



**Verified Carbon
Standard**

VALIDATION REPORT OF RENEWAL OF
CREDITING PERIOD OF
ALKUMRU HYDROELECTRIC POWER
PLANT PROJECT



Document Prepared by LGAI Technological Center S.A.

(Applus+ Certification)

Project Title	Alkumru Hydroelectric Power Plant Project
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Report Title	Validation Report OF RENEWAL OF CREDITING PERIOD of "Alkumru Hydroelectric Power Plant Project"
Client	Ekobil Environmental Services and Consulting Ltd

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Summary:

The purpose of the project activity is to generate power using renewable hydro energy. The generated electricity is being exported to the public grid system of Turkey which is dominated by mainly fossil fuel fired power plants.

The Alkumru HPP project is a reservoir based hydro-electric power plant with an installed capacity of 275.520MWe. Alkumru is located on Botan River in the Eastern Anatolia region of Turkey. The project has a dam and a 10.99 km² reservoir. Alkumru HPP consists of 4 units and total installed capacity of the project is 275.520MWe and the expected electricity generation is 773,752 MWh per annum.

Revalidation of the Renewal of Crediting Period purpose:

The project is registered with VCS with Project ID 1464. Start date of the project activity is the 10/03/2011. The First Crediting Period was from 10/03/2011 to 09/03/2021 and Second Crediting Period chosen 10/03/2021 to 09/03/2031.

The average annual GHG emission reductions from the project activity will be 381,382 tonnes of CO₂e and total GHG emission reductions for the chosen 10 year crediting period will be 3,813,820 tonnes of CO₂e.

A risk based approach has been followed to perform this validation activity. In the course of validation, 00 Corrective Action request (CAR) & 00 Clarification Requests (CLs) were raised and successfully closed and no FAR were raised. The review of the Revised VCS-PD and additional documents related to

baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Hereinafter referred as Applus+ Certification) has been appointed by “Ekobil Environmental Services and Consulting Ltd” to perform the validation of Renewal of Crediting Period (RCP) of the project entitled “Alkumru Hydroelectric Power Plant Project” under VCS standard version 4.1. The objective of this RCP validation activity is to have an independent third party for the assessment of the project design, ER sheet and to ensure a thorough assessment of the proposed project activity against the applicable VCS requirements. In particular;

- the project's baseline is assessed against “ACM0002 Version 20.0”/07/
- the project’s monitoring plan is assessed against “ACM0002 Version 20.0”/07/
- VCS standard v 4.1 /14/
- VCS program guide v 4.0 /15/

Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of estimated verified emission reductions (VERs).

Revalidation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of verified emission reductions (VERs) for the renewed crediting period.

1.2 Scope and Criteria

The scope of the RCP renewal is the independent and objective review of the Renewal VCS PD. The Renewal VCS PD is reviewed against the relevant criteria (see 1.1) and decisions by VCS executive board, including the approved baseline and monitoring methodology. The validation was based on the guidance given in the VCS Guideline version 4.0 and VCS Standard version 4.1.

The assessment team has employed a risk based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the Renewal VCS PD. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VERs. The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the VCS-PD.

The only purpose of the revalidation of the crediting period is its usage during the issuance process as part of the VCS project cycle. Therefore, Applus+ Certification can't be held liable by

any party for decisions made or not made based on the revalidation of the crediting period opinion, which will go beyond that purpose.

1.3 Level of Assurance

The revalidation of the crediting period has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for remote site visit or document verifications. The entire documents checked/verification conducted to arrive at positive validation conclusions.

1.4 Summary Description of the Project

The purpose of the project activity is to generate power using renewable hydro energy. The generated electricity is being exported to the public grid system of Turkey which is dominated by mainly fossil fuel fired power plants.

The Alkumru HPP project is a reservoir based hydro-electric power plant with an installed capacity of 275.520 MWe. Alkumru is located on Botan River in the Eastern Anatolia region of Turkey. The project has a dam and a 10.99 km² reservoir. Alkumru HPP consists of 4 units and total installed capacity of the project is 275.520 MWe and the expected electricity generation is 773,752 MWh per annum.

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The average annual GHG emission reductions from the project activity will be 381,382 tonnes of CO₂e and total GHG emission reductions for the chosen 10 year crediting period will be 3,813,820 tonnes of CO₂e.

2 VALIDATION PROCESS

2.1 Method and Criteria

Re-Validation Scope: The scope is defined as an independent and objective review of the project design document for renewal for crediting period. The Renewal VCS is reviewed against VCS standard version 4.1, including the approved baseline and monitoring methodology ACM 0002 version 20.0/07/ (for the present scenario in the project).

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the VCS PD.

Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

Once the project is received by the assessment team, the members of the assessment team carried out:

- I A desk review of the Joint project design documentation and monitoring report;
- II Follow-up interviews with project stakeholders;
- III The resolution of outstanding issues and the issuance of the Validation report and opinion.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. LGAI TECHNOLOGICAL CENTER S.A. (APPLUS+ CERTIFICATION) has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating/verifying the identified criteria.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center S.A.(Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS	TA	Financial	Host country
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		Coverage	Coverage	aspect	experience
Vivek Kumar Ahirwar	LA/TE	YES	YES	YES	YES
Simon Shen	TR	YES	YES	YES	NA

The complete list of CVs is included as Appendix 3 of this report.

Document review

The updated VCS PD submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in appendix 1.

