KIRAZLIK HYDROELECTRIC POWER PLANT PROJECT

Document Prepared By: 4K Earth Science Private Limited

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Summary:

4K Earth Science Private Limited (4KES) has been contracted by, "Ekobil Environmental Services and Consultancy Ltd.[1]" to undertake verification and certification for the greenhouse gas (GHG) emission reductions reported from 'Kirazlık Hydroelectric Power Plant Project' for the monitoring period 05/12/2013 to 28/02/2021 in the initial monitoring report version 1.01 date 23/03/2021.

The Kirazlık Hydroelectric Power Plant (Kirazlık HPP from this point onward) project is constructed at the Eastern Anatolia Geographical district of Turkey over the Botan Stream that is one of the major tributaries of the River Tigris. The Kirazlık HPP is designed with a small reservoir with a downstream regulation power plant. The dam is an earth fill dam with central clay core and concrete gravity type with a 16.80 m height above thalweg

In total there are 4 unis, 3 of which have 14.537 MWe capacity and 1 have 2.5 MWe capacity. The construction of the project has started in 28/06/2010. First unit was commissioned in 05/12/2013. Second unit was commissioned in 15/01/2014. Third unit was commissioned in 14/03/2014. Lastly the fourth unit was commissioned in 16/05/2014. The project start date is 05/12/2013 since the first unit was commissioned in that day. During this monitoring period (December 05, 2013 to February 28, 2021, both days inclusive), the project has produced a net total of 887,873 MWh electricity and a total amount of 479,318 tCO_{2e} of emission reduction. The monitoring period subject to this monitoring report is inclusive of first and last day of period.

A risk-based approach has been followed to perform the 1st periodic verification of the project activity. In the course of the verification, 06 Corrective Action Requests (CARs), 03 Clarifications (CLs) and 01 Forward action request (FAR) (pending from validation) were raised.

The management of the 'Baren Enerji Üretim San. ve. Ticaret A.S.' 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 1.02 dated 13/04/2021. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the Ekobil Environmental Services and Consulting Ltd. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 1.02 dated 13/04/2021.

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 period 05/12/2013 to 28/02/2021 based on the reported emission reductions in the final monitoring report Version 1.02 dated 13/04/2021 for the same period.

[1] It is Ekobil Environmental Services and Consultancy Ltd. that contracted 4KES authorised by the project owner. Ekobil is responsible for writing the Monitoring report and the contracting of the VVB.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, 4KES 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.

4KES confirms the following;
Reporting period: 05/12/2013 to 28/02/2021

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2013	1,722	0	0	1,722
2014	41,888	0	0	41,888
2015	63,255	0	0	63,255
2016	91,311	0	0	91,311
2017	63,727	0	0	63,727
2018	33,259	0	0	33,259
2019	104,673	0	0	104,673
2020	73,494	0	0	73,494
2021	5,989	0	0	5,989
Total	**479,318**	**0**	**0**	**479,318**

1 INTRODUCTION

1.1 Objective

4KES has been commissioned by 'Ekobil Environmental Services and Consultancy Ltd.' to perform verification of its registered VCS project 'Kirazlık Hydroelectric Power Plant Project' VCS 2092, for the reported GHG emission reductions for the given monitoring period 05/12/2013 to 28/02/2021 (both dates included). The VCS projects must undergo an independent third-party verification and certification of emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs).

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 project description (PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Voluntary Emission Reductions (VERs/VCUs) without any double counting, and
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities.

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The verification team verified the complete monitoring data /10/, /11/, /14/, /15/ and /16/ for all the monitoring parameters of the monitoring plan against the Monitoring report /1.2/ and ER Calculation sheet /2.2/ and confirms that the reported emission reductions are free from any type of material errors. Remote audit was also conducted to verify the implementation and monitoring plan of the project activity. The implementation of the project activity (i.e. major equipment and the metering arrangement) was verified during the Zoom video conferencing and found in accordance with the monitoring report /1.2/ and registered VCS PD /04/. Verification team has also verified the technical details of the project equipments and metering arrangement with the supportive documents /09/, /10/ and /21/ and found correct. Therefore, 4KES confirms that the verification is conducted with reasonable level of assurance.

1.4 Summary Description of the Project

The Kirazlık Hydroelectric Power Plant (Kirazlık HPP from this point onward) project is constructed at the Eastern Anatolia Geographical district of Turkey over the Botan Stream that is one of the major tributaries of the River Tigris. The Kirazlık HPP is designed with a small reservoir with a downstream regulation power plant. The dam is an earth fill dam with central clay core and concrete gravity type with a 16.80 m height above thalweg

In total there are 4 unis, 3 of which have 14.537 MWe capacity and 1 have 2.5 MWe capacity and total installed capacity of the project is 46.11 MWe. The total capacity of project capacity is verified from the remote audit, commissioning certificate /06/, technical specifications /09/, photos /10/ and production license /13/, Connection agreement /07/, System Usage agreement /08/.

The construction of the project has started in 28/06/2010. First unit was commissioned in 05/12/2013. Second unit was commissioned in 15/01/2014. Third unit was commissioned in 14/03/2014. Lastly the fourth unit was commissioned in 16/05/2014. The project start date is 05/12/2013 since the first unit was commissioned in that day. The commissioning date of each unit has been verified from commissioning certificates /06/. All the units were commissioned before this monitoring period.

The chosen monitoring period i.e. 05/12/2013 to 28/02/2021 is within the crediting period i.e. 05/12/2013 to 04/12/2023 which is accepted to the verification team. The monitoring period i.e. 05/12/2013 to 28/02/2021 is more than 6 years however exemption has been taken for the same from VCS /25/.

The Project Activity is located on the Botan River in the Eastern Anatolia region of Turkey, within the Siirt city borders. It is located between the elevations of 541.80 m and 525.00 m between.

The Following (Table 1) gives the coordinates of the Kirazlık HPP Dam location and Powerhouse location.

Table 1: Coordinates of the Weir and Powerhouse

	Latitude	Longitude
Dam	37°55'28.43"N	42° 3'40.31"E
Powerhouse	37°55'25.73"N	42° 3'41.28"E

Verification team has verified the latitude and longitude throught internet https://www.latlong.net/ and found consistent.

