid as confirmed from the remote audit interviews.						

		<p>The technical details of the meters specified in the MR were found consistent with the actual records and on ground as checked through photographs.</p> <p>The accuracy of the energy meters is 0.2 as verified during the remote audit and also through photographs and hence acceptable.</p>
	<i>Measuring/Reading / Recording frequency</i>	<p>Net electricity exported by the project activity to the grid is monitored continuously and recorded on monthly basis.</p> <p>The measuring and recording frequency are in compliance with the revised PDD and the applied methodology.</p>
	<i>Data collection (from data generation, aggregation, to recording, calculation and reporting)</i>	<p>Net electricity exported by the project activity to the grid is monitored continuously and reported on monthly basis. The electricity generation records and invoices raised by PP were checked and were found to be acceptable by the verification team.</p> <p>The details of roles and responsibilities for the monitoring is provided in the MR. The plant personnel were interviewed during remote auditing and the assessment team confirms that the details as provided are followed at site and are effective reliable for the accounting of emission reductions.</p> <p>The verification team has verified electricity generation records and invoices for this monitoring period and confirms that the same values are applied in the ER calculation sheet.</p>
	<i>Verified value</i>	1,156,571.77 MWh
	<i>Cross checks</i>	The verification team has verified all the electricity generation records and invoices for this monitoring period and confirms that the same values are applied in the ER calculation sheet.
	<i>QA/QC procedures applied</i>	<p>Calibration is performed on an annual basis which is in compliance with CDM guidelines and hence acceptable.</p> <p>The energy meters are calibrated periodically, and inspection is performed by PLN as deemed necessary, which is in line with the registered PDD and accepted by the verification team.</p> <p>The calibration certificates are verified and found that the error in calibration test is within the accuracy class of the respective billing meters.</p> <p>For the details of calibrations of energy meters please refer the section E.7 of this report.</p>
Findings	No findings raised.	
Conclusion	<p>As per § 360 to 361 of CDM VVS for project activity version 03.0, The assessment team concludes that the monitoring of the project activity is being carried out in accordance with the revised monitoring plan and meets the requirements of the applied monitoring methodology. The adequacy and compliance of the revised monitoring plan in the MR can be concluded to be conforming. The flow of the information from the point of generation up to reporting has been reviewed and found to be correct and appropriate meeting the requirements of the applied</p>	

	methodology.
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E.6.3. Implementation of sampling plan

Means of verification	No sampling plan applied for the project activity. Therefore, this section is not applicable.
Findings	No findings raised.
Conclusion	Not applicable.

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

Means of verification	Verification team has checked whether the calibration of the measuring equipment that has an impact on the claimed GHG emission reductions is conducted by the PP at a frequency specified in the monitoring plan.				
	It can be concluded by the verification team that the calibration requirements have been met as verified from the calibration certificates.				
	The calibration details of the monitoring equipment corresponding to monitoring parameter are given in the below table:				
	Meter	SERIAL NO.	CALIBRATION DATE	Validity	ACCURACY
	Main Meter 1	214654186	21/08/2015	1 Year	0.2 S
			23/04/2016	1 Year	
	Main Meter 2	214654187	21/08/2015	1 Year	0.2 S
			23/04/2016	1 Year	
	Calibration frequency: annually as per manufacturer's specifications as per registered PDD monitoring plan.				
	The calibration performance was checked from the calibration certificates/21/ and found that the meters were within the respective accuracy level as verified from the calibration results.				
The calibration validity of the energy meters during this monitoring period was verified from the corresponding calibration certificates.					
The monitoring equipment have been installed in the project activity according to registered monitoring plan.					
Findings	No finding was raised				
Conclusion	As per § 365 to 370 of CDM VVS for project activity version 03.0, the Verification team confirms that the calibration frequency is in line with the monitoring plan mentioned in the revised PDD submitted for PRC along with the 3 rd monitoring period verification.				