Follow-up interviews

A remote-site visit is conducted by LGAI Technological Center S.A. (Applus+ Certification) who performed interviews, telephone conferences, and video inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report in the below sections.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for LGAI Technological Center S.A. (Applus+ Certification) positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by LGAI Technological Center S.A. (Applus+ Certification) were resolved during communications between the Client and Applus+ Certifications to guarantee the transparency of the validation process, the concerns raised and responses given are summarized below in the appendix 3.

The final VCS PD Version 2.4 dated 03/01/2022 serves as the basis for the final assessment presented. Additional changes to the project during the revalidation process are not considered to be significant with respect to the main VCS objectives. The two VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the VVB's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is

not a part of the assessment team. If the documents have been satisfactorily approved, the Validation Registration Deed is submitted to the Client along with the relevant documents.

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

During the technical review process, additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the Validation Registration Deed is submitted to Client. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the authorized approver of Applus+ Certification.

After confirmation of the project owners the positive validation/verification opinion and relevant documents are submitted to the VCS secretariat through the VCS web-platform.

2.2 Document Review

The VCS PD submitted by the Client was reviewed against the approved methodology, VCS PD & Final Validation report of first crediting period and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done.

The details of the document observed during the revalidation process are listed below in Appendix 1 of this report.

2.3 Interviews

Due to the current situation with the global COVID-19 pandemic scenario and country wide lock down in world, an on-site inspection has not been performed by the assessment team. However, the representatives of the PP and O&M contractors were interviewed Zoom digital platform virtually on 17/08/2021 i.e. personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed are mentioned in the table below:

S N	Name	Organization
1	Mr. Fatih Baydar	Trading Deputy Manager - Limak Energy
2	Dr. Aslı Sezer Özçelik	Consultant-Ekobil Environmental Services and Consultancy Ltd.
3	Ms. Zeynep Artac	Consultant-Ekobil Environmental Services and Consultancy Ltd.
4	Mr. Zeynelabidin SEVGİLİ	Elektrik-Elektronik Yüksek Mühendisi
5	Mr. Yılmaz ADAR	Local Stakeholders
6	Mr. Taşbalta KÖYÜ	Local Stakeholders
7	Mr. Murat ALAVLI (Akyayla Village)	Local Stakeholders
8	Mr. Tahsin SEZGİN – (Meydandere Village)	Local Stakeholders
9	Mr. Meydandere KÖYÜ M.	Local Stakeholders
10	Mr. Naci ŞEN (Alkumru Jandarma Komutanı)	Local Stakeholders
11	Mr. Yılmaz Adar-Taşbalta Village	Local Stakeholders
12	Mr. Murat Alavli-Taşbalta Village	Local Stakeholders
13	Mr. Tahsin Sezgin-Meydandere Village	Local Stakeholders
14	Mr. M. Naci Sen- Alkumru Gendarmerie Commander	Local Stakeholders

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording and archiving procedures. Also, during the interviews, local employment, stakeholders input mechanism etc. were discussed. The assessment was drawn based on the feedback received during zoom interview coupled with the documentation.

2.4 Site Inspections

As discussed in the above section, physical site inspection is not done for the revalidation. However to achieve a reasonable level of assurance, the assessment team has followed the alternative means to substantiate the validation criteria as described in the below table:

Assessment Criteria	Means of verification/source documents	Assessment opinion
Description of project activity	i. Commissioning certificates /09/ ii. Connection Agreement (between the PP and grid)	The information's with reference to project capacity, technology, plant and equipment(s) and

Assessment Criteria	Means of verification/source documents	Assessment opinion
	operator TEİAŞ)/10/ iii. VCS Validation Report /2/. iv. Zoom interview on 17/08/2021	commissioning dates as provided in section 1.1 of PD are found consistent with the documents. Additionally, reported information at the time of validation (which was based on a site inspection by validating VVB at the time project registration) was also checked and found the current reporting consistent with the validated and registered project activity.
Compliance of the project implementation with the registered PD	i. Geographical co-ordinates (Location of solar plant) verified through Google Map ii. VCS verification report /2/. iii. Connection Agreement (between the PP and grid operator TEİAŞ)/10/ iv. Zoom Interview on 17/08/2021 v. Photograph of all the Hydro Plant, energy meters installed at site and screen shots of online monitoring system /21/	Location of hydro plants verified through Google Map. Daily generation records are verified to check the operational status of project activity. Also, checked the operation data from the real-time screenshots. Grid connectivity of the project is confirmed through the PPA. All the information's regarding the project implementation as discuss above are further verified through previous VCS verification report along with latest and found consistent.
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	i. Zoom interview on 17/08/2021 ii. Connection Agreement (between the PP and grid operator TEİAŞ)/10/ iii. Photograph of all the hydro Plant, energy meters installed at site	The organizational structure, responsibilities and competencies of the personnel confirmed through Zoom interview. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified though PPA and

Assessment Criteria	Means of verification/source documents	Assessment opinion
	and screen shots of online monitoring system /21/	interactions with site personnel. Procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the PD is confirmed through documents and found satisfactory.
Assessment of data and calculation of emission reductions or net removals	i. Data published by Turkish Ministry of Energy and Natural Resources /08/ ii. VCS Project validation report /2/	Methods, formulae and emission factor for calculating baseline emissions have been followed and they are found to be in accordance with the applied methodology and also to in the approved VCS verification report.

The VVB's assessment team has verified sufficient appropriate audit evidences, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance for the RCP validation of the project.