During this monitoring period (December 05, 2013 to February 28, 2021, both days inclusive), the project has produced a net total of 887,873 MWh electricity and a total amount of 479,318 tCO_{2e} of emission reduction. The monitoring period subject to this monitoring report is inclusive of first and last day of period.

2 VERIFICATION PROCESS

The registered VCS project is undergoing 1st verification under VCS (1st Crediting period), the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

4KES assessed and determined whether the proposed implementation and operation of the project activity, and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consist of the following three phases;

- A desk review of the VCS PD and VCS MR
- follow up interviews with project stakeholders
- The resolution of outstanding issues and issuance of final report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control before being submitted to the Verra Secretariat for issuance of credits as per VCS standard version 4.

Duration of Verification:

Verification Contract	05/01/2021
Remote audit	02/04/2021
Findings raised	03/04/2021
Draft Verification Report	13/04/2021
Final Verification Report	02/05/2021

2.2 Document Review

The verification is performed primarily as a document review of the approved VCS PD, Validation report and associated documents as stated in detail in appendix 1 of this document. The assessment is performed by a verification team using a protocol. The cross checks between information provided in the Monitoring report, VCS PD and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

Due to nationwide lockdown due to COVID-19 spread, Verification team could not conduct the site visit. Since the date of closure of lockdown is uncertain due to the increase spread of COVID-19 and hence VVB did not conduct site visit for this project activity. However, the verification team performed the Zoom remote interview with the PP representative, site person, consultant and local stakeholders and reviewed documents to achieve a reasonable level of assurance in the verification. This is in line with Section 4.1.2 of the VCS Standard, v4.0 which does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications. No sampling procedures were adopted in document verification and all the document were cross checked to ensure conservative estimation of emission reduction. Kindly find below names of the persons interviewed (Zoom remote interview).

Location	The Project Activity is located on the Botan River in the Eastern Anatolia region of Turkey, within the Siirt city borders.	
Dates	02/04/2021	
Key points discussed	**Name of person, interviewed**	**Designation, Organization**
Implementation, Monitoring, Operational data, Calibration, Data collection, QA/QC procedures, Calculation of ERs, VCS requirements	Mr. Fatih Baydar	Deputy Manager /Budget and Pricing, Limak Energy Trade-Limak Energy, İstanbul/Turkey
	Berat Deniz	Electrical and Electronics Engineering/Maintenance and Repair work - Limak Energy, Siirt/Turkey
	Mr. Ahmet Cevik	Site Manager - Limak Energy, Siirt/Turkey
	Dr. G.Aslı Sezer Özçelik	Manager, Ekobil Environmental Services and Consultancy Ltd., Ankara/Turkey (Project Consultant)
	Ms. Zeynep Artaç	Climate Change and Sustainability Assistant Specialist, Ekobil Environmental Services and Consultancy Ltd., Ankara/Turkey (Project

		Consultant)
Sustainable development Impact, Complaints, Mode of communication, Environmental impact, any other concerns	Ömer Akdağ	Villager, Meydandere Village, Siirt/Turkey
	Hikmet Alaylı	Villager, Taşbalta Village, Siirt/Turkey
	Mehmet Naci Şen	Commander of the Military Facility, Siirt/Turkey

2.4 Site Inspections

Due to nationwide lockdown due to COVID-19 spread, Verification team could not conduct the site visit. Since the date of closure of lockdown is uncertain due to the increase spread of COVID-19 and hence VVB did not conduct site visit for this project activity. However, the verification team performed the Zoom remote interview with PP representative, site person, consultant and local stakeholders and reviewed documents to achieve a reasonable level of assurance in the verification. This is in line with Section 4.1.2 of the VCS Standard, v4.0 which does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications.

2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and Zoom remote interview. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types;

CAR (Corrective Action Request) is raised if one of the following occurs:

- Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the 4KES during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

During the Verification process, total 06 CAR and 03 CL were raised and resolved satisfactorily. One FAR was raised and successfully closed in the verification which was pending from validation. The list of CARs/CLs/FARs raised and the response provided, the mean of validation, reasons for their closure and references to correction in the relevant documents are provided in Appendix II of this report.

2.5.1 Forward Action Requests

No FAR raised during the verification.

2.6 Eligibility for Validation Activities

4KES conducted the verification activity; the validation was performed by the other VVB. 4KES has a valid UNFCCC accreditation in the sectoral scope from UNFCCC. The accreditation scope can be checked from the below link: http://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0069

3 VALIDATION FINDINGS

Use this section to provide details of all validation activities that took place during the verification, such as gap validation, validation of methodology deviations and project description deviations, and the inclusion of new project activity instances into grouped projects.

3.1 Participation under Other GHG Programs

The project is registered in VCS only, verification team confirms that it has checked that there is no double counting associated with project activity being participation of other GHG programs.

3.2 Methodology Deviations

Not Applicable.

3.3 Project Description Deviations

In the validated PD, it is stated that all meters will be in compliance with the Communiqué for Metering Devices to be used in the Electricity Market and they have an accuracy class of Class002 indicating an accuracy range of 0.2%. In this monitoring period, the accuracy of the meters are 0.5% which is again in compliance with the regulations[2] in Turkey. Other than that, the project activity is in compliance with the scenario described at the Project Design Document /04/. The meters belong to the grid operator TEİAŞ and installed as per the their requirements. Turkish Electricity Transmission Corporation (TEİAŞ) is the transmission system operator for electricity in Turkey. Hence the deviation is accepted to the verification team.

3.4 Grouped Project

The project is not a grouped project. Therefore, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Kirazlık Hydroelectric Power Plant (Kirazlık HPP from this point onward) project is constructed at the Eastern Anatolia Geographical district of Turkey over the Botan Stream that is one of the major tributaries of the River Tigris. In total there are 4 unis, 3 of which have 14.537 MWe capacity and 1 have 2.5 MWe capacity and total installed capacity of the project is 46.11 MWe. The total capacity of project capacity is verified from the remote audit, commissioning certificate /06/, technical specifications /09/, photos /10/ and production license /13/, Connection agreement /07/, System Usage agreement /08/.