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**

Means of verification	<p>The calculation applied formulae and the method for calculation of baseline emissions is in accordance with the registered PDD and in line with the requirements of the applied methodology. The formulae and the methods referred in the MR and the emission reduction calculation spread sheet for estimation of emission reduction complies with the corresponding formulae and methods in the registered PDD.</p> <p>The ex-ante and validated fixed values are taken into account for the calculation of baseline emissions.</p> <p>The verification team has checked all the monthly electricity generation records and invoices applicable for the monitoring period and found that monitoring parameters are monitored and recorded as per the monitoring plan in the revised</p>
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	<p>monitoring report/1.2/. The verification team has crosschecked ER sheet and monitoring report data with the monthly electricity generation records and invoices and found all the input values are matching.</p> <p>As per registered PDD, the baseline emissions (BE_y) by the project activity during the monitoring period is:</p> $BE_y = EG_{BL,y} * EF_{grid,CM,y}$ <p>Here,</p> $EG_{BL,y} = EG_{facility,y} = 1,156,571.77 \text{ MWh}$ $EF_{grid,CM,y} = 0.743 \text{ tCO}_2\text{e/MWh}$ $BE_y = 1,156,571.77 * 0.743$ $BE_y = 859,326 \text{ tCO}_2\text{e/year (rounded down)}$ <p>Hence, baseline emission for this monitoring period is 859,326 tCO₂e (Rounded down)</p>
Findings	CL 01 and CAR 01 were raised and successfully closed
Conclusion	<p>As per § 372 and 373 of CDM VVS for project activity version 03.0, Verification team concludes that the calculation provided in the monitoring report, and emission reduction spread sheet are complete and reflect all the requirements of the monitoring plan and:</p> <p>a) All the monitored data pertaining to baseline calculation as required by the revised monitoring plan was available to PP, the same has been verified by the verification team.</p> <p>b) All the formula used for the baseline, was in line to the revised monitored plan.</p>

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

Means of verification	No project emissions are associated with project activity.
Findings	No finding has been raised.
Conclusion	Not Applicable

E.8.3. Calculation of leakage GHG emissions

Means of verification	Not applicable in accordance with applied methodology and registered PDD.
Findings	No finding has been raised.
Conclusion	Not Applicable

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

Means of verification	<p>As per registered PDD, the emission reductions ER_y by the project activity during the current monitoring period is equal to the baseline emissions less project emissions and leakage emissions.</p> <p>Emission Reductions (ER) = Baseline emissions – Project emissions – Leakage emissions</p> $ER_y = BE_y - PE_y - LE_y$ $ER_y = 859,326 \text{ tCO}_2\text{e} - 0 - 0$ $ER_y = 859,326 \text{ tCO}_2\text{e}$ <p>The calculation provided in the ER sheet and final MR was assessed appropriate by the verification team.</p> <p>The verification team confirms that a complete set of data for this monitoring period is available to verify the emission reduction calculation, and the same was found in accordance with the registered PDD.</p> <p>No lack of evidence and missing data were detected during this monitoring period.</p>
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	<p>The verification team confirms that the emission reductions are real and measurable.</p> <p>No reporting risks have been identified for the data reported.</p> <p>All the monitored data is archived in electronic form and paper. The data will be kept for the whole crediting period and 2 years after the last crediting period or, the last issuance of CERS for this project activity, whichever occurs later; thereby meeting the requirement of the registered PDD. The verification team has checked and confirms that all the meters are calibrated. Thus, concludes no material risks in the claimed emission reduction for the applied period.</p>
Findings	No finding has been raised.
Conclusion	<p>As per § 372 and 373 of CDM VVS for project activity version 03.0, Verification team concludes that the calculation provided in the monitoring report, and emission reduction spread sheet are complete and reflect all the requirements of the monitoring plan and:</p> <p>a) All the formula used for the baseline, leakage and project emissions were in line to the revised monitored plan.</p> <p>b) The ex-ante emission factors correctly sourced from the registered PDD and were found to be appropriate and justified.</p>

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	<p>The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the revised PDD.</p> <table border="1"> <tr> <td>Estimated Reduction as per Registered/Approved/revised PDD:</td><td>873,025 tCO₂e</td></tr> <tr> <td>Actual Reduction for the Monitoring Period</td><td>859,326 tCO₂e</td></tr> </table> <p>In summary, verification team confirms that the actual emission reduction is lower than the estimate of the registered PDD for the current monitoring period.</p>	Estimated Reduction as per Registered/Approved/revised PDD:	873,025 tCO ₂ e	Actual Reduction for the Monitoring Period	859,326 tCO ₂ e
Estimated Reduction as per Registered/Approved/revised PDD:	873,025 tCO ₂ e				
Actual Reduction for the Monitoring Period	859,326 tCO ₂ e				
Findings	No finding was raised				
Conclusion	Verification team confirms that the comparison for the estimated and actual emission reduction for the monitoring period is correctly calculated and reported.				

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

Means of verification	Actual emission reductions for the current monitoring period is 859,326 tCO ₂ e which are lower (1.57%) than the estimated emission reductions i.e. 873,025 tCO ₂ e.
Findings	No finding was raised
Conclusion	Verification team confirms that actual emission reductions for the monitoring period are lower (1.57%) than the estimated emission reductions.

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

Means of verification	The monitoring period starts from 01/04/2016 and ends on 31/03/2017 and therefore falls after 01 January 2013 and before 01 January 2021, So the total ERs during the period pertains to the 2 nd commitment period. The 859,326 tCO ₂ e CERs verified during current monitoring period.
Findings	No finding has been raised.
Conclusion	The 859,326 tCO ₂ e CERs verified pertains to the 2 nd commitment period.

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

Means of verification	Not reported by PP.
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Findings	Refer above.
Conclusion	Refer above.

E.10. Global stakeholder consultation

Means of verification	The monitoring report was webhosted for the global stakeholder consultation and no comments were received as verified from the UNFCCC webpage.
Findings	Refer above.
Conclusion	Refer above.

SECTION F. Internal quality control

The draft verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by KBS are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to UNFCCC. The final decision is taken by the Manager Technical and Certification. The technical reviewer and Manager T&C can be same person.

The final decision is authorized by Managing Director, KBS once the report is approved by the Manager T&C.

SECTION G. Verification opinion

The verification team confirms that the evidence is of sufficient quantity, appropriate quality and reliable. The reported values, notation, units and sources in the monitoring report for all the monitoring parameters have been cross checked with the emission reduction sheet and monitoring report. During the course of verification and remote audit, the data submitted by PP was cross verified with the values mentioned in the emission reduction sheet and monitoring report. The procedure for data monitoring, recording, transfer and compilation was also verified and found in compliance with the monitoring plan as mentioned in the registered PDD and revised PDD.

Evidences (Documents/interview/remote audit) referred for verification of individual monitoring parameter and fixed parameters are defined in section E.6 above. It is confirmed by the assessment team that the reported emission reductions have been conservatively calculated. A list of referred documents for verification is also included in Appendix 3 of this report.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 859,326 tCO₂e emission reductions during period from 01/04/2016 to 31/03/2017.

SECTION H. Certification statement

KBS Certification Services Pvt. Ltd. has been contracted by PT Bajradaya Sentranusa and Agasco Limited to undertake independent verification and certification for the greenhouse gas (GHG) emission reductions reported from the project activity Asahan 1 Hydroelectric power Plant 2 x 90 MW, in Indonesia, UNFCCC Ref. No. 4118 for the monitoring period from 01/04/2016 to 31/03/2017 in the Monitoring Report Version 1 (first submission) dated 19/05/2021.

The verification is based on the registered PDD and the monitoring report for this project. Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, as well as those defined by the CDM Executive Board.

The management of PT Bajradaya Sentranusa and Agasco Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final Monitoring Report, version 3 dated 07/12/2021. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the PT Bajradaya Sentranusa and Agasco Limited. The development and maintenance of records and reporting procedures are in accordance with the latest version of the Monitoring Report/1.2/.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the verified monitoring period based on the reported emission reductions in the final monitoring report for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary, to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

KBS confirms the following;

Reporting period: From 01/04/2016 to 31/03/2017

Verified emission in the above reporting period:

	Amount	Unit
Baseline emissions (BE)	859,326	tCO ₂ e
Project emissions (PE)	0	tCO ₂ e
Leakage emissions (LE)	0	tCO ₂ e
Total ERs (01/04/2016 to 31/03/2017)	859,326	tCO₂e

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CERs	Certified Emission Reductions
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
KP	Kyoto Protocol
kWh	Kilo Watt Hour
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
MWh	Mega Watt Hour
PE	Project Emissions
PDD	Project Design Document
PCP	Project Cycle Procedure
PP	Project Participant
PS	Project Standard
QA/QC	Quality Assurance/Quality Control
RCP	Renewal of Crediting Period
T	Tonnes
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Personnel Name:		Deepak Pundlik	
Qualified to work as:			
Team Leader	<input type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Verifier trainee	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert	<input type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Approved by (Manager C & T)	Shikha Sharma		
Approval date:	07/07/2021		

Personnel Name:		Tushar Chaudhari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by	Manager Competency & Training		
Approval date:	02/09/2020		

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	PP	1.1 Initial MR 1.2 Final MR	Version 01 dated 19/05/2021 Version 03 dated 07/12/2021	PP
2.	PP	2.1 Initial ER Spread sheet 2.2 Final ER Spread sheet	Version 01 dated 19/05/2021 Version 02 dated 06/09/2021	PP
3.	PP	Registered PDD, version 5.0 dated 11/11/2014	https://cdm.unfccc.int/PRCContainer/DB/prcp315364935/view	UNFCCC
4.	DNV	Validation report dated 18/11/2014	https://cdm.unfccc.int/filestorage/C/3/Z/C3ZWFPVA4XQ1N2HM86JYIUED9OL0G7/4118_Validation%20opinion%20for%20PRC_2014-11-18.pdf?t=OEh8cXowaW5xfDAFyiQgGvSD5pDMQEz19qu9	UNFCCC
5.	UNFCCC	Project webpage	https://cdm.unfccc.int/Projects/DB/RWTUV1289918532.4/view	UNFCCC
6.	UNFCCC	ACM0002: Grid-connected electricity generation from renewable sources	Version 11.0	UNFCCC
7.	UNFCCC	Tool to calculate the emission factor for an electricity system	Version 02.0	UNFCCC
8.	UNFCCC	Tool for the demonstration and assessment of additionality	Version 05.2	UNFCCC
9.	UNFCCC	Combined tool to identify the baseline scenario and demonstrate additionality	Version 02.2	UNFCCC
10.	UNFCCC	Tool to calculate project or leakage CO ₂ emissions from fossil fuel combustion	Version 02.0	UNFCCC
11.	UNFCCC	Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 03.0	UNFCCC
12.	UNFCCC	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	Version 03.0.1	UNFCCC
13.	UNFCCC	CDM Validation and Verification Standard for PA	version 03.0	UNFCCC
14.	UNFCCC	Clean development mechanism project standard for PA	version 03.0	UNFCCC
15.	UNFCCC	Guidelines for Application of materiality in verifications	version 02.0	UNFCCC
16.	UNFCCC	CDM-MR-FORM - Monitoring report form for CDM project activity	Version 09.0	UNFCCC
17.	UNFCCC Secretariat	CDM Executive Board announcement to relax	CDM EB 110 th meeting report:	UNFCCC Secretariat

		mandatory site visits by designated operational entities (DOEs) for an extended period till 31 December, 2021 due to the continuing COVID-19 pandemic	https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01041_index.html	
18.	ERM	Verification report version 02.1 dated 25/01/2017	https://cdm.unfccc.int/filestorage/L/9/R/L9RTBXG6582I0OW17NYZQ4UFHPJVKM/Asahan_FVR_25Jan17.pdf?t=dll8cXowaXJnfDB_SV2fRVTv3SjmGEjYsTU8	UNFCCC
19.	PP	Revised PDD-PRC, version 07 dated 06/09/2021 and corresponding PRC validation report, version 01.1 dated 08/09/2021 submitted along with 3rd monitoring report for issuance track for PRC approval to CDM EB	-	PP
20.	PP	Evidence of Energy Generation covering the monitoring period: <ul style="list-style-type: none"> Electricity Generation Records Sales invoices issued 	-	PP
21.	PP	Calibration certificates	-	PP
22.	PP	Operational Procedures	-	PP
23.	PP	Operational Logbook	-	PP
24.	PP	Commissioning certificates	-	PP
25.	PP	Power Purchase agreement	-	PP
26.	PP	Clearance Number 292/KPTS/1997 issued by the Department of Mining and Energy, Directorate General of Electricity and Energy Development		PP
27.	UNFCCC	ACM0002: Grid-connected electricity generation from renewable sources	Version 17.0	UNFCCC
28.	PP	Legal and other regulatory environmental clearances and compliances secured for the current monitoring		PP

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

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

FAR ID	01	Section no.	E.2	Date: 07/09/2021
Description of FAR				
ERM CVS notes that monitoring of parameter FC _y is not required by the methodology since the project is a hydropower project and the diesel generator is used for emergency backup purposes only. It is clearly stated in the methodology that project emissions from fossil fuel consumption for hydroelectric projects are taken to be zero. A post-registration change to the monitoring plan may be submitted under the prior approval track to remove the requirement to monitor parameter FC _y .				
Project participant response				Date: 07/09/2021
PP has applied for post-registration change to the monitoring plan under the prior approval track to remove the requirement to monitor parameter FC _y				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 08/09/2021
During remote audit, assessment team confirmed that diesel generator was not used during the monitoring period. Further, it notes that this revision is in line with paragraph 36 and 38 of applied methodology i.e. ACM0002, version 17 during RCP of 2 nd crediting period of the project activity. This paragraph state that for all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected.				
Also it is checked and confirmed that this has no material impact on the applicability of the applied methodologies or the other applied methodological regulatory documents, or the accuracy and completeness of the monitoring. Hence, this FAR is closed.				

Table 2. CL from this verification

CL ID	01	Section no.	E.6.1	Date: 11/08/2021
Description of CL				
<ol style="list-style-type: none"> 1. Version number of registered PDD referred is found inconsistent throughout the MR. 2. Project participants mentioned are inconsistent with the registered PDD 3. Emission reductions mentioned in section A.1 are inconsistent with ER sheet submitted 4. Web link provided for applied methodology in section A.4 is not accessible 5. Check consistency between 'Data/parameter' in section D.1 of submitted MR and registered PDD 6. In section D.2, maintain consistency in date format 7. Monitoring period mentioned in section E.5.1 is inconsistent 				
Project participant response				Date: 16/08/2021
<ol style="list-style-type: none"> 1. Version number of the PDD corresponds with the PDD that will be submitted for an issuance track PRC. 2. Same as above 3. ER value revised 4. Link updated and working. 5. Parameters have been revised in line with the PRC PDD that will be submitted under the issuance track. 6. Date format revised. 7. Monitoring period in E.5.1 revised 				
Documentation provided by project participant				

Revised MR	
Revised ER sheet	
DOE assessment	Date: 23/08/2021
<ol style="list-style-type: none"> 1. PP response awaited. Hence this part of CL is open. 2. PP response awaited. Hence this part of CL is open. 3. PP has revised emission reductions mentioned in section A.1 in line with ER sheet submitted. Hence this part of CL is closed. 4. PP has provided correct web link for applied methodology in section A.4 which is now accessible. Hence this part of CL is closed. 5. PP has now revised 'Data/parameter' in section D.1 in line with the PDD. Hence this part of CL is closed. 6. Date format is now made consistent in revised MR. Hence this part of CL is closed. 7. Monitoring period mentioned in section E.5.1 is now corrected to 01/04/2016 – 31/03/2017. Hence this part of CL is closed. 	
Project participant response	Date: 06/09/2021
<ol style="list-style-type: none"> 1. MR revised to include most recent details of PRC and PDD version number 2. Project participants mentioned are consistent with PRC PDD V 7.0 	
Documentation provided by project participant	
Revised MR	
DOE assessment	Date: 07/09/2021
<ol style="list-style-type: none"> 1. PP has updated MR to mention revised version number of registered PDD which is confirmed and verified. Hence this part of CL is closed 2. PP has corrected and added Project participants as per latest Modalities of Communication which is confirmed and verified. Hence this part of CL is closed 	

CL ID	02	Section no.	ER sheet	Date: 11/08/2021
Description of CL				
<ol style="list-style-type: none"> 1. Round down monthly emission reduction values in line with principle of conservativeness 2. Parameter 'EF_{grid,CM_y,1stCP}' is inconsistent with submitted MR and registered PDD. 				
Project participant response				Date: XX/XX/XXXX
<ol style="list-style-type: none"> 1. Monthly ER valued rounded down. 2. Parameter notation revised. 				
Documentation provided by project participant				
DOE assessment				Date: 23/08/2021
<ol style="list-style-type: none"> 1. PP has rounded down monthly emission reduction values which is checked and verified. Hence, this part of CL is closed. 2. PP has revised the parameter notation from 'EF_{grid,CM_y,1stCP}' to 'EF_{grid,CM,y}' which is consistent with submitted MR and registered PDD. Hence this part of CL is closed. 				

Table 3. CAR from this verification

CAR ID	01	Section no.		Date: 11/08/2021
Description of CAR				
<ol style="list-style-type: none"> 1. Changes mentioned in section B.2.5 of submitted MR are not line with guidelines mentioned for the said section in CDM-MR-FORM version 8.0. 2. Provide details in 'Purpose of data/parameter' in section D.1 of submitted MR in line with guideline mentioned in 'point 2' for section D' in CDM-MR-FORM version 8.0. 3. In section D.2, QA/QC procedures for meter calibration are inconsistent with point 'a' of section B.2.5 of submitted MR and provide energy meter details for main and check meters in line with 'point 2' for section D.2 in CDM-MR-FORM version 8.0 				
Project participant response				Project participant response

1. Section B.2.5 revised to include PRC category and reference to completion date and version number of PDD
2. MR Revised
3. As stated in the 'monitoring equipment' row, calibration frequency is annually in line with point a of section B.2.5. As stated in the 'monitoring equipment' row, calibration frequency is annual in line with point a of section B.2.5. As described in the MR, since the primary meters did satisfy the applicable accuracy standard during the monitoring period, the cross check meter measurements did not need to be used. However, details of check meters have been included in the QA/QC procedures and supportive evidence provided

Documentation provided by project participant

Revised MR

DOE assessment
DOE assessment

1. PP has now provided details in section B.2.5 regarding post-registration changes approved in the first crediting period which is as per the guidelines mentioned in CDM-MR-FORM version 8.0. Hence this part of CAR is closed.
2. Section D.1 is now revised to provide correct details in 'Purpose of data/parameter' in line with the guideline which is accepted. Hence this part of CAR is closed.
3. Section D.2 is now updated to reflect annual calibration frequency as stated in point a of section B.2.5 which is checked and accepted. Check meter details are now included and supporting document is provided which is checked and confirmed. Hence this part of CAR is closed.

Table 4. FAR from this verification

FAR ID	Section No.	Date:
Description of FAR		
<i>No FAR's</i>		
Project participant response		Date:
Documentation provided by project participant		
DOE assessment		Date:

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	6 April 2021	Revision to: <ul style="list-style-type: none"> • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
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.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
Keywords: project activities, verifying and certifying