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 interview of site personnel. The VVB's assessment team prepares and/or updates a validation 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 VCS requirements have been met. All CARs and CLs raised by the Applus+ Certification 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 RCP validation, 00 Corrective Action request (CARs), 00 Forward Action Request (FAR) and 00 Clarification request (CLs) were raised and successfully closed.

All the findings that are raised and communicated to project participant during the verification are included under Appendix 3. The section also includes the response, if provided, by the project participants and an assessment by the verification team if it was closed out or otherwise.

2.5.1 Forward Action Requests

No FAR was raised during this RCP validation process. No FAR raised from validation and previous verifications. Please refer Appendix 2 for details.

3 VALIDATION FINDINGS

3.1 Project Details

Project type, technologies and measures implemented, and eligibility of the project:

Same as described in the registered VCS PD and updated PD.

Project proponent and other entities involved in the project-

The project proponent is same as mentioned in the registered VCS PD/01/.

Project start date-

Start date of project activity is 10/03/2011, which was the date on which project has begun generating emission reductions. Same as mentioned in the registered VCS PD.

Project crediting period-

As per the registered PD, crediting period was considered from 10/03/2011 to 09/03/2021 which can be renewed twice for the duration of ten year each.

The second crediting period is from 10/03/2021 to 09/03/2031.

Project scale and estimated GHG emission reductions or removals-

The estimated annual emission reductions for the project activity are 381,382 tCO₂e which is more than 300,000 tCO₂e. Hence the category is applicable under "Large Project".

Project location-

Same as in registered PD/01/.

Conditions prior to project initiation-

Same as in registered PD/01/.

Project compliance with applicable laws, statutes and other regulatory frameworks:

The project is a voluntary initiative by the project proponent and has not been implemented to meet any local / national laws or regulatory compliances. The project activity is in compliance with current laws and regulations and there are no legal and/or regulatory requirements that prevent the project implementation. Also the validation team has confirmed that there is no such compliance requirement with an emission trading program or any binding limits on GHG emissions for the project activity in Turkey (host country) as it is a non-annex 1 country. The project is in compliance with local laws and regulations.

Ownership and other programs-**Right of use**

Same as in the registered PD. In addition the validation team reviewed the PPA/10/, commissioning certificates/09/.

Emissions trading programs and other binding limits-

The project is not participating in other emission trading programs. The letter of undertaking/18/ has been furnished by project participant confirming that net GHG emission reductions or removals generated by the project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions.

Other forms of environmental credit sought or received and eligible to be sought or received:

The project is registered under the VCS (ID 1464) only.

Participation under other GHG programs:

The project is registered only under VCS project activity

Project ID: 1464

Rejection by other GHG programs:

The project has not been rejected by other GHG programs.

Additional information relevant to the project, including:

- **Eligibility criteria for grouped projects**

The project activity is not a grouped project, hence not applicable to the project activity.

- **Leakage management for AFOLU projects**

Not applicable to the project activity.

- **Commercially sensitive information**

No commercially sensitive information has been excluded from the public version of the project description.

Conclusion:

In view of the assessment of VCS PD/05/ and supporting documents as listed in Appendix 1 of this report, the validation team is able to confirm that the description contained in the VCS PD of the project activity provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation. Consequently, Applus+ Certification confirms that the project description of the project contained in the VCS PD/05/ to be complete and accurate. The VCS PD complies with the relevant forms and guidance for completing the VCS PD.

3.2 Safeguards

3.2.1 No Net Harm

There is no negative impact to any socio economic conditions of the region due to the project activity. This project activity will not involve any negative environmental or socio-economic impacts, as the project activity involves generation of power using hydroenergy which is a clean source of energy. Hence no mitigation measures are required.

3.2.2 Local Stakeholder Consultation

As per section 3.6 of the Validation Report for registered PD; Since Limak did not undertake the construction of the project, the company did not hold an official stakeholder participation meeting. However, the project managers had been open to face to face communications with local people in order to solve any problem that the project had caused. The ongoing communication is undertaken through stakeholder visits to the site or direct contact via telephone. For this purpose:

One of the religiously important visit points was moved to a higher location in order to save the location from remaining under the reservoir water.

The project provided some construction materials to surrounding villages for their infrastructure needs.

The project is planning to construct some recreational activity centers around the reservoir.

During revalidation of project for RCP, the remote interview was done with local villagers and it was verified that, the project provides job opportunities to local workers. The stakeholders were also present during the zoom virtual/remote site visit. They were interviewed by the validator. All of the stakeholders that were interviewed were content with the project activity and the general opinion was that the project was beneficial for the surrounding villages.

3.2.3 Environmental Impact

In section 2.3 of the updated PDD discussed about Environment Impact and it it verified that as accordance with “Environmental Law” No. 2872 (Issued in 1983), Annex 2 of Environmental Impact Assessment (EIA) Regulation (issued in 1993 and revised in 2001), run-off river type Hydroelectric Power Plants with an installed capacity of 50 MW or more are subject to a full EIA processor report preparation. The project has gone through a full EIA process and was granted an EIA Affirmative certification presented in Annex 2 of the revised PD.

The EIA report outlines the major design parameters of the project activity, and explains how the project is going to be producing its cement, and how it is going to be utilizing the rock, clay and sand quarries.

The report summarizes that the cement that is needed will be acquired from the Cement factory at Kurtalan, Siirt, and the steel is going to be supplied from the İskenderun province. The report also outlines how these quarries are going to be remedied at the end of the construction stage.