The technical details of the turbine and generator were confirmed from the technical specifications /09/, photos /10/ and during Zoom remote interview.

The construction of the project has started in 28/06/2010. First unit was commissioned in 05/12/2013. Second unit was commissioned in 15/01/2014. Third unit was commissioned in 14/03/2014. Lastly the fourth unit was commissioned in 16/05/2014. The project start date is 05/12/2013 since the first unit was commissioned in that day. The commissioning date of each unit has been verified from commissioning certificates /06/. All the units were commissioned before this monitoring period.

During the process of validation, 4KES confirmed the capacity, unique identification of the project activity, estimated power generation, arrangement for evacuation of electricity generated, technical specifications, date of commissioning, arrangements for Operation & Maintenance (O&M) and necessary clearances for setting the project activity. List of documents reviewed during the course of verification is presented under Appendix I of this report.

[2] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5

There was no major breakdown or shutdowns during the monitoring period which might affect the applicability of methodology or might cause material errors in emission reductions.

Energy meters were changed during this monitoring period and the details have been mentioned under section 4.2 of the monitoring report /01/ which have been verified from the supportive documents /15/ and found OK. The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period. The project design as mentioned in the registered VCS PD & monitoring report submitted is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment's and procedures as mentioned in the registered VCS PD & monitoring report are available and implemented in an appropriate manner.

The organisational role and responsibility as mentioned in the registered VCS PD & monitoring report is followed onsite. All the monitoring equipment was calibrated as per the specified interval in the registered VCS PD & monitoring report. All the emergency preparedness as mentioned in the registered VCS PD & monitoring report is followed onsite and no discrepancies were found regarding the same.

Project activity provide local jobs and contributing to the improvement of infrastructure in the region. Section 1.11 of the Monitoring report has been checked and found OK. The project activity contributes positively to sustainable development which has been verified from the remote interview of the Local people (Section 2.3 of this report) and supportive documents /20/. Local stakeholders were happy with the project and shared positive feedback about the job creation and other sustainable development.

The assessment team found that the project is in line with the registered VCS PD, monitoring report.

Opinion:

Assessment team concludes the following:

a) There is no material discrepancies between project implementation and the project description provided in the registered PD/04/.

b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.

c) There is no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology.

d) The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading.

e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification.

f) The project is registered under VCS only.

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

Verification team has interviewed various local stakeholders and found no harm to air, water, noise etc. Local stakeholders were happy with the project and shared positive feedback about the job creation and other sustainable development which is also verified from the supportive document /20/. Hence verification team confirms that there are no any significant impacts due to implementation of project activity on air, water, Solid Waste, Waste Oils Hazardous Waste, Noise etc. which is also verified during the remote interview of stakeholders and EIA report /22/.

4.2.2 Local Stakeholder Consultation

For the project activity a local stakeholders consultation meeting was held in Aydınlar town of Siirt Province, on April 2nd, 2009, at 11:00 am, in the Public Educational Centre Meeting Hall of Aydınlar Town, Siirt. The process was validated during the registration of project activity in VCS. VCS validation report verified to confirm the same. The PP had invited identified stakeholders well in advance with details of venue and time of meeting.

The ongoing communication is undertaken through stakeholder visits to the site or direct contact via telephone. Verification team has interviewed various local stakeholders and confirm that no negative comments about the project have been received. Stakeholders tend to focus on the positive sides of the project such as creation of employment, new facilities, infrastructure development etc.
Stakeholders can directly visit or call the power plant when they have a problem. Since the project started, the project owners have not received any negative comments. Remote meeting was held with stakeholders on April 02, 2021, at which stakeholders stated that they were satisfied with the project and they could easily contact the project owners whenever they wanted.

4.3 AFOLU-Specific Safeguards

Not Applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM 0002 (version 13.0.0), the formulae given in the monitoring

report version and also based on the validation opinion stated in the VCS validation report /05/.

Parameter monitored:

4.4.1 EGPP-self consumption, y **(MWh)**

Quantity of electricity imported by the power plant from the Grid for self-consumption, in year y

<table>
<tr><th></th><th>Discussion and verification assessment</th></tr>
<tr><td>Purpose of data</td><td>Data to be used for the calculation of Baseline Emissions.</td></tr>
<tr><td>Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)</td><td>
The primary source of data is the Main TEIAS meters located at the Project Powerhouse. There are bidirectional meters. The meters belong to the grid operator TEIAŞ.

The electricity data is continuously measured by the energy meters. The data read through these meters are recorded monthly by TEIAS.

There are three main meters, each record the generation/import of electricity from each line that transmit the electricity generated by each unit of generators, and there are three back-up meters, for each one of these main meters.

The details of the energy meters is mentioned under section 4.2 and section 4.3 of the monitoring report /1.2/. The accuracy class of the energy meters is 0.5. The details of the energy meters used for this monitoring period is given below.

<table>
<tr><th>Meter</th><th colspan="3">Main Meters</th><th colspan="3">Backup meters</th></tr>
<tr><td>Function</td><td>Unit 1</td><td>Unit 2</td><td>Unit 3</td><td>Unit 1</td><td>Unit 2</td><td>Unit 3</td></tr>
<tr><td>Located</td><td>At the plant</td><td>At the plant</td><td>At the plant</td><td>At the plant</td><td>At the plant</td><td>At the plant</td></tr>
<tr><td>Serial No.</td><td>471123</td><td>471125</td><td>471127</td><td>471126</td><td>471124</td><td>471128</td></tr>
<tr><td>Calibration date</td><td>2012</td><td>2012</td><td>2012</td><td>2012</td><td>2012</td><td>2012</td></tr>
</table>
</td></tr>
</table>

	Valid Until[3]	2022[4]	2022	2022	2020	2022	2022
	Model	ELSTER	ELSTER	ELSTER	ELSTER	ELSTER	ELSTER
	Type	ABB 1500	ABB 1500	ABB 1500	ABB 1500	ABB 1500	ABB 1500
	Accuracy Class	0.5S	0.5S	0.5S	0.5S	0.5S	0.5S
	Meter	**Main Meters**			**Backup meters**		
	Function	**Unit 1**	**Unit 2**	**Unit 3**	**Unit 1**	**Unit 2**	**Unit 3**
	Located	At the plant	At the plant	At the plant	At the plant	At the plant	At the plant
	Serial No.	10013575	10013577	10013579	10013576	10013578	10013580
	Calibration date	2020	2020	2020	2020	2020	2020
	Valid Until	2030	2030	2030	2030	2030	2030
	Model	EMH	EMH	EMH	EMH	EMH	EMH
	Type	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC

[3] Within the scope of the regulation in Turkey (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5), the stamp year is taken as basis year and the year it is stamped(2012) is counted as the first year,regardless of the date and the remaining period is calculated from the year it was stamped(2012+10 years).

[4] Although the meters were valid until 2022, on 12.10.2020, all of the meters were changed at with the request of TEIAS.

	<table><tr><td>**Accuracy Class**</td><td>0.5S</td><td>0.5S</td><td>0.5S</td><td>0.5S</td><td>0.5S</td><td>0.5S</td></tr></table> Verification team has checked the meter details during the remote interview and photos /10/ and found OK. The meter needs to be calibrated every 10 years as per the government regulation /17/. Energy meters were changed on 12/10/2020 i.e. during this monitoring period as verified from the meter change document by TEIAS /15/. The old meters and the new meters were factory calibrated and the calibration was covering the monitoring period.
Measuring/Reading/ Recording frequency	For all the meters involved, measurement is made continuous and recording is made monthly as verified from the monthly electricity data /16/ and remote zoom meeting. All the meters belong to grid operator TEIAS.
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The electricity generation/consumption are measured every month using energy meters. Entity responsible: TEIAS
Verified value	4,874 MWh. The data has been verified from the TEIAS and EPIAS web portals which are government portals /16/ and hence accepted to the verification team. The data is available online which can be verified.
Cross checks	NA
QA/QC procedures applied	The energy meters are calibrated as per the government regulation which has been confirmed during the remote audit and the calibration records /15/.

4.4.2 EGPP-gross, y **(MWh)**

Quantity of electricity produced by the power plant, in y

	Discussion and verification assessment
Purpose of data	Data to be used for the calculation of Baseline Emissions.
Monitoring equipment	The primary source of data is the Main TEIAS meters located at the Project Powerhouse. There are bidirectional meters. The meters belong to the grid

(type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	operator TEIAŞ. The electricity data is continuously measured by the energy meters. The data read through these meters are recorded monthly by TEIAS. There are three main meters, each record the generation/import of electricity from each line that transmit the electricity generated by each unit of generators, and there are three back-up meters, for each one of these main meters. The details of the energy meters is mentioned under section 4.2 and section 4.3 of the monitoring report /1.2/. The accuracy class of the energy meters is 0.5. The details of the energy meters used for this monitoring period is given below.

Meter	**Main Meters**			**Backup meters**		
Function	**Unit 1**	**Unit 2**	**Unit 3**	**Unit 1**	**Unit 2**	**Unit 3**
Located	At the plant	At the plant	At the plant	At the plant	At the plant	At the plant
Serial No.	471123	471125	471127	471126	471124	471128
Calibration date	2012	2012	2012	2012	2012	2012
Valid Until[5]	2022[6]	2022	2022	2020	2022	2022
Model	ELSTER	ELSTER	ELSTER	ELSTER	ELSTER	ELSTER
Type	ABB	ABB	ABB	ABB	ABB	ABB

[5] Within the scope of the regulation in Turkey (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5), the stamp year is taken as basis year and the year it is stamped(2012) is counted as the first year,regardless of the date and the remaining period is calculated from the year it was stamped(2012+10 years).

[6] Although the meters were valid until 2022, on 12.10.2020, all of the meters were changed at with the request of TEIAS.

	1500	1500	1500	1500	1500	1500
Accuracy Class	0.5S	0.5S	0.5S	0.5S	0.5S	0.5S
Meter	**Main Meters**			**Backup meters**		
Function	**Unit 1**	**Unit 2**	**Unit 3**	**Unit 1**	**Unit 2**	**Unit 3**
Located	At the plant	At the plant	At the plant	At the plant	At the plant	At the plant
Serial No.	10013575	10013577	10013579	10013576	10013578	10013580
Calibration date	2020	2020	2020	2020	2020	2020
Valid Until	2030	2030	2030	2030	2030	2030
Model	EMH	EMH	EMH	EMH	EMH	EMH
Type	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC	LZQJ-XC
Accuracy Class	0.5S	0.5S	0.5S	0.5S	0.5S	0.5S

Verification team has checked the meter details during the remote interview and photos /10/ and found OK. The meter needs to be calibrated every 10 years as per the government regulation /17/. Energy meters were changed on 12/10/2020 i.e. during this monitoring period as verified from the meter change document by TEIAS /15/. The old meters and the new meters were factory calibrated and the calibration was covering the monitoring period.

Measuring/Rea	For all the meters involved, measurement is made continuous and

<table>
<tr><td>ding/ Recording frequency</td><td>recording is made monthly as verified from the monthly electricity data /16/ and remote zoom meeting. All the meters belong to grid operator TEIAS.</td></tr>
<tr><td>Data collection (from data generation, aggregation, to recording, calculation and reporting)</td><td>The electricity generation/consumption are measured every month using energy meters.

Entity responsible: TEIAS</td></tr>
<tr><td>Verified value</td><td><table>
<tr><td>2013</td><td>3,441 MWh</td></tr>
<tr><td>2014</td><td>77,594 MWh</td></tr>
<tr><td>2015</td><td>118,268 MWh</td></tr>
<tr><td>2016</td><td>169,305 MWh</td></tr>
<tr><td>2017</td><td>118,048 MWh</td></tr>
<tr><td>2018</td><td>61,665 MWh</td></tr>
<tr><td>2019</td><td>195,446 MWh</td></tr>
<tr><td>2020</td><td>137,636 MWh</td></tr>
<tr><td>2021</td><td>11,344 MWh</td></tr>
<tr><td>Total</td><td>892,747 MWh</td></tr>
</table>
The data has been verified from the TEIAS and EPIAS web portals which are government portals /16/ and hence accepted to the verification team. The data is available online which can be verified.</td></tr>
<tr><td>Cross checks</td><td>NA</td></tr>
<tr><td>QA/QC procedures applied</td><td>The energy meters are calibrated as per the government regulation which has been confirmed during the remote audit and the calibration records /15/.</td></tr>
</table>

4.4.3 CapPJ (W)

Installed capacity of the hydro power plant after the implementation of the project activity.