Although expropriation process and stake holder consultations related to expropriation is held separately the EIA report also summarizes the number of houses (13 house) and public buildings (1 school and 2 Gendarme posts) that are going to be flooded as a result of the formation of the reservoir lake of the project activity.

Some of the environmental parameters discussed in this report can be summarized as follows:

Impact to local Traffic:

The project is mainly located in a rural area, the traffic activity that will be increased during the construction phase is not expected to disturb the baseline conditions of the traffic. During the operation phase there will be shuttle service up to Aydınlar town and this activity is considered as an insignificant addition to the baseline traffic.

Construction Waste

There will be a designated area to dump the construction waste. The dumped waste is to be compressed after the dumping will be completed and these parts will be forested. There will be no such waste during the operation phase.

Air quality

Modeling of dust flow and emissions predict no significant effect on air quality of the nearest residential areas, and the levels are in accordance with the "Regulations for Control of Air Pollution Caused by Industrial Facilities", announced in the Official Gazette No. 26236, on the 22/07/2006.

During the construction phase the operation of the concrete mixing stations, operational at the rock and clay quarries, excavation, backfilling, transportation, loading and unloading of the debris will be causing dusting. The following are the preventive actions to avoid or minimize dust emissions:

- The work sites will be water sprayed periodically and will be kept damp to avoid dusting.
- At the sewing and grinding facilities, the material will be dampened pulverized water before the break up of the material. In addition to this the bunkers and the conveyor belts will be designed as closed systems and the emission permits of these facilities would be followed up.
- Dust holding filters would be installed at the bunkers of the concrete mixing stations.
- The work sites and the roads that are prone to dust formation will be regularly sprayed by water.
- Strict speed limits will be implemented at the work site, to avoid dusting

No dust emission is expected during the operation phase. There will be gas emissions due to the operation of the heaters during winter season. The emissions related to heaters will be below the emission limits allowed by the regulations.

Waste Waters

It is estimated that there will be about 1000 people working at the project site, and during the operation phase this number will be down to 80. During the construction phase there will be a compacted waste water treatment facility to treat the household waste water that will be produced as a result of water that will be utilized by the workers for toiletry etc. For the operation stage there will be housings that will be built for the personnel and the waste water from these housings will also be discharged to the compacted waste water treatment facility. The waste water that will be discharged from the power house will be first collected in a sanitary tank and will then be transferred to the treatment facility nearby the housings.

Hazardous Substances and Wastes

The residue oils and fuels from the construction equipment, or the used batteries will be disposed of according to the Regulations for Control of Hazardous Wastes, announced in the Official Gazette No. 25755, on 14 of March 2005, and Regulations for Control of Waste Oils announced in the Official Gazette No. 25353, on 21 January 2004.

The explosive to be used in construction of the conveyance tunnel is ANFO. The explosives will be transported and used in accordance with the "Regulations of Measures to be Taken At Workplaces Operated Using Explosive, Combustive, Dangerous and Hazardous Substances" and the "Regulations Related to Procedures and Principles of Production, Import, Transportation, Preserving, Storing, Sales, Use, Disposal, Inspection of Explosive Substances, Hunting Materials and Similar Substances, Excluding Tekel", announced in the Official Gazette No. 19589 on 29 September 1987.

Hazardous waste such as rubber, batteries, cables, paints, barrels, contaminated ground by oil, oil binding filters, etc. shall be collected and sent to a licensed hazardous waste recycling or disposal plant, and treated according to the provisions given in the "Regulations for Control of Hazardous Wastes" announced in the Official Gazette No. 25755, dated 14 March 2005.

Solid Waste:

Both during the construction phase and operation phase there will be solid waste as a result of the presence of the workers that will be working at the project site. These wastes will be sorted and re-cycleable wastes will be collected separately and sent to the recycling facilities and the rest will be sent to the Aydınlar Towns waste disposal site.

Noise:

The noise levels on Alkumru Regulator site, tunneling system and HES site, were modeled. It was predicted that day and night time noise levels around the nearest residential areas will be within the standards of the "Day and night noise limits for Rural Areas and Settlement Areas" in accordance with the Article 25 of the

Regulations for Evaluation and Management of Environmental Noise announced in the Official Gazette No. 25862 on 01.07.2005.

Water Flow and Lifeline Water

It is agreed by the water usage agreement between the project owner and the DSI that 14 m³/s water will be released from the dam for wildlife year-round. And if under circumstances when the natural water flow will be less than the above mentioned flow the entire water will be released to the river.

River Water Quality

The Project is not expected to have a material effect on water quality. The power density of the project is greater than 10 W/m², therefore, anaerobic conditions and decomposition are not expected to form and will not affect water quality and composition, or encourage methane production.

Ecology

The project area is not designated as an area for preservation. According to the available literature, there are no rare, endemic, endangered or protected species by national and/or international laws. Fauna and flora species, which are included in the Bern Convention or Red Data Book categories, were not found in the project area. A fish passage for fish species will be built, and once in operation, the project will not produce any air or water pollution to the surrounding environment. It is therefore concluded that the implementation of the project is expected to have only a minor impact on the surrounding environment and regional ecology.

The dam lake and its surrounding will be creating new habitat for waterfowl and other birds. There will be some public buildings (2 security buildings and one school) and 13 houses that are to be relocated.

3.2.4 Public Comments

This is revalidation/ RCP validation for renewal of crediting period of already registered VCS Project ID 1464.

However, the PP has invited for public comments remotely due to the global pandemic. This group includes the headman, schoolteacher, tradesmen, general staff, employees, gendarmerie etc. in the region. This group was asked questions about the social, economic and environmental impacts of the project. The questions were shared with the target group in form, and the answers were shared with the assessment team of the VBB in written form and found to be ok. Generally, public comments period was really positive. Group tends to focus on the

positive sides of the project such as creation of employment, new roads, and increase in irrigation water etc.

In the first question, we asked the group whether the project contributed to the social development of the area they live in. This question was answered positively by 100% of the group. The project has positive social impacts as job creation in the region.

The second question was about whether the project contributed to the economic development of the region. Everyone in the group answered this question positively. The project created employment in the region, which was noted by stakeholders in the group. Employment was created both during the construction phase and during the operation of the power plant. At the same time, as mentioned above, it also provided support to the local economy by increasing tourism.

The third question was about the environmental impact of the project. 100% of the group think that the project has a positive impact on the environment. The project provided an increase in irrigation water.

We also asked the group if they had any past or present concerns about the project. 100% of the group stated that they have no problems with the project. Whole group stated that they could easily communicate with the project owners if they had any concerns about the project. The group usually prefers to communicate by phone or by visiting the power plant when they have any problem. Therefore, it is verified that requirement has been met by the PP.

3.2.5 AFOLU-Specific Safeguards

Not Applicable, as for non-AFOLU projects, this section is not required.

3.3 Application of Methodology

3.3.1 Title and Reference

The project activity has applied CDM approved methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0. Sectoral Scope: 01

Tools referenced in the applied methodology:

“Tool to calculate the emission factor for an electricity system” - Version 7.0,

“Tool for the demonstration and assessment of additionality” (Version 05.2.1)

“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)

3.3.2 Applicability

Applus+ Certification has assessed the relevant information contained in the Renewal VCS PD and evidence obtained during remote audit against the application criteria listed in the methodology. The applicability of this methodology is justified as below:

The proposed project activity is a greenfield, grid connected renewable electricity generation project,

The project activity is the installation of hydro power plant,

The project does not involve capacity addition, a retrofit of (an) existing plant(s) or a replacement of (an) existing plant(s)

Project activity does not involve switching from fossil fuels to renewable energy sources at the site of project activity

The project does not involve combined heat and power generation activity

The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available.

The VVB's assessment team has validated the documentation referred to in the Renewal VCS PD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the Renewal VCS PD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the Renewal VCS PD with the documentation other than from the Renewal VCS PD based on the local and sectoral knowledge of the assessment team. Following documentation has been reviewed by the assessment team:

Remote-Site Visit Interview

Technical detail analysis of the power plant from the documents submitted by the manufacturer.

Commissioning certificates

The assessment of the project's compliance with the applicability criteria of ACM0002 - Version 20.0 are documented in detail in Renewal VCS PD.

Applus+ Certification confirms that the application of the baseline methodology is transparent and conservative and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 - Version 20.0 is applicable to the project activity.

3.3.3 Project Boundary

The project boundary as depicted in the renewal VCS PD is checked during the validation remote site discussion and also during the interview with the plant official.

The project boundary is given by the applied methodology, ACM0002, version 20.0.0:

“The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.”

The spatial extent of project boundary diagram (including the metering system) referred by the methodology is now mentioned in the renewal VCS PD as per the requirement of applied methodology and thus the same is acceptable to the assessment team. The below table mentions the emission source:

Source		Gas	Included?	Justification/Explanation
Baseline	Electricity Generation in baseline (Turkey's grid)	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
		Other	N.A	N.A
Project	Emission from the reservoir of the proposed project	CO ₂	No	Minor emission source
		CH ₄	No	Minor emission source (Power density greater than 10W/M ²)
		N ₂ O	No	Minor emission source
		Other	N.A	N.A
	Auxiliary Diesel Generator	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
		Other	N.A	N.A

The consideration, by the PP, of only CO₂ gas for the baseline emissions is conservative and also in line with the methodology. The exclusion of CH₄ & N₂O in the baseline scenario is appropriate. The project activity involves the generation of electricity using hydro energy. Hence, there are no project emissions associated with this project activity. Hence, the exclusion of CO₂, CH₄ & N₂O in the project scenario are appropriate. There are no other sources of project emissions. Hence, the project participant has considered the project emissions as zero for project activity; this is in line with the methodology.

The assessment team is able to conclude that the project boundary and selected sources are applied as per the methodology and the applicable VCS criteria.

3.3.4 Baseline Scenario

The baseline scenario is still valid for this next crediting period and it is given by the applied methodology: “If the project activity is the installation of a Greenfield power plant, the baseline

scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.”.

Thus, as per VCS Standard 4.1, para 3.8.5; 2. b). “Where it is determined that the original baseline scenario is still valid, the GHG emissions associated with the original baseline scenario shall be reassessed using the latest version of the CDM Tool to assess the validity of the original/ current baseline and to update the baseline at the renewal of a crediting period.”

Step 1: Assess the validity of the current baseline for the next crediting period

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

In the absence of this project activity, electricity that is connected to the national grid would come from fossil fuel based power plants. The baseline scenario of the project is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected fossil fuel power plants and by the addition of new generation sources.

The current baseline scenario complies with all relevant mandatory National/sectoral legislation. The project received the production license from the Turkish Energy Market Regulatory Authority on 27/09/2007. This license ensures that the project complies with all national regulations. The term of the license is 49 years.