	Discussion and verification assessment
Purpose of data	To calculate power density
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Not Applicable
Measuring/Reading/ Recording frequency	Yearly
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Observed via the SCADA system of the Project Activity or name plate of each generator unit /10/
Verified value	46.11 MW. The data has been verified from the name plate capacity during the remote audit and also from the photos /10/.
Cross checks	NA
QA/QC procedures applied	NA

4.4.4 APJ (m2)

Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.

	Discussion and verification assessment
Purpose of data	Power density calculation
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration,	Not applicable

validity)	
Measuring/Reading/ Recording frequency	Indirectly measured based on depth readings from the SCADA system. Verification team has checked the calculation and found OK. This verified from the graph /14/ and from the scada screen during remote audit.
Data collection (from data generation, aggregation, to recording, calculation and reporting)	The reservoir area corresponding to maximum operational level has been determined as a certain value according to the topographical maps And a correlation graphic that exhibits the relationship between the water depth, reservoir area and the volume of the reservoir is plotted against a graphic.
Verified value	1,000,000 m^2. The data is found correct.
Cross checks	NA
QA/QC procedures applied	NA

Opinion: The verification team confirms;

- The monitoring plan has been implemented as per the registered PD;
- The monitoring complies with the requirement of the applied methodologies;
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameters and confirms to the requirement of the PD;
- The values included in the monitoring report and corresponding emission reduction sheets are verified and included under each monitoring parameter, wherever appropriate;

Parameters not monitored/ex-ante:

4.4.5 FCi,y (Volume Unit (cubic meter))

Amount of fuel consumed by relevant power plants in Turkey in years, 2008, 2009, 2010.

	Discussion and verification assessment
Purpose of data	Data used for the calculation of $EF_{grid,OM,Simple,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. Official publications at the Turkish Electricity Transmission Company (TEIAŞ) Web Site

Justification	Values are checked from Annex 2-Table-1 in the registered PD /04/ and VCS validation report /05/.

4.4.6 NCVi,y (GJ/Mass or Volume Unit)

Net Calorific Values for fossil fuel type in year, for the years 2008, 2009 and 2010

	Discussion and verification assessment
Purpose of data	Data used for the calculation of $EF_{grid,OM,Simple,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. Regional or national average default values that are reliable and documented in national energy statistics of the Turkish Electricity Transmission Company Web Site (http://www.teias.gov.tr/istatistik2010/front%20page%202010-çiçek%20kitap/yakıt46-49/49.xls http://www.teias.gov.tr/istatistik2010/front%20page%202010-çiçek%20kitap/yakıt46-49/47.xls)
Justification	Values are checked from Annex 2-Table-1b in the registered PD /04/ and VCS validation report /05/.

4.4.7 EFCO2,i,y (tCO2/GJ)

CO_2 emission factor of fossil fuel type i in year y

	Discussion and verification assessment
Purpose of data	Data used both for the calculation of $EF_{grid,OM,Simple,y}$ and $EF_{EL,m,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories, (http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf)
Justification	Values are checked from Annex 2-Table-2 in registered PD /04/ and VCS validation report /05/.

4.4.8 EGy (MWh)

Net electricity generated in the project electricity system in other words, net electricity generated and delivered to the grid by all power sources serving the system, not including low-cost / must-run power plants / units, in year y

	Discussion and verification assessment
Purpose of data	Data used both for the calculation of $EF_{grid,OM,Simple,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. Turkish Electricity Transmission Company Web Site http://www.teias.gov.tr/istatistik2010/front%20page%202010-çiçek%20kitap/uretim%20tuketim(22-45)/40(06-10).xls www.teias.gov.tr/istatistik2009/30(84-09).xls
Justification	Values are checked from Annex 2-Table-3 and Table-4 in the registered PD /04/ and VCS validation report /05/.

4.4.9 EGm,y (MWh)

Net electricity generated and delivered to the grid by power unit m in year y

	Discussion and verification assessment
Purpose of data	Data used for the calculation of $EF_{grid,BM,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. Turkish Electricity Transmission Company Web Site (www.teias.gov.tr). Data is extracted from the relevant annexes of the capacity projection reports for the years 2009[7] and 2010[8], and the projects that are listed in Gold Standard Registry, VCS project Database, and Blue Registry (VER+ Standard) are deducted.
Justification	Values are checked from Annex 2-Table 8a and Table 8b in the registered PD /04/ and VCS validation report /05/.

4.4.10 ηm,y (%)

[7] http://www.teias.gov.tr/projeksiyon/KAPASITE%20PROJEKSIYONU%202010.pdf

[8] http://www.teias.gov.tr/projeksiyon/KAPASITEPROJEKSIYONU2011.pdf

Specific electrical efficiency for all relevant energy sources (natural gas, lignite, coal/anthracite, fuel/motor oil).

	Discussion and verification assessment
Purpose of data	Data used for the calculation of $EF_{grid,BM,y}$
Verified value	Verified from registered PD /04/.
Source of value	Validated ex-ante. The default values provided at the Annex 1 of the "Tool to calculate emission factor for an electricity sector (Version 03.0.0)" are used.
Justification	Values are checked from Table 14 in the registered PD /04/ and VCS validation report /05/.

Opinion:

In the opinion of assessment team, the assumptions, emission factors and default values that were applied in the calculations have been justified.

Assessment of Data and Calculation of GHG emission reductions:

According to the approved methodology ACM 0002 (Version 13.0.0) Emission Reductions are calculated as

ERy = BEy – PEy

Where:

ERy Emission reductions in year *y* (t CO2e)

BEy Baseline Emissions in year *y* (t CO2)

PEy Project Emissions in year *y* (t CO2e)

Baseline Emissions

Baseline emissions are determined using the formula:

$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$

Where:

BE_y Baseline emissions in year y (tCO2)

$EG_{PJ,y}$ Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ Combined margin CO2 emissions factor in year y (tCO2/MWh)

And

$EG_{PJ,y} = EG_{Facility,y}$

$EG_{Facility,y}$ = Quantity of net electricity generation supplied by the project plant to the grid in year y (MWh/y)

The Combined margin CO_2 emissions factor in year y (tCO_2 /MWh), $EF_{grid,CM,y}$, is fixed ex-ante for the duration of the crediting period and is 0.53985 tCO2e /MWh. The electricity supplied to grid for this monitoring period is 887,873 MWh.

Project Emissions

The Project emissions are calculated with the formula mentioned in ACM0002 / Version 13 as:

$$PE_{HP,y} = \frac{EF_{Res} \cdot TEG_y}{1000}$$

Where:

$PE_{HP,y}$ = Emission from reservoir expressed as tCO2e/year

EF_{Res} = Default emission factor for emissions from reservoirs of hydro power plants in year y (CO2e /MWh)

TEGy = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh).

The power density of the project activity is calculated as follows:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

PD = Power density of the project activity, in W/m2

Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W)

Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} = Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m2)

A_{BL} = Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m2). For new reservoirs, this value is zero

Cap_{PJ} = 46,110,000 W

Cap_{BL} = 0 (since the project is a new hydro power plant)

A_{PJ} = 1,000,000 m2

A_{BL} = 0 (Justification: The project is a new hydro power plant))

Therefore;

PD = (46,110,000 – 0)/(1,000,000 – 0) = 46.11 W/m2

Therefore;

The project has a power density of 46.11 W/m2 therefore:

$PE_{HP, y}$ = 0

Leakage

No leakage has been considered for the project activity.

Emission reductions

Emission reductions are calculated as follows:

ERy = BEy = EGPJ,y* EFgrid,CM,y

= 479,318 tCO_2e (Rounded down)

Opinion:

The verification team confirms that

- The complete data set for the identified and required parameters for the operational days in the current monitoring period was available;
- The reported data has been cross checked with available records, as indicated in the section 4.4 above under each monitored data, wherever appropriate;
- The baseline, project and leakage emissions have been determined in accordance with the requirement of the applied methodologies, as contained in the final monitoring report and corresponding emission reductions spreadsheet;
- The assumptions, emission factors and default values used are justified, as indicated in the section 4.4 above

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Evidences (Documents/Zoom interviews) referred for verification of individual monitoring parameter and fixed parameters are defined under section 4.4. We further confirm that, sufficient evidence covering the entire monitoring period and at the required frequency were available. A list of referred documents for verification is also included in Appendix 1 of this report.

4.6 Non-Permanence Risk Analysis

Not applicable.

5 VERIFICATION CONCLUSION

4K Earth Science Pvt. Ltd (4KES), contracted by 'Ekobil Environmental Services and Consultancy Ltd.', has performed the independent verification of the emission reductions for the VCS project activity (VCS ID- 2092) "Kirazlık Hydroelectric Power Plant Project" in Turkey for the monitoring period 05-December-2013 to 28-February-2021 as reported in the Monitoring Report Version 1.02 dated 13/04/2021. The Baren Enerji Üretim San. ve. Ticaret A.S. and the respective project proponent are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity.

4KES commenced the verification on the basis of the baseline and monitoring methodology ACM 0002 version 13.0.0, the monitoring plan contained in the registered VCS PD /04/ and VCS guidelines version 4, Monitoring Report (Version 1.02 dated 13/04/2021) as per the process described under Section 2 of this report.

4KES verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. 4KES planned and performed the verification by obtaining evidence and other information and explanations that 4KES considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 05-December-2013 to 28-February-2021 are fairly stated in the Monitoring Report Version 1.02 dated 13/04/2021. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM 0002, version 13.0.0, and the VCS standard.

Verification period: From 05-December-2013 to 28-February-2021

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2013	1,722	0	0	1,722
2014	41,888	0	0	41,888
2015	63,255	0	0	63,255
2016	91,311	0	0	91,311
2017	63,727	0	0	63,727
2018	33,259	0	0	33,259
2019	104,673	0	0	104,673
2020	73,494	0	0	73,494

2021	5,989	0	0	5,989
Total	**479,318**	**0**	**0**	**479,318**

Approved by

Chandrakala R.

Director

4K Earth Science Private Limited

Date: 02-May-2021

Place: Bangalore, India

APPENDIX I: LIST OF DOCUMENTS

/1/	/1.1/ Monitoring Report, Version 1.01, dated 23/03/2021 (Initial Version) /1.2/ Monitoring Report, Version 1.02 dated 13/04/2021 (Final Version)
/2/	/2.1/ Draft Emission Reduction calculation sheet (corresponding to initial Version of VCS MR) /2.2/ Final Emissions Reduction calculation Sheet (corresponding to final Version of VCS MR)
/3/	VCS Standard Version 4
/4/	Registered VCS PD version 2.02 dated 24/05/2013
/5/	Web-Link for the Registered project activity for Validation Report and Grid Emission factor calculation https://registry.verra.org/app/projectDetail/VCS/2092
/6/	Certificate of commissioning of 4 Units
/7/	Connection Agreement (Agreement between TEİAŞ and the PP)
/8/	System Usage Agreement (Agreement between TEİAŞ and the PP)
/9/	Technical specification of the main equipments (Turbine, Generator etc.)
/10/	Photographic evidence Name plate photos of major eqipments Generator name plates Main and back-up meters displaying the serial numbers (photos)
/11/	Training record
/12/	Single line diagram along with meter location
/13/	Production licence
/14/	Graph to identify the reservoir's surface area using the water level measurements Correlation graph - Reservoir volume and surface area
/15/	Calibration certificates for the energy meters corresponding to this monitoring period along with the supportive for the meter change
/16/	Monthly export and import values available on the TEIAS and EPIAS PORTAL which are government authorities

/17/	Periodic calibration is indicated as 10 years in article 9 of the following regulation: https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=6381&mevzuatTur=KurumVeKurulusYonetmeligi&mevzuatTertip=5
/18/	No production months explanation
/19/	Organization structure
/20/	Sustainable parameters supportive: Employment records
/21/	Vedio captured by PP for the project site
/22/	EIA report
/23/	VCS MR filling template https://verra.org/project/vcs-program/rules-and-requirements/
/24/	Production license special provision July 2013
/25/	Exemption letter from VCS for monitoring period of more than 6 years