Step 1.2: Assess the impact of circumstances

Turkish Power Sector has the installed capacity is predominantly coal based and therefore, is a major source of carbon dioxide emissions in Turkey. Hence, there exists scope for reducing the CO₂ emissions in the country by increased use of renewable energy sources. Furthermore, project participant has considered the latest available official data provided by Turkish Ministry of Energy and Natural Resources published on 06/10/2021 at the time of requesting renewal of the crediting period for establishing the baseline emission factor, which itself considered all the new circumstances. Hence, the new circumstances do not have an impact on the baseline emission.

Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

As explained in step 1.2, the baseline scenario was the electricity generation from the power plants connected to the electricity grid. Therefore this condition is not applicable to the project activity.

Step 1.4: Assessment of the validity of the data and parameters

This step requires us to Assess whether data and parameters that were only determined at the start of the crediting period and not monitored during the crediting period are still valid or whether they should be updated. Updates should be undertaken in the following cases:

"Where IPCC default values are used, the values should be updated if any new default values have been adopted and published by the IPCC, for example, in guidelines for national GHG inventories, IPCC assessment report or special reports by the IPCC".

"Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity".

In the registered PDD, the grid emission factor was calculated as per the combined margin approach described in the "Tool to calculate the emission factor for an electricity system" Version 02.2.1. The grid emission factor was calculated as the weighted average of OM & BM; and was fixed ex-ante for the entire crediting period.

The emission factors that were determined at the start of the first crediting period are not valid anymore and the data and parameters have been updated accordingly for the second crediting period.

The whole data OM and BM was obtained from official data provided by Turkish Ministry of Energy and Natural Resources published on 06/10/2020. This is the most recent data available during the validation of renewal of crediting period.

Considering the guidance provided under this step, calculation of emission factor and baseline emissions are updated for the next crediting period as requested in step 2.

Step 2: Update the current baseline and the data and parameters

The approved consolidated baseline methodology, ACM0002 version 20.0 has been used to determine the baseline and the estimation of emission reductions for the current crediting period.

The data and parameters are calculated using "Tool to calculate the emission factor for an electricity system" (version 07.0).

Being a grid connected hydro energy generation project, PP developed the project based on the Methodology ACM0002 - Version 20.0. As per Para 23 the methodology "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

As per CDM validation and verification standard for project activities Version 03.0, "The DOE shall determine whether the description of the identified baseline scenario in the PDD is in accordance with the selected standardized baseline". As the selected approved methodology clearly mentions the baseline scenario and the same has been opted in this project, therefore, no further analysis on baseline is required. VVB's Assessment Team, therefore, concludes that the renewal VCS PD conforms to the guidance given by EB via CDM validation and verification standard for project activities Version 03.0.

3.3.5 Additionality

According to the VCS Standard 4.1, section 3.8.5, *"a full reassessment of additionality is not required when renewing the project crediting period. However, regulatory surplus shall be demonstrated in accordance with Section 4.6.3 and the project description shall be updated accordingly"*.

And according to the section 4.6.3, *"The project shall not be mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework. For UNFCCC non-Annex I countries, laws, statutes,*

regulatory frameworks or policies implemented since 11 November 2001 that give comparative advantage to less emissions-intensive technologies or activities relative to more emissions-intensive technologies or activities need not be taken into account. For all countries, laws, statutes, regulatory frameworks or policies implemented since 11 December 1997 that give comparative advantage to more emissions-intensive technologies or activities relative to less emissions-intensive technologies or activities shall not be taken into account”

This project is a greenfield hydro power plant and it is not mandated by any law, statute or other regulatory framework from the host country or foreign countries or UNFCCC.

Furthermore, the project shall not be mandated by any enforced law, statute or other regulatory framework, or for UNFCCC non-Annex 1 countries, any systematically enforced law, statute or other regulatory framework. The assessment team has assessed the same and confirms that there is no regulatory surplus for such projects. Therefore, the project is not mandated by any enforced law, statute or other regulatory framework.

3.3.6 Quantification of GHG Emission Reductions and Removals

The baseline emissions as discussed in renewal VCS PD will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the methodology ACM0002 - Version 20.0.

The baseline emissions as discussed in VCS PD will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the methodology ACM0002 - Version 20.0.

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

Where,

BE_y = Baseline emissions in year y (t CO₂/yr)

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

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO₂/MWh)

Validation team assessed the technical specification of the promoters of the project activity. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors according to the procedure prescribed in the “Tool to calculate the emission factor for an electricity system” version 7.0 and OM & BM values are sourced from official data provided by Turkish Ministry of Energy and Natural Resources published on 06/10/2021 and forms the part of emission reduction calculation. The baseline emission factor calculation is checked by the validation team and found that the calculation is transparent and conservative.

The combined margin of the public grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,OM,y}$	0.7258tCO ₂ /MWh	Operating margin CO ₂ emission factor for grid connected power generation in year y	Data published by Turkish Ministry of Energy and Natural Resources on 06/10/2021
$EF_{grid,BM,y}$	0.4153tCO ₂ /MWh	Building margin CO ₂ emission factor for grid connected power	Data published by Turkish Ministry of Energy and Natural Resources on

		generation in year y	06/10/2021
$EF_{grid,CM,y}$	0.4929tCO ₂ /MWh	Combined margin Emission Factor of Turkey	Calculated as the weighted average of the operating margin (0.25) & build margin (0.75) values, sourced from Data published by Turkish Ministry of Energy and Natural Resources on 06/10/2021

$EF_{grid,CM,y}$ = 0.4929tCO₂e/MWh and it is fixed ex ante for the second crediting period. Considering this process, combined margin emission factor has been considered and same value is confirmed correct.

Baseline Emissions

Hence, the calculation of baseline emission is calculated as follows:

Where:

BE_y Baseline emissions in year y(tCO₂/yr)

$EG_{facility,y}$ Electricity supplied by the Uzuncayir Hydropower Electricity Power Plant to the grid and equal to 244,438 MWh/yr

$EF_{grid,CM,y}$ Combined margin CO₂ emission factor for the grid and equal to 0.4929 tCO₂/MWh

Therefore:

$$BE_y = 244,438 \times 0.4929 = 120,600 \text{ (tCO}_2\text{/yr)}$$

Project Emissions

As per para 36 of ACM0002 - Version 20.0

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

PE_y = Project emissions in year y (t CO₂e/yr)

$PE_{FF,y}$ = Project emissions from fossil fuel consumption in year y (t CO₂/yr)

$PE_{GP,y}$ = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO₂e/yr)

$PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year y (t CO₂e/yr)

In this case,

$$PE_{FF,y} = 0,$$

Since for all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected according to the methodology.

$$PE_{GP,y}=0,$$

Since this is not a dry or flash steam geothermal project activity.

$$PE_{HP,y}=0,$$

Where: $PE_{HP,y}$ = Project emissions from water reservoirs (tCO₂e/yr)

Since, the ACM0002, Version 20.0 para 38 states that if the power density of the project activity is greater than 10 W/m² :

$PE_{HP,y} = 0$, and the project has a power density of 52 W/m² calculated as follows:

<u>Project Activity</u>	<u>Installed Capacity</u>	<u>/</u>	<u>Reservoir Area</u>	<u>=</u>	<u>Power Density</u>
AlkumruHPP	275,520,000 W	/	10,990,000m ²	=	25.07W/m ²

In conclusion,

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

$$PE_y = 0 + 0 + 0 = 0$$

.

Leakage

As per applied methodology, no other leakage emissions are considered. The main emissions potentially giving rise to leakage are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). However according to ACM0002 Version 20.0 para 53, these emission sources can be neglected, therefore $LE_y = 0$. Hence, there is no leakage emissions related to project activity.

Emission Reduction Calculation:

The project activity reduces carbon dioxide emissions through displacement of grid electricity generation with predominantly fossil fuel based power plants by renewable electricity. The emission reduction (ER_y) due to project activity during a given year y is calculated as the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (LE_y), as per the formulae given below:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y = Emission Reduction in tCO₂/year

BE_y = Baseline emission in tCO₂/year

PE_y = Project emissions in tCO₂/year

LE_y = Leakage emissions in tCO₂/year

Hence,

$$ER_y = BE_y - PE_y - LE_y$$

$$= 381,382 - 0 - 0$$

$$= 381,382 \text{ t CO}_2\text{e/yr}$$

Baseline emissions are calculated as per the applied methodology ACM0002 - Version 20.0 para 44. The emission reduction sheet, Data published by Turkish Ministry of Energy and Natural Resources and Renewal VCS PD is checked by the assessment team and found to be correct, hence accepted. The baseline emission factor calculation is checked by the validation team and found that the calculation is transparent and conservative.

3.3.7 Methodology Deviations

This section is not applicable as there is no methodology deviation observed during this validation.

3.3.8 Monitoring Plan

Assessment team checked the monitoring practice during remote interview with monitoring team and also checked the registered monitoring plan of registered VCS –PD. There is no change in monitoring plan since project registration confirmed from previous verification reports.

Parameters determined ex-ante: Baseline emission factor of Public Grid of Turkey is established ex-ante based on Tool to calculate the grid emission factor, using a combined approach consisting 25 % operating margin and 75 % build margin for second crediting period. The emission coefficient from official data published by Turkish Ministry of Energy and Natural Resources on 06/10/2021; available to the project proponent at the time of submission of renewal VCS PD for validation. The assumption was verified by the validation team and found to be correct.

Parameters determined ex-post: The parameters monitored ex-post involves net electricity supplied to the grid (calculated from electricity exported and imported) to the public grid (Turkish) by the project activity. As per the updated VCS PD, the “Main TEİAŞ meter recorded at the monthly reading protocols” is the source of the monthly values of net electricity supplied by the project activity. The VVB will use the same source for verification of emission reductions. TEİAŞ (Turkish Electricity Transmission Corporation) is a Government Organization responsible for distribution of electricity, with no interests in the Project Activity. As per the applied methodology ACM0002 - Version 20.0 “Monitoring shall consist of metering the net electricity supplied by the project activity to the grid. Measurement results shall be cross-checked with records for sold electricity/electricity bills”. In accordance with the methodology requirement, net electricity supplied by the project activity is obtained from the monthly reading protocols provided by TEİAŞ and same is the basis for emission reduction calculation.

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 accuracy class of the energy meters is 0.5. The meter need to be calibrated every 10 years as per the government regulation/17/.

The parameters Cap_{PJ} (Installed capacity of the hydro power plant after the implementation of the project activity) and 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) is also monitored parameters in section 5.2 of the updated PD. There is no change with respect to registered VCS PD.

The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified and discussed during remote audit interview with site person.

3.4 Non-Permanence Risk Analysis

Not Applicable

4 VALIDATION CONCLUSION

Applus+ Certification has been engaged by Ekobil Environmental Services and Consulting Ltd to perform the Renewal of crediting period of the “Alkumru Hydroelectric Power Plant Project” VCS Project ID 1464 for crediting period 10-March-2021 to 09-March-2031.

Renewal of crediting period Conclusion:

Applus+ Certification commenced the revalidation of the crediting period based on the following documents:

- baseline and monitoring methodology ACM0002 – version 20,
- VCS Standard version 4.1,
- Methodological tool “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,
- monitoring plan contained in the updated VCS PD.

As summary the validation team able to conclude that:

- The project is in line with all relevant host country criteria (Turkey) and all relevant VCS version 4.1 program guidelines requirements.
- The validity of the original/current baseline and update of the baseline at the renewal of the crediting period is sufficiently justified in the revised VCS PD.
- The monitoring plan is transparent and adequate and in line with applied baseline and monitoring methodology of ACM0002, version 20.0.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 3,813,820 tCO₂e is most likely to be achieved during the 10 years (renewable) of crediting period.

- The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation as outlined under VCS standard version 4.1.

Applus+ Certification's renewal of crediting period approach is based on the understanding of the risks associated with reporting of estimated GHG emission data and the controls in place to mitigate these. Applus+ Certification planned and performed the renewal or crediting period by obtaining evidence and other information and explanations that Applus+ Certification considered necessary to give reasonable assurance that reported information and estimated GHG are fairly stated.

APPENDIX 1: <Document Reference >

S.No	Title of Document	Version	Date
1.	Registered VCS PD	02.1	03/12/2012
2.	VCS Validation Report by TÜV RheinlandEnergie und Umwelt GmbH	01	14/12/2012
3.	VCS Verification report (Monitoring period: 01/12/2013 – 30/09/2020)	02	22/10/2020
4.	Revised PD (Intermediate version)	02.2	24/08/2021
		02.3	08/10/2021
5.	Revised PD (Final)	02.4	03/01/2022
6.	ER spread sheet (corresponding to the final revised PD)	02.4	03/01/2022
7.	Applied Methodology ACM0002, “ Grid-connected electricity generation from renewable sources”	20	-
8.	Data published by Turkish Ministry of Energy and Natural Resources on 06/10/2021 https://enerji.enerji.gov.tr/Media/Dizin/BHIM/tr/Duyurular//Bilgi_Formu_Web_Sitesi_2019_202110071443.pdf	-	06/10/2021
9.	Commissioning certificate for Unit 1, 2 and 3	-	-
10.	Connection Agreement (between the PP and grid operator TEİAŞ)	-	-
11.	System Usage Agreement (between the PP and grid operator TEİAŞ)	-	-
12.	Technical Specification of the main equipments	-	-
13.	VCS webpage for the project, VCS ID 1464; https://registry.terra.org/app/projectDetail/VCS/1464	-	-
14.	VCS Standard	4.1	Issued:19/09/2019 Updated: 22/04/2021
15.	VCS Program Guide	4.0	19/09/2019
16.	Single line diagram along with meter location	-	-
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.	Deceleration document pertaining to not participated in any other GHG Programs and no other forms of credit	-	-
19.	Monthly export and import value available on the TEIAS and EPIAS PORTAL which are government authorizes.	-	-
20.	Daily Production Reports	-	
21.	Photograph Name plate details of major equipment and monitoring energy meters	-	-
22.	CDM Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period".	03.0.1	-
23.	Methodological Tool: Tool to calculate the emission factor for an electricity system	7.0	

APPENDIX 2: <ABBREVIATIONS>

Abbreviations	Full texts
CAR	Corrective Action Request
EF	Emission Factor
EPC	Engineering ,Procurement and Construction
ER	Emission Reductions
CR	Clarification Request
DNA	Designated National Authority
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
MWh	Megawatt hour
PD	Project Description
PPA	Power Purchase Agreement
PP	Project Proponent

PRC	Post Registration Changes
TR	Technical Review
VCS	Verified Carbon Standard
VER	Verified Emission Reduction
VVB	Validation/Verification body(ies)

APPENDIX 3: <FINDINGS OVERVIEW>

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

FAR-ID		Section no.		Date :
Description of FAR				
NA				
Project participant response				Date :
NA				
Documentation provided by project participant				
NA				
VVB assessment				Date:
NA				

Table 2. CL from this validation

CL-ID		Section no.		Date :
Description of CL				
NA				
Project participant response				Date :
NA				
Documentation provided by project participant				

NA	
VVB assessment	Date:
NA	

Table 3. CAR from this validation

CAR ID		Section no.		Date :
Description of CAR				
NA				
Project participant response				Date :
NA				
Documentation provided by project participant				
NA				
VVB assessment				Date:
NA				

Table 4. FAR from this validation

FAR ID	XX	Section No.	XX	Date :
Description of FAR				
NA				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
VVB assessment				Date: DD/MM/YYYY
NA				

APPENDIX 4: <COMPETENCY STATEMENT>

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of Applus+ Certification.

The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the Assessment (remote)
Vivek Kumar Ahirwar	Lead Auditor (LA)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Vivek Kumar Ahirwar	Technical Expert (TE)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Simon Shen	Technical Reviewer (TR)	Yes (1)	Yes (1.2)	N/A	N/A	N/A

The curricula vitae of the VVB's team members are provided below:

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier

institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.

Simon Shen (master degree in thermal energy engineering, bachelor degree in environmental engineering) is a lead auditor appointed by Applus+ certification for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ certification, he had been worked for TÜV SÜD as a GHG validator/verifier and ISO 9001/14001 lead auditor for 3.5 years.