APPENDIX II: VERIFICATION FINDINGS

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

FAR ID	01	**Section no.**	-	**Date:** 03/04/2021
Description of FAR				
FAR raised during the validation of the project activity: During the Validation stage, Baren Enerji Üretim San. ve. Ticaret A.S. was initially a Limited Liability Company named Baren Enerji Üretim San. ve. Ticaret Limited Sirketi. But on the 26/04/2013, the company has changed to a Corporation Baren Enerji Üretim San. ve. Ticaret A.S. has sent a letter to EMRA to indicate this change on the 11/06/2013. The letter has been provided to the VVB. Hence, the electricity production licence has not been changed yet to the new company name.				
Project participant response				**Date:** 06/04/2021
Latest agreements i.e. Usage and Connection Agreements are on the name of Baren Enerji Üretim San. ve. Ticaret A.S.				
Documentation provided by project participant				

Usage Agreement: https://app.box.com/s/9zx4j4sd4yfz0xtj0oy27j43n6r3ctsr Connection Agreement: https://app.box.com/s/9cbd4yv0o1o9mv33477ewyksjngnl26u Production License: https://app.box.com/s/543kckx36ug0v8454rs9sllt6c8spdwg
DOE assessment **Date:** 13/04/2021
The justification provided by the PP is found convincing. Name of the PP i.e. "Baren Enerji Üretim San. ve. Ticaret A.S." has been verified from System Usage Agreement /08/ and Connection Agreement /07/. Also the name of the PP i.e. "Baren Enerji Üretim San. ve. Ticaret A.S." has been updated in the production licence as verified from supportive /24/. Hence this FAR is closed.

Table 2. CL from this verification

CL ID	01	**Section no.**	-	**Date:** 03/04/2021
Description of CL				
As per the registered PD /04/, "baren enerji üretim san. ve ticaret a.ş." is the Project participant however "Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi" has been mentioned as Project participant in the submitted monitoring report /1.1/. Need a clarification.				
Project participant response				**Date:** 06/04/2021
There is no ownership change in Kirazlık, it is owned by Baren Enerji Uretim San. Ve Ticaret A.S and Baren is a subsidy of Limak Yatirim Enerji Uretim Isletme Hizmetleri ve Insaat Anonim Sirketi. It is corrected.				
Documentation provided by project participant				
Please see MR version 1.02				
DOE assessment				**Date:** 13/04/2021
Correction has been done in the section 1.3 of the revised monitoring report /1.2/ and found correct. Baren Enerji Üretim San. ve. Ticaret A.S. has been mentioned as PP which is consistent with the registered VCS PD /04/. Hence this CL is closed.				

CL ID	02	**Section no.**	-	**Date:** 03/04/2021
Description of CL				
As per the registered VCS PD /04/, 22/10/2013 is the project start date however 05/12/2013 has been considered as a start date under the submitted Monitoring report /1.1/. No justification has been provided for the changes.				
Project participant response				**Date:** 06/04/2021
In the registered VCS PD, under the section 1.5 it is stated that the project start date is: 22nd of October, 2013, or when the project will be commissioned. The 22nd of October 2013 was provided as the expected date of commissioning by the project owner. However first unit was commissioned in 05/12/2013 which is considered as the start date of the project.				
Documentation provided by project participant				
https://app.box.com/s/rg8yoepo8wwmqv58oyz6mb4u0k0yq4gx				

DOE assessment	Date: 13/04/2021
Justification provided by the PP is convincing. Verification team has checked the project implementation from the certificates of commissioning of 4 units /06/ and found that 1st unit was commissioned on 05/12/2013. Hence the selected start date is found correct. Hence this CL is closed.	

CL ID	03	Section no.	-	Date: 03/04/2021
Description of CL				
Under section 4.3 of the monitoring report /1.1/, PP has mentioned "TEİAŞ measures the electricity produced by four main meters and four Back-up meters." However other sections of the monitoring report mention about three main and check meters. PP need to clarify.				
Project participant response				Date: 06/04/2021
Section 4.3 is corrected.				
Documentation provided by project participant				
Please see version 1.02 of the MR.				
DOE assessment				Date: 13/04/2021
Correction has been done in the revised MR /1.2/ and found OK. PP has corrected the sentence to three main and check meters which is found consistent with the remote interview, photographs /10/ and single line diagram /12/. Hence this CL is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	-	Date: 03/04/2021
Description of CAR				
Under the ER calculation sheet /2.1/, the reported electricity data for 2014 is not matching with the supportive documents /16/.				
Project participant response				Date: 06/04/2021
Company sent the self-consumption data for 2013 and 2014 as KWh not MWh. Necessary changes (converting KWh to MWh) are made. Calculation sheet and MR is corrected.				
Documentation provided by project participant				
Please see revised version of 2013 and 2014 data: https://app.box.com/s/l96teqdjviy9zwqk72ehx46d80busqkr ER Calculation sheet version 1.02 MR version 1.02				
DOE assessment				Date: 13/04/2021
Corrections have been done in the revised ER sheet /2.2/ and MR /1.2/ and found consistent with the source document /16/. Hence this CAR is closed.				

CAR ID	02	Section no.	-	Date: 03/04/2021
Description of CAR				

1. Under section 1.1 of the monitoring report /1.1/, PP need to mention the relevant implementation dates (e.g., dates of construction, commissioning, and continued operation periods) in accordance with the VCS MR template /23/. 2. Under section 1.8 of the monitoring report /1.1/, PP need to provide the reference of the applied methodologies and tools in accordance with the VCS MR template /23/. 3. In the monitoring report /1.1/, annex 4 is referred on multiple locations however same could not be found.
Project participant response **Date:** 06/04/2021
1.Under the section 1.1 dates of the construction and commissioning are added. **2.**https://cdm.unfccc.int/filestorage/D/Y/P/DYPFI935XBG274NWH6O8CM1KEZR0VU/EB67_repan13_ACM0002_ver13.0.0.pdf?t=VG58cXI0enEwfDD_6NA8W04IpYa0qg-viJVP **3.**Right reference is added.
Documentation provided by project participant
Please see version 1.02 of the MR.
DOE assessment **Date:** 13/04/2021
1. Correction has been done in the section 1.1 of the revised MR /1.2/ and found consistent with the commissioning certificates /06/. Hence this part of CAR is closed. 2. Correction has been done in the revised MR /1.2/ and found OK. Hence this part of CAR is closed. 3. Correction has been done in the revised MR /1.2/ and found OK. Hence this part of CAR is closed.

CAR ID	03	**Section no.**	-	**Date:** 03/04/2021
Description of CAR				
Under section 1.6 of the submitted monitoring report /1.1/, crediting period has been mentioned as 10 years however the period mentioned i.e. 05-12-2013 to 05-12-2023 is for more than 10 years.				
Project participant response				**Date:** 06/04/2021
Section 1.6 is corrected.				
Documentation provided by project participant				
Please see version 1.02 of the MR.				
DOE assessment				**Date:** 13/04/2021
Correction has been done in the revised MR /1.2/ and found OK. Hence this CAR is closed.				

CAR ID	04	**Section no.**	-	**Date:** 03/04/2021
Description of CAR				
Verification team has found that futuristic sentences have been used under the submitted monitoring report/1.1/. Since the monitoring report is prepared for the monitored data, hence PP need to correct the Monitoring report and described the actual monitoring happened during this monitoring period.				
Project participant response				**Date:** 06/04/2021
Futuristic language is corrected.				
Documentation provided by project participant				
Please see version 1.02 of the MR.				
DOE assessment				**Date:** 13/04/2021

Correction has been done in the revised MR /1.2/ and found OK. Hence this CAR is closed.

CAR ID	05	Section no.	-	Date: 03/04/2021
Description of CAR				
Under section 4.2 of the monitoring report /1.1/, PP need to update the monitoring parameter "A_{PJ}" for this monitoring period and submit the supportive calculation.				
Project participant response				**Date:** 06/04/2021
The area calculation calculated as the maximum depth is recorded from the Scada meter and from the provided link below (Graph at the related annex you read the corresponding aerial extent of water). No change has happened.				
Documentation provided by project participant				
https://app.box.com/s/iso2ydrh7fl9kpxny26x06ceeg2t1b55				
DOE assessment				**Date:** 13/04/2021
Justification provided by the PP is found OK. The value mentioned in the MR /1.2/ has been verified from the calculation as per supportive document /14/ and found consistent. Hence this CAR is closed.				

CAR ID	06	Section no.	-	Date: 03/04/2021
Description of CAR				
Under section 4.3 of the monitoring report /1.1/, 1. PP has only mentioned the energy meters calibration year. PP need to mention the exact calibration date. 2. PP need to mention the details of the energy meters i.e. meter type, accuracy class etc.				
Project participant response				**Date:** 06/04/2021
1. Within the scope of the regulation in Turkey (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5), the stamp year is taken as the basis year and the year it is stamped (2012) is counted as the first year, **regardless of the date** (day and month) and the remaining period is calculated from the year it was stamped (2012 + 10 years). Meters are calibrated on the date of manufacture. Calibrations are valid for 10 years, according to Turkey regulations. Therefore, meter calibration dates may not exactly match the start of the project. The important thing here is that the calibration date range of the meters is valid throughout the project. In our case, the first meters were manufactured (also calibrated/stamped) in 2012 and became active in 2013 at the power plant. 2. Details of the meters are added under the section 4.3.				
Documentation provided by project participant				
Please see version 1.02 of the MR.				
DOE assessment				**Date:** 13/04/2021

1. Justification provided by the PP is found OK. Verification team has checked the initial calibration of the energy meters /15/ which is consistent with the PP justification. Meter were manufactured in 2012. Hence this part of CAR is closed. 2. Corrections have been done in the revised MR /1.2/ and found OK. The mentioned details have been found consistent with the remote audit and photographs /10/. Hence this part of CAR is closed.

Table 4. FAR from this verification

No FAR raised during this verification.

~~FAR ID~~	~~xx~~	~~Section No.~~		~~Date: DD/MM/YYYY~~
~~Description of FAR~~				
~~Project participant response~~				~~Date: DD/MM/YYYY~~
~~Documentation provided by project participant~~				
~~DOE assessment~~				~~Date: DD/MM/YYYY~~

APPENDIX III: TEAM COMPETENCE

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	Chetan Swaroop Sharma					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4K ES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed		Yes	Yes	Yes	Yes	Yes	No
Appointed Date		13-06-2020					
Authorized to work as Technical Expert for:							
Authorized Technical Area		Sectoral Scope		TA Code	Technical Area within the scope		
		Energy industries (renewable -		1.1	Thermal energy generation		

	/ non-renewable sources)		
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy distribution	2.1	Energy distribution
	Energy demand	3.1	Energy demand
	Waste handling and disposal	13.1	Solid waste and wastewater
Authorized to work as Local Expert for:			
Country/Countries	India		
Compliance check by: Anand S. R.			

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	**Ma Paa Puratchikkanal**					
Qualification Procedure	*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*						
Appointed to work as:							
	CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**	
Appointed	Yes	Yes	Yes	Yes	Yes	No	
Appointed Date	29-07-2019						
Authorized to work as Technical Expert for:							
Authorized Technical Area	**Sectoral Scope**		**TA Code**	**Technical Area within the scope**			
	Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation			
	Energy industries (renewable - / non-renewable sources)		1.2	Renewables			

	Energy demand	3.1	Energy demand
	Construction	6.1	Construction
	Waste handling and disposal	13.1	Solid waste and wastewater
	Agriculture	15.1	Agriculture
Authorized to work as Local Expert for:			
Country/Countries	India		
Compliance check by: Anand S. R.			

APPENDIX IV: ABBREVIATIONS

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse Gases
IPCC	Intergovernmental Panel for Climate Change
MP	Monitoring Period
MR	Monitoring Report
MW	Mega Watt
MWh	MegaWatt hour
PD	Project Description

PP	Project proponent
QA/QC	Quality Assurance/Quality Control
tCO_2	Tonnes of Carbon Dioxide
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit