300MW HYDROPOWER PROJECT BY JHPL

Document Prepared By

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Summary:

M/s VKU Certification Pvt. Ltd. (hereafter referred as VKU) was commissioned by M/s EKI Energy Services Limited (hereafter referred as EKI) has verified the greenhouse gas emission reductions reported for the project activity "300MW Hydropower project by JHPL" (VCS ID 92[1]) in India, covering fourth verification of second crediting period and overall periodic 16th verification of the project activity with monitoring period from 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) under second crediting period from 01-April-2016 to 31-March-2026 (Inclusive of both dates) with regard to the relevant requirements for VCS activities.

The purpose of the verification is to have an independent review of ex-post determination of the monitored reductions in GHG emission reductions and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS Joint PD & MR/3/.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- 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.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide version 4.2/4/, VCS Standard Version 4.3/5/, VCS Validation and Verification Manual version 3.2/6/, CDM M&P, the latest version of the CDM Validation and Verification Standard 3.0/7/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification. The verification shall ensure that

[1] https://registry.verra.org/app/projectDetail/VCS/92

reported emission reductions are complete and accurate in accordance with applicable VCS requirements to be certified.

VKU followed the rule-based approach to perform this verification. During verification, related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology and a total of 08 findings were raised, which includes: 06 Corrective Action Request (CARs); 02 Clarification Requests (CLs). All the raised findings were successfully resolved/closed after necessary corrections/clarifications by the client. The same has been discussed in Appendix B of this verification report.

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated based on the approved methodology ACM0002: Grid-connected electricity generation from renewable sources- version 17.0 /8/ and Tool to calculate the emission factor for an electricity system; Version 6.0 /16/ and the monitoring plan included in the registered VCS Joint PD & MR (version 02) dated 21-March-2018/3/

In conclusion, it is VKU's opinion that the project activity "300MW Hydropower project by JHPL" (VCS ID 92) in State: Himachal Pradesh, Country: India meets all relevant requirements for VCS standard version 4.3 /5/and guidelines and correctly applies the baseline and monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources- version 17.0 /8/. The monitoring system is in place and the emission reductions are calculated without material misstatement.

Hence, VKU is able to certify that the emission reductions from the project during the fourth verification of second crediting period and overall periodic 16th verification of the project activity for monitoring period from 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) under 2nd crediting period (01-April-2016 to 31-March-2026) (Including both dates) amount to 1,276,829 tCO_2e.

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1 INTRODUCTION

1.1 Objective

M/s EKI Energy Services Limited (hereafter referred as EKI) commissioned M/s VKU Certification Pvt Ltd (here after referred as VKU) to carry out fourth verification of second crediting period and overall periodic 16th verification of the project "300MW Hydropower project by JHPL" (VCS ID 92) project in India for the period from 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) under 2nd crediting period from 01-April-2016 to 31-March-2026 (Including both dates).

This report summarizes the findings of the verification of the project, performed based on VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The objective of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.2 /4/, VCS standard version 4.3 /5/ and GHG program applied, on the basis of the registered VCS Joint Project Description and Monitoring Report version 02 /3/.

This is the fourth verification of second crediting period [2](01-April-2016 to 31-March-2026) (Including both dates) for a period of twelve months from 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) & overall periodic 16th verification of the project activity. The project activity adopts renewable crediting period[3] of 10 years period as mentioned in section 1.9 of VCS Joint PD&MR version 02 dated 21-March-2018/3/.

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

- The project activity has been implemented and operated as per the registered VCS Joint project description and monitoring report (VCS Joint PD&MR) /3/ & MR /1/ 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.

[2] The previous crediting period for the project activity was from 01-April-2006 to 31-March-2016.

[3] This project is duly registered as per VCS standard 3.7 as per the validation report, in accordance with 3.8.1 of VCS standard 3.7 theproject crediting period shall be a maximum of ten years which may be renewed at most twice. Please refer : https://verra.org/wp-content/uploads/2020/11/PREVIOUS-VERSION-VCS-Standard-v3.7.pdf

- 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 Verified Carbon Units (VCUs) without any double counting/24/, 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 verification scope is:

- To verify that the project is implemented as described in the registered VCS Joint PD&MR/3/
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate VCUs without any double counting.
- 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.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- to evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- to verify that reported GHG emission data is sufficiently supported by evidence

The verification shall ensure that the reported emission reductions are complete and accurate to be certified.

The project is assessed against the requirements of VCS standard version 4.3 /5/, VCS program guide version 4.2 /4/, VCS validation and verification manual version 3.2 /6/ and related rules and guidance. VKU has, based on the recommendations in the latest version of CDM Validation and Verification Standard/7/, VCS validation and verification manual and employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

Verification is not meant to provide any consultancy towards the project proponents. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

The method and criteria used for verification consisted of the following phases:

- Completeness check and desk review;

- Onsite interviews with stakeholders;

Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a ***reasonable level of assurance***.

The technical review was performed by a technical reviewer(s) qualified in accordance with VKU's qualification procedure. The verification team and the technical reviewers consist of the following personnel:

Role/Qualification	Last Name	First Name
VCS Team Leader, VCS Verifier & Technical Expert TA 1.2	Ahirwar	Vivek Kumar
Validator/Verifier-Trainee	Kaushik	Niharika
Project Trainee	Dhankar	Anil
Technical Reviewer & Technical Expert TE 1.2	Kumar	Sanjay

1.4 Summary Description of the Project

The project activity is generation of electricity by using hydro-electricity generators. The energy generated is supplied to the Unified Indian Grid, which operates the national grid system. The project is environmentally benign as it results in the reduction of emissions from grid connected fossil fuel-based power plants. The project activity leads to reduction of greenhouse gas (GHG), as the energy is generated from renewable source. The emission reduction was real, measurable, and verifiable and plays a beneficial role in the mitigation of climate change.

The Project activity involves installation of a run-of river hydropower plant system with capacity 300 MW. The unit consists of three phase of capacity 100 MW and three synchronous generators manufactured by Siemens A.G rated 111 MVA with 10% overload margin with higher temperature rise, resulting in net generation capacity of 300MW/26/.

The project activity uses water diverted from the flow of river Baspa. The flow in the river Baspa is contributed by several seasonal streams or ephemeral rivers and numerous glaciers. The diversion barrage of the project is located across river Baspa, one of the major tributaries of river

Satluj, at Kuppa in Himachal Pradesh. Location of the project was verified through Google Earth[4] /29/ during the desk review and GPS Map Camera/28/ during the site visit as well as through recorded live coordinates by onsite assessment team and found consistent with the data provided in the registered VCS Joint PD&MR/3/.

The Turbine Generators were commissioned on Unit-1: 24-May-2003, Unit-II: 29-May-2003 and Unit-III: 08-June-2003, which was verified against the registered VCS Joint PD & MR/3/ and commissioning certificates/25/.

By document review and on-site interview with PP representative's present onsite of the project activity, the verification team confirms that all the components of installed technology are fully functional and found to be in line with the details provided in the registered VCS Joint PD & MR/3/. The total emission reductions achieved by the project activity under the verification period 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) amount to 1,276,829 tonnes of CO_2e/2/.

2 VERIFICATION PROCESS

The registered VCS project is undergoing periodic verification under VCS, the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide Version 4.2 /4/, VCS standard document version 4.3 /5/. The project activity does not fall under category "grouped projects", hence no sampling methods was employed by the validation/verification body for the verification of GHG emission reductions or removals generated by the project. The GHG emission reductions are based on the approved Baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" version 17.0/8/

Scope: 01 Energy Industries (renewable- and non-renewable sources) Title: "Grid Connected Renewable Electricity Generation".

The verification consisted of the following three phases.

- Document review;
- On-site assessment including Interviews and actual project scenario;
- Resolution of any Material Discrepancy and the issuance of the final verification report and certification

[4] https://earth.google.com

The following sections outline each step in more detail.

2.2 Document Review

The VCS monitoring report for "300MW Hydropower project by JHPL" version 1.0 of 08-November-2022, version 2.0 of 05-January-2023, version 3.0 of 16-January-2023; version 4.0 of 08-February-2023 and final Version 5.0 of 23-February-2023 the emission reduction calculations spreadsheet version 1.0 of 08-November-2022, version 2.0 of 16-January-2023 and final version 3.0 of 08-February-2023 were assessed as part of the verification. In addition, the registered VCS Joint PD & MR (version 02) dated 21-March-2018/3/ in particular the baseline estimations and the monitoring plan for the project was reviewed.

The following table lists the documentation that was reviewed during the verification:

/1/	EKI: VCS monitoring report for "300MW Hydropower project by JHPL" in India, Version 01 of 08-November-2022, Version 02 of 05-January-2023, Version 03 of 16-January-2023 Version 04 of 08-February-2023 Version 05 of 23-February-2023
/2/	EKI: Emission Reduction Calculation Spreadsheet, Version 01 of 08-November-2022 Version 02 of 16-January-2023 Version 3 of 08-February-2023
/3/	EKI: Registered VCS Joint PD&MR for the project '300MW Hydropower project by JHPL" version 2.0 dated 21-March-2018 https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=64497&IDKEY=L0e98hfalksuf098fnsdalfkjfoijmn4309JLKJFjlaksjfla9088941363
/4/	VCS: VCS Program Guide, version 4.2 of 22-June-2022
/5/	VCS: VCS Standard, version 4.3 of 22-June-2022
/6/	Validation and verification manual version 3.2 dated 19-October-2016
/7/	CDM Validation and Verification Standard version 3.0 dated 09-September-2021

/8/	CDM Executive Board: Baseline and Monitoring Methodology "ACM0002: Grid-connected electricity generation from renewable sources- version 17.0
/9/	LGAI Technological Center, S.A (Applus+ Certification): Joint Validation & Verification Report: 300MW Hydropower project by HBPCL, Version 02, dated 29-March-2018 https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=64498&IDKEY=8q934lkmsad39asjdkfj90qlkalsdkngaf98ulkandDfdvDdfhs88942742
/10/	LGAI Technological Center, S.A (Applus+ Certification): VCS Verification Report "300MW Hydropower project by JHPL" for monitoring period: 01-November-2020 to 31-July-2021 (including both days), Version 03 of 06-June-2022 https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=68049&IDKEY=2kjalskjf098234kj28098sfkjlf098098kl32lasjdflkj909293839571
/11/	VERRA: Project search: https://verra.org/verra-standards-and-programs/
/12/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/13/	REC website Renewable Energy Certificate Registry of INDIA (Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in)
/14/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/15/	EIA Report & EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf
/16/	Tool to calculate the emission factor for an electricity system, Version 06.0, EB 97
/17/	CO2 Baseline Database for the Indian Power Sector User Guide Version12.0 https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver12.pdf
/18/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf Metering Regulations Archives - Central Electricity Authority (cea.nic.in)

/19/	Power Purchase Agreements signed between Project Proponent and Himachal Pradesh State Electricity Board.
/20/	Certificates of Calibration for all the meters belongs to project activity
/21/	Daily Progress Reports
/22/	Monthly JMRs issued by HPSEB for the current verification period.
/23/	Invoice issued by PP to state utility HPSEB (Himachal Pradesh State Electricity Board)
/24/	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the current verification period (01-August-2021 to 31-July-2022, inclusive of both start and end dates)
/25/	Commissioning certificate of all the hydro Units of the project activity issued by state electricity authority HPSEB
/26/	Technical Specifications of Hydro Units
/27/	Grievance Register present on-site
/28/	GPS map camera
/29/	GPS Google earth software used for Location; Google Earth
/30/	Onsite Personnel Interviews and Focussed Group Discussions dated 17-November-2022; Thursday
/31/	Site visit dated (17-November-2022; Thursday) photographs and attendance sheet
/32/	Breakdown Details (Please Refer Appendix 2 of MR and section 04 Verification Process of this Verification Report) PP has submitted Breakdown Details in a Excel Sheet.

2.3 Interviews

An on-site inspection/30/ was performed by the assessment team. However, the representatives of the PP and O&M Team were interviewed personally by assessment team on 17-November-2022; Thursday 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.

Location: District- Kinnaur of State- Himachal Pradesh, Country- India.

Table no: 01: Details of Personnel Interview

S.no	Name	Designation	Topic of Discussion
1	Vikas Gupta	JSWHEL Baspa 2 HEP	Implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring along with QA/QC
2	Manik Kumar	JSWHEL Baspa 2 HEP, AGM	
3	Vikas Sharma	Manager (Billing)	JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC
4	Suresh Yadav	Asst. Manager (O&M Baspa)	SCADA, Breakdown details and maintenance of generation records Data recording, management and archiving procedure
6	Ajay Nath	JSWHEL, (GM)	Execution of the project, technical description of the project and Monitoring, CSR activities.
7	Ramakrishnan	Asst. Manager (O&M Baspa)	SCADA, Breakdown details and maintenance of generation records Data recording, management and archiving procedure
8	Saurabh Yadav	Asst. Manager (O&M Baspa)	

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, emergency procedures, internal audit and archiving procedures. The assessment was based on the feedback received during onsite interview coupled with the documentation.

During Onsite Visit, Assessment team also interviewed the local stakeholders involved in the projects to verify the implementation of CSR activities, process of grievance resolution as claimed and mentioned in the Monitoring report/1/ (***refer section 1.11, 2.1, 2.2 of MR***) by the PP. The assessment team confirmed the sustainable development claims and assessed the socio-economic impact of the project on the local community. They also checked the records and observed that the PP provided opportunities for the locals to express their opinions and grievances, with efforts to resolve any issues through consultation with stakeholders.. Assessment team thus verified all the above statements via focussed group discussions and personal interview/30/ with stakeholders as tabulated below:

Table no: 02: Details of Personnel Interview/Focussed Group Discussion with Stakeholders

S.no	Name	Designation	Category	Topic of Discussion
1	Suresh Kumar Negi	Dy. Manager (HR)	Local Stakeholder	• Execution of Project activity and its impact on the economic, social and environmental parameters on the local people of the area & around the situated project activity • The ongoing communication procedure and the address of their grievance mechanism followed by the project proponent • Scope and generation of employment in the locality due to the implementation of said project activity in the area. • The ongoing CSR activities Implemented by the project activities. • The ongoing trainings provided to the locals for self-employment.
2	Yogesh Mudta	Dy. GM(HR)		
3	Vishal Lalis	Design consultant (In carkha activities)		
4	Ganesh Dutt	Program Lead (Shikhar & CSR Activities)		
5	Gulab Singh	Sr. Supervisor (CSR)		
6	Hosiar Singh	Supervisor (CSR)		
7	Sunil Kumar	Jr. Executive (CSR)		
8	Kanwar Singh	Sr. Manager (CSR)		
9	Mukesh Kumar	Data Entry Operator		

10	Sita Devi	Data Entry Operator		

There were no negative comments received during the stakeholder consultation interview conducted on site and more detail is enlisted in the section 4.2.2 below.

2.4 Site Inspections

Site Location visited:

Location: District- Kinnaur, Himachal Pradesh state in India. Further the location along with longitude and latitude is mentioned in section 4.1 of this report.

An On-site visit was undertaken by the verification team to the project location identified in the MR/1/at District- Kinnaur, State- Himachal Pradesh, Country- India on 17-November-2022; Thursday, to carry out the following:

An assessment of the implementation and operation of the registered project activity as per the registered VCS Joint PD&MR version 02 dated 21-March-2018 /3/ and VCS MR/1/;

- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews/30/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS Joint PD&MR/3/;
- A cross check between information provided in the monitoring report and data from other sources such as plant daily progress reports, inventories, purchase records or similar data sources;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS Joint PD&MR/3/, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three situations in tables; the different columns in these tables are described below.

A corrective action request (CAR) is raised if one of the following occurs:

• Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;

• Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;

• Issues identified in a FAR during previous assessment i.e., in validation or verification report to be cross verified during verification have not been resolved by the project participants.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.
In summary, ***2 CLs and 6 CARs*** were raised during this verification which were closed successfully and details are provided under Appendix B of this report.

2.5.1 Forward Action Requests

Based on the review of the previous VCS Verification Report /10/, no FAR was raised which needs to be closed during this verification and no FAR was raised during VCS Joint Validation and Verification which needs to be closed during the current verification & No FAR has been raised during current verification.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any relevant sectoral scope Hence this section is not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program except VCS. The project is registered under VCS only with registration ID 92[5]. This was confirmed by checking VERRA registry website for the project and, it was found that the project was registered with VCS. Simultaneously other registry websites were also checked such as CDM, GS, CR-I, UCR and GCC but team could not find any such project registered on these registries thus it was confirmed that the project does not claim any emission reduction from other registries. This was supported from the declaration/24/ submitted by PP in which they claimed that same GHG emission reductions of the project from VCS for the current monitoring period will not be claimed under other registries except VCS. Similar exercise of independently searching for such project registration or claim for current monitoring period was performed for other GHG related benefits such as REC and I-REC benefits and based on both independent assessment and declaration submitted by PP/24/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period. Thus, ensuring emission reduction generated from the project activity will not be double counted hence accepted by the assessment team.

The details of the registries checked are as follows:

1) https://www.recregistryindia.nic.in/
2) http://cdm.unfccc.int/
3) http://www.goldstandard.org/
4) https://verra.org/verra-standards-and-programs/.
5) I-REC Standard - The International REC Standard Foundation (irecstandard.org)
6) https://cri.nccf.in/
7) International Carbon Registry - International Carbon Registry
8) GCC PROJECTS PORTAL (globalcarboncouncil.com)

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/24/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with

[5] https://registry.verra.org/app/projectDetail/VCS/92

the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

The details of the registries checked are as follows:

1) https://www.recregistryindia.nic.in/
2) http://cdm.unfccc.int/
3) http://www.goldstandard.org/
4) https://verra.org/verra-standards-and-programs/.
5) I-REC Standard - The International REC Standard Foundation (irecstandard.org)
6) https://cri.nccf.in/
7) International Carbon Registry - International Carbon Registry
8) GCC PROJECTS PORTAL (globalcarboncouncil.com)

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period. Also, there were no methodology deviations identified during the previous verification/10/ and Joint validation and verification/9/.

3.3 Project Description Deviations

1. **The following deviation was reported during the monitoring period of 01-January-2018 to 31-October-2020 (inclusive of both start and end dates), and will be considered in subsequent verifications:**

1.1. Deviation 1:

Since 01-September-2015, project activity ownership rests on the Himachal Baspa Power Company Ltd. The company name changed to JSW Hydro Energy Limited from 01-September-2018. The relevant document for change in company name and corresponding change in communication agreement to VCS has been provided by PP [6] [7]. The project ownership and project name change deviation has been approved in verification report Version 03 (Monitoring duration 01-November-2020 to 31-July-2021, inclusive of both start and end dates).[8]

[6] https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=56717&IDKEY=s98klasmf8jflkasf8098afnasfkj98f0a9sfsakjflsakjf8da78212743

[7] https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=49507&IDKEY=n903q4jsafkasjfu90ammasdfkaidflnmdf9348r09dmfasdf068270153

[8] https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=68049&IDKEY=2kjalskjf098234kj28098sfkjlf098098kl32lasjdflkj909293839571 **section 3.3 page 14**

2. **Current verification (Monitoring Period: 01-August-2021 to 31-July 2022) include the following deviations:**

2.1. Deviation 2:

To achieve more precise detection, the monitoring report has revised the Baspa powerhouse's location's Longitude (E) and Latitude (N) values. The methodology's applicability, additionality, or the suitability of the base case scenario are unaffected by the deviation. The Baspa project's power plant's coordinates have been updated and are now listed as.

Longitude (E) : 78°11'23.0"E (78.18972222)

Latitude (N) : 31°29'48.0"N (31.49666667)

The nature of deviation is permanent.

The project location was verified by the assessment team through Google earth/29/ during desk review and GPS map camera software/28/ during onsite visit /30/ and hence found to be correct. VKU thus states that the above requested deviation is verified and found to be correct, the same can be verified or checked using this link *Google Earth*

2.3. Deviation 3:

Regarding the start date of project activity, a typo error was found in the VCS Joint PD & MR with monitoring period (01-September-2015 to 31-December 2017, inclusive of both start and end dates) The report alludes to 08-June-2003, while the unit-I was only operational as of 24-May-2003. The methodology's applicability, additionality, or the suitability of the baseline scenario situation are unaltered by the deviation.

Assessment team checked the previous verification reports/10/, VCS Joint Validation & Verification report/9/ along with the commissioning certificates/25/ and hence state that the deviation is correct and that the start date of the activity is 24-May-2003. VKU confirms and accept the same by performing desk review and checking the dates of installation of turbines during onsite visit/31/.

3.4 Grouped Project

This is not a grouped project. Therefore, this section is Not Applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with PP representative, it was concluded that the project is implemented as per the requirement of the registered VCS Joint PD&MR/3/ and approved monitoring plan. The total capacity of the project activity is 300 MW.

The 300 MW hydro power project was implemented in three phases for three units –

Unit No.	Date of Commissioning
Unit I	24-May-2003
Unit II	29-May-2003
Unit III	08-June-2003

The project, being a run-of-river type Hydro-Power project generates power by utilizing the water diverted from the flow of river Baspa. The flow in the river Baspa is contributed by several nullahs and khuds and numerous glaciers. The diversion barrage of the project is located across river Baspa, one of the major tributaries of river Satluj, at Kuppa in Himachal Pradesh. Water is diverted from the barrage to the power house through a diversion barrage. Two open sedimentation chambers are used after the diversion barrage to exclude the silt from water used for power generation. The water is passed through a head race tunnel of about 7.95 km long and steel lined pressure shaft (about 885 meters long to create a design head of 702 meters) which is branching into three penstocks for running 3 pelton turbines of 100 MW each. A surge shaft has been constructed between the head race tunnel and the pressure shaft which would be used to regulate the flow. Interview/30/ with PP representatives of the project activity was carried out on 17-November-2022 by the verification team it was observed that there was no unforeseen incident/event evolved which can impact the operation of the project activity in the current monitoring period from 01-August-2021 to 31-July-2022 (Inclusive of both the dates).

The power generated is stepped from 33KV up to 400 KV and is evacuated by two circuits of 400 KV lines for the power station to Jhakri substation, which is about 55 Km from the site. The transmission line from the power station to Jhakri consisting of 121 towers has been installed as a part of the project. From Jhakri, 400 KV transmission system is utilized to evacuate the full

output of (300 MW) hydroelectric project. The project underwent continuous operation and only scheduled maintenance (specified in section 03 & Appendix 02 of MR for the current monitoring period) as per the manufactures specification which is acceptable to the assessment team. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

The project location was verified by the assessment team through Google earth/29/ during desk review and GPS map camera software/28/ during onsite visit /30/. Moreover, assessment team confirmed that the latitude and longitude as mentioned in the registered VCS Joint PD&MR/3/, VCS Joint Validation and Verification Report/9/, VCS MR/1/. But the mentioned geocoordinates in the documents did not show any particular implemented hydro project, so a CAR was raised with respect to the geocoordinates and thus PP requested a deviation, *(permanent in nature)* and now the updated geocoordinates are

- Longitude (E) : 78°11'23.0"E (78.18972222)
- Latitude (N) : 31°29'48.0"N (31.49666667)

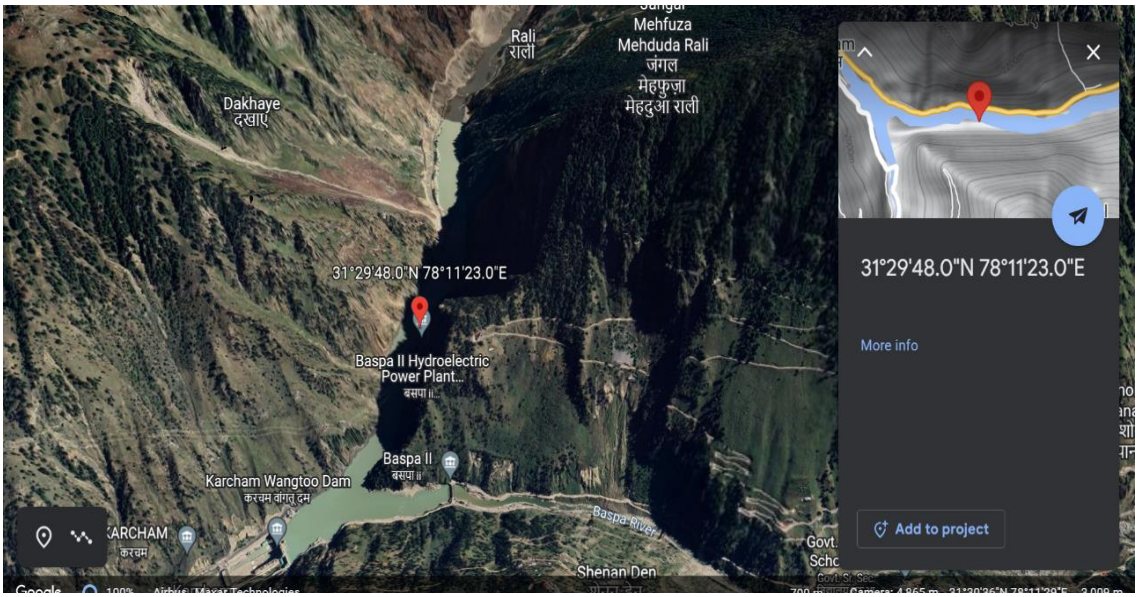

Figure 01: Location of the project as verified through Google Earth /29/ (http://surl.li/ewotr)

Project Title	300MW Hydropower project by JHPL
Date of Commissioning	24-May-2003
Project Type	Hydro Project
Capacity	300 MW
Location	District- Kinnaur, State- Himachal Pradesh

Geo-Coordinates	Longitude (E); 78°11'23'' N Latitude (N): 31°29'48'' E
Host Country	India

The verification team checked the implementation status of the project activity and the instrumentation installed for the project activity. **During onsite visit /31/ the technical specifications /26/ were verified from the name plates installed at each of the three turbines also PP has submitted supporting documents for the salient features of the hydro technology** & same has been tabulated in the table below:

Table no: 3 The Salient Features of the Technology:

Parameters	Specifications
HYDROLOGY	
Catchment area at barrage axis	967.72 sq.km
Snow catchment	514.15 sq.km
Design flood (1 in 100 Years)	1150 Cumec
Minimum discharge for 90% availability	9.4 Cumec
DIVERSION BARRAGE	
Type	Gated, 61 m long
Length of Barrage	70 m (4 bays of 13m each, 3 Piers of 3m
Height of Barrage from deepest	21.15 m
Maximum Pond Level	EL. 2531.50m
Minimum Pond Level	EL. 2527.50m
Live Storage at FRL	75.00 Ha-m
Average River bed level at barrage site	EL. 2519.00m
INTAKE	
Crest Level	EL. 2525.00m

No. of intake bays	4 bays each 4 m wide (Plus 2 bays for Baspa
Discharge through intake	65 cumec
SEDIMENTATION CHAMBER AND FLUSHING DUCTS	
Particle Size to be Excluded	(+) 0.2 mm
Flow through velocity	0.3 m/s
Desilting tanks	2 Nos.
Size of tank	138.5m (L) x17m (W) x16m (H)
Flushing discharge	13 cumec
Size of Flushing tunnel	0.84mx1.8m (H) (2 Nos.)
Head Race Tunnel (HRT)	
Length	7950 m (excluding 103m of cut and cover portion)
Type of Section	4m dia, Modified Horse Shoe
Design Discharge	52 cumec
Slope in tunnel	1 in 114
Lining	Concrete lining
SURGE SHAFT	
Type	Underground
Diameter	6m/8m
Height	121m
PRESSURE SHAFT	
No. & Type	One number, steel lined 3.1 m dia 885m long
Unit Penstock	3 Nos, 1800 mm dia
Power House	
Capacity	3 x 100 MW

Type	Underground
Size of P.H. Cavern	92 m (L) x 18m (W) x 39 m (H)
Size of T.H. Cavern	75 m (L) x 13m (W) x 20 m (H)
GENERATION	
In 90% dependable year	1213 MU per annum
In 50% dependable year	1391.61 MU per annum
Tail Race Tunnel (TRT)	
Length and Shape	250m long, 5.6m d-shaped
Hydraulic Turbines (HYDRO-VEVEY, SWITZERLAND)	
Type	Pelton
Design Head	702 m
Rated Output	103 MW
Normal Speed	375 rpm
[illegible]	[illegible]
Generators (SIEMENS A.G., GERMANY)	
Rated Output	111MVA with 10% overload margin with higher
Rated Voltage	13.8 kV +/- 5%
Frequency	50 Hz +/- 3%
Synchronous speed	375 rpm
MAIN UNIT TRANSFORMERS (BHEL)	
No. & Capacity	3x41 MVA, Single Phase
BUS DUCTS (SIEMENS A.G., GERMANY)	
Type	Isolated phase, Continuous type

Rated Voltage	15 kV
Rated Current	6000 A (Main) / 4000A (Delta)
Cooling	Natural
E.O.T. CRANES (WMI CRANES LTD.)	
No. & Capacity	1x 210/25/10 tonne
Span	18.8 m
55 Km long, 400kV D/C Transmission Line between Baspa-II to Jhakri - Total scope including Benching work, Foundation work, Tower Erection Work, Stringing Work and Revetment Work at 121 Locations involving crossing of the valley 13 times	

The PP has provided the plant daily generation reports to assessment team. Scheduled shut down for maintenance was observed during the monitoring period 01-August-2021 to 31-July-2022 (inclusive of both start and end dates). The breakdown information is listed in Appendix 1 of the monitoring report /1/. The same has been verified also through Interview with the personnel (plant operator) /30/ from the operation team and found to be correct, hence it was accepted by the assessment team.

The overall breakdown length is computed as 07 hours 40 minutes. Consequently, there have been no substantial repercussions of plant breakdown on the project activity's reduction of GHG emissions or the project activity's monitoring method. Reasons for breakdown include:

1. Unit-2: Forced shutdown due to moisture ingression in Deflector-3 from 13:00 Hrs of 06-August-2021 to 16:00 Hrs of 06-August-2021.
2. Unit-2: Forced outage due to Rotor Earth Fault from 20:00 hrs. to 22:45 hrs. of 21-July-2022.
3. Unit-2: Planed outage due to Leakage from MIV Air release Valve from 02:00 hrs. to 03:55 hrs. of 28-July-2022.

Assessment Team confirms through onsite Interview /30/ of the site personnel /30/ *(Refer Table:01)* & PP has submitted evidences for shutdown observed and has also incorporated the same in MR/1/ (*section 03 & Appendix 01 of MR/1/)*. VVB hereby confirms that the breakdown is scheduled shut down for maintenance is required as per standard requirements of the plant.

Interview of the site personnel *(Refer Table:01)* was conducted by the verification team, which revealed that all the QA/QC procedures listed in the registered Joint PD&MR/3/ have been followed while operating the project activity. All parameters stated in the monitoring plan in registered VCS Joint PD&MR /3/ and the applied methodology /9/ has been monitored in the current monitoring report. All the emergency preparedness as mentioned in the registered VCS Joint PD&MR/3/ is followed onsite and no discrepancies were found regarding the same. The

assessment team confirmed through onsite visit with PP representative that there is no proposed or actual change to the project design during this monitoring period All baseline emission parameters have been verified and found satisfactory. The discussion regarding each parameter has been elaborated in the further section of this report. PP will not claim the credits under any other GHG emission reduction scheme (including CDM) for the present monitoring period under VCS and PP has provided declaration/24/ on the same during this verification. Hence, there is no possibility of double counting.

Assessment team concludes the following:

a) There are no material discrepancies between project implementation and the project description provided in the registered VCS Joint PD&MR version 02 dated 21-March-2018 /3/.
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 are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology /8/.
d) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/24/.
e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since previous validation and verification /24/.
f) The project is registered under VCS [9] only, however PP has submitted the declaration/24/stating, they will not claim same GHG emission reductions of the project from CDM or any other GHG programme for the current monitoring period when project is seeking to get GHG emission reduction from VCS. Audit team also checked the REC Mechanism database of India and I-REC mechanism database found that the project activity is not accredited / registered under REC or I-REC mechanism which was verified from the (Renewable Energy Certificate Registry of India[10] /13/REC)/(International-Renewable Energy Certificate Standard Standard) I-REC[11] website and same was verified by checking in other GHG programs including GS Registry, CDM, GCC, UCR & CR-I, however PP has submitted the declaration/24/ for the same.
g) The project activity complies with indicators for **sustainable development** in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as

[9] https://registry.verra.org/app/projectDetail/VCS/92

[10] https://www.recregistryindia.nic.in/

[11] I-REC Standard - The International REC Standard Foundation (irecstandard.org)

discussed under **section 1.11 of MR/1/**. Assessment team has verified the same during on site visit /30/ and found all the indicators to be effective and applicable for the project activity.

The Project activity has implemented activities that results in 3 SDG Contributions;[12] 7.2, 13.0 and 4.4.

1. **7.2 i.e. (Renewable energy share in the total final energy consumption)** As a part of this project activity lifetime, 1,376,932.94 MWh renewable electricity has been supplied to Indian grid that helps to strengthen the renewable energy share in the energy mix. VVB has referred previous verification reports and thus found the above claimed renewable electricity supplied to Indian grid correct which have also been verified during previous verifications.
2. **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity PP has prevented the release of 1,276,829 tCO_2 into the atmosphere. Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region.
3. **4.4 i.e., (Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill)** Together with the technology supplier, the Project organize 49 [13] training during current monitoring period. Training related to soft and technical skills.

In view of the information 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

The project activity underwent an Environment Impact Assessment study /15/ in order to make careful efforts to have as little impact as possible on the environment and to preserve the natural balance.

Impact on the Environment

India is the country that is hosting the project activity. According to MoEFCC guidelines, prior consideration of an EIA study was not specifically necessary at the time the Baspa project was implementation. But the lenders stipulated that an EIA study be carried out for this project in

[12] This is to notify that since as per VERRA the "Contributions Over Project Lifetime" column can only include contributions that have been reported in current and previous SDGs contributions reports' so in this current monitoring period. PP is only claiming the SDGs reported in this monitoring period (01-August-2021 to 31-July-2022 (inclusive of both start and end dates) VVB has verified the reported SDGs with supporting documents submitted to the VVB. Also, during site visit Interview with Stakeholders/Site Personnels/30/ confirmed the implementation of the claimed SDGs.

[13] Assessment Team verified the same during onsite visit and by interviewing the site personnel/30/ PP has also submitted the training records as supporting evidence for the same.

order to receive financing for it. As a result, it became necessary for JHPL to conduct an EIA study, which was completed in 2002 by the renowned NEERI (National Environmental Engineering and Research Institute). In addition, another study for the purpose of a social audit was done by Sharnam Seva Samiti in the year 2007. The environmental studies were undertaken to study the impacts of project activity on environment.

The following are the environmental effects connected to the project activity:

Environmental factors, including air quality and noise levels, were evaluated at several locations. SPM concentrations were below the Central Pollution Board threshold at every station. The concentrations of SO_2 and NO_2, two gaseous air pollutants, were below the detection limit of 6 g/m^3. The Central Pollution Control Board's guidelines for residential and sensitive locations were more than met by the noise levels in sensitive places, such as schools and hospitals, which were in the range of 40 to 45 dBA.

Water environment: In accordance with clause 1.8.4.2 of the EIA report/15/ the Baspa River's physical, chemical, and heavy metal concentrations are within permissible range, which was selected as the analytical parameter for the assessment of the river's water quality. Since there are no significant sources of domestic or industrial discharge into the river, there is no organic contamination. Groundwater sources' bacterial composition does not indicate faecal pollution.

Land environment: The total land required for various activities of the project is 65.1584 ha and include forest land (44.1795 ha), Govt. land (7.0675 ha) and private land (13.9111 ha). The forest land to be utilised does not cover extensive forest or trees or endangered species.

Biological environment: The ecosystem is not significantly disturbed by the project activity. The project area's plant species are neither endemic nor rare or in risk of extinction. The project activity has had no discernible negative effects on local fauna, mammals, reptiles, or migrating birds. Also, the Rukcham-Chitkul wildlife sanctuary is 5 km away from the Baspa site and the project activity has no negative effects on the sanctuary. The Sutlej's aquatic environment's baseline status in relation to its vegetation and fauna has been investigated. The results of the Palmer's pollution index and the Shannon diversity index indicate that there is no nutrient pollution of the river water.

Socio-economic environment: The availability of the local labour force is significantly impacted by construction. Higher revenue resulted in an increase in the immigration of workers into the region, and additional income was generated by delivering support to the workforce. The development of the hydropower plant results in an overall increase in activities involving housing, transportation, and education, all of which have a substantial favourable impact on the way of life of the populace. In conclusion, it is anticipated that the project would have a very positive overall influence on the socio-economic environment.

Summary:

According to the NEERI report, work is still being done on the environmental management plan (EMP) for the project. The project proponent has authorised INR 20 crores (INR 200 million) to GoHP in accordance with the CAT Plan and has started working with GoHP personnel to re-vegetate the land. A survival rate of 75–80% of the plants has allowed for the completion of nearly 50 percent of the compensatory afforestation operation. To stabilise the region and prevent erosion, the project's proponent constructed cement walls along the edges of the

highways and river banks. In the Sholtu site, the PP has also established an effluent treatment facility to purify domestic sewage from settlements before discharging it into the river.

In conformity with the provisions of the Power Purchase Agreement, the PP additionally maintains a flow of 5 cusecs while releasing the water to maintain the downstream flow. Subsequently, it can be said that the project's proponent has taken precautions to minimize their negative effects on the environment and to preserve the natural equilibrium.

There are no potential harmful socio-economic and environmental effects in the project activities. The net impact under environmental pollution category is positive as all necessary abatement measures are adopted and periodically monitored. No potential negative environmental and socio-economic impacts in the project activity. The project activity does not have any major adverse impacts on environment during its construction or operational phase. VVB has assessed the project activity on site and confirms that there were no negative environmental and socio-economic impacts observed during current monitoring period as all necessary measures were found in place which was confirmed during site visit /31/

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS Joint PD&MR/3/; section 2.2 of MR/1/describe the Local Stakeholder Consultation Process as in-line with VCS requirement. There were no additional significant objections or comments made by the stakeholders as part of ongoing feedback, and they were completely in favour of establishing these kinds of projects in the area.

Prior to the project activity being carried out, the project proponent engaged in thorough stakeholder consultation, including identifying the stakeholders, consulting with them over a number of phases and through a variety of media, including focus group discussions, detailed social mapping, and fieldwork. Local stakeholders from all segments of the community were also included. The PP has enlisted several local NGOs for talks with local stakeholders by implementing a variety of strategies to involve them in the project and alleviate their problems, objections, and ideas. The procedure is constant and continuous; it is carried out all year long. During the current monitoring period, the project proponent has engaged with the local stakeholders in different ways including various Corporate Social Responsibility (CSR) activities undertaken by the company.

The PP has been actively involved in corporate social responsibility (CSR) initiatives, two of which are the Charkha and Shikhar programs. The Charkha program aims to empower women by equipping them with skills and employment opportunities in handloom crafting, utilizing traditional techniques to create various items such as fabric, clothing, and decorative pieces. After completing the training, the women can sell their creations through the program and receive certificates for their accomplishments.

The Charkha program's objective is to provide local women with the necessary tools and skills to achieve financial independence and contribute to their communities, boosting their income and economic stability while preserving traditional handloom techniques. In contrast, the Shikhar program focuses on promoting physical fitness and sports among young students, particularly in high altitude boxing academies (HABA). It provides students with fellowships, training, and

nutrition, and medical check-up assessments, as well as head coaches to guide and mentor them. The Shikhar program also supports the community by offering training and resources to promote sports and physical activity among kids, with the overall goal of enhancing health and well-being.

Additionally, the PP has established a grievance register/27/ at their plant site office, allowing the local community to report complaints and grievances. These grievances are also digitally recorded through an email process, and the company provides the option of receiving letters from the community for suggestions, comments, or complaints. This system allows for efficient and transparent communication between the company and the community, ensuring that grievances are promptly and appropriately addressed.

VVB confirmed the implementation of the CSR activities and the process of grievance resolution mechanism/27/ by conducting personal interview & focussed group discussions/30/ with the respective in charges for CSR and grievance *resolution (refer the Table;02 Local Stakeholder's Interviewed in section 02 of this report)*

4.3 AFOLU-Specific Safeguards

As the project comes under the category of NON- AFOLU projects therefore this section does not apply for this verification. Hence; Not Applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS Joint PD&MR/3/ and the monitoring report/1/. It involves a single parameter to be monitored $EG_{PJ,y}$ (Quantity of net electricity generation supplied by the project (300 MW Hydro) plant/unit to the grid in year y; MWh) according to the monitoring plan and monitoring report/1/. The parameter $EG_{PJ,y}$ value is sourced from JMRs/22/ Daily progress reports/21/and Invoices/23/. Proper calibrated meters of 0.2s accuracy class installed at site regularly monitor the import and export value which is monthly aggregated in JMRs. ER sheet prepared by PP has been reviewed by assessment team thoroughly by cross checking the values of JMRs and Invoices submitted by PP and found correct including all the formulae and conversions and aggregations.

The monitoring plan laid in the registered VCS Joint PD&MR/3/ is being followed at the site/30/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/. The emission reductions are based on the net electricity generated and exported from the project. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of each monitoring parameter has been discussed later in section 4.5.

The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., ACM0002 Version 17.0 /8/. Since project activity is a Hydro power project and no other kind of fossil fuel has been used in the current monitoring period on site thus no project emissions are considered according to the methodology used. .

GHG Calculations:

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., ACM0002 Version 17.0 /8/. As per the applied methodology, the values of project emission and leakages are considered as zero for the project activity. The equation used for calculation of baseline emission is given below:

Baseline emissions are calculated as follows:

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

Where,

BE_y = Baseline Emissions (tCO_2/year)

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

$EF_{grid, CM, y}$ = Baseline Emission Factor (Combined margin CO_2 emission factor for grid)

Therefore, the baseline emissions for Year 2021 (from 01-August- 2021 till 31-December-2021)

= 639685.94 MWh * 0.9273 tCO_2/MWh

= 593,180 tCO_2e (Round down Value)

Therefore, the baseline emissions for Year 2022 (from 01-January 2022 till 31-July- 2022)

= 737247.00 MWh * 0.9273 tCO_2/MWh

= 683,649 tCO_2e (Round down Value)

The Total baseline Emissions = 593,180 + 683,649= 1,276,829 tCO_2e

Project emissions are calculated as follows:

As per para 38 of ACM0002 Version 17.0/8/ for all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected.

The calculation of project emissions according to the methodology includes accounting for the CH4 emission from the reservoir, as the project activity involves a run-of-the-river system with a reservoir used for storing water during the day.

Table No: 04 Calculation of Project Emissions

Parameters	Unit of Measurement	Value
Capacity	MW	300
Running Hours	Hours	24
Reservoir area	Ha	33

PD= (Cap_{PJ} – Cap_{BL}) / (A_{PJ} - A_{BL})

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).

A_{PJ} = Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m^2)

A_{BL} = Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m^2). For new reservoirs, this value is zero

Since the reservoir is a newly installed facility and does not result in the increase of existing reservoir, and Cap_{BL} and A_{BL} can be assumed to be zero. The reservoir area is 33 ha (FSL).

Thus,

PD = Cap_{PJ}/ A_{PJ}= (300*1000*1000)/ (33*10000) = 909 W/m^2

As per the methodology ACM0002 V17 para 43(c), if the power density (PD) of the power plant is greater than 10 W/m^2, then the project emission is zero.

Hence the Project Emission are PE_y =0 tCO_2e

It has been clearly shown by the PP in the MR/1/ that the power density of the project activity is 909 W/m^2, which is greater than 10W/m^2. Therefore, as per ACM0002 it can be taken as zero. This consideration was found to be in line with the applied methodology ACM0002 version 17/9/.

All of the 3 units were in operation throughout the current monitoring period, and the project activity generated 1,376,932.94 MWh of energy, resulting in 1,276,829 tCO_2e GHG reductions.

The estimated emission reduction for the present monitoring period is 1,212,379 tCO2e, however the achieved emission reductions are 1,276,829 tCO2e (round down value), or around 5.32% higher than the estimated emission reductions. In section 4,5 of this report and section 5.4 of MR/1/ calculations has been stated. Which can be further compiled in ER/2/ which has been verified by the assessment team from Monthly JMRs issued to PP by HPSEB (Himachal State Electricity Board)/22/& invoices issued by PP to state electricity authority/23/ submitted to VVB by PP. Hence VVB can state that the calculation method and formulae used in calculating baseline

emission is following the methodology used i.e., ACM0002: "Grid-connected electricity generation from renewable sources- version 17.0" /8/. Since project activity is a hydro power project, and no other kind of fossil fuel has been used in the current monitoring period on site thus project emission have been considered as zero.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification, all relevant documents were checked to assess the correctness and quality of data submitted by the project proponents, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

The only parameters in the project activity are "Net electricity supplied to the grid by the project activity **$EG_{PJ, facility, y}$ (MWh)**.

The below tables describe how the parameter 'Net electricity supplied to the grid by the project activity **$EG_{PJ, facility, y}$ (MWh)**', that is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met: -

Table No: 05 Assessment of Parameter (Net electricity supplied to the grid by the project activity) $EG_{PJ, facility, y}$(MWh)', that is to be measured

Parameter	Quantity of net electricity supplied by the project (Hydro) activity to the grid in year y, $EG_{PJ,facility,y}$ (MWh)	
Means of verification	**Criteria/Requirements**	**Assessment/Observation**
	Measuring /Reading /Recording frequency	Continuous monitoring and monthly recording Net Electricity supplied to the grid is in MWh. The Net electricity supplied to the grid by the project activity will be calculated as a difference of electricity exported to the grid, electricity imported from the

		grid and the transmission losses obtained from JMRs provided by HPSEB as per below equation: ($EG_{PJ,facility,y}$ = $EG_{Exported}$ - EG_{Import} - $EG_{Transmission\ Losses}$). **This is a calculated value**
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS Joint PD&MR version 02 dated 21-March-2018/3/ and monitoring methodology/8/. Thus, there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit /31/ and interviews with site personnel. /30/
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However, the export and import values are calculated using measured values, which are continuously measured, and recorded monthly by two sets of meters (main & check meters) used for measuring the electricity export to the grid and electricity import from the grid. The details of meters and calibration details are provided in APPENDIX 1 of MR/1/

	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values such as import and export to calculate net electricity generation value is 0.2s which is as per the registered VCS Joint PD&MR version 02 dated 21-March-2018 /3/ which is as per the norm defined in the PPA/19/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment is valid for the entire range. which is per registered VCS Joint PD & MR /3/
	Calibration frequency /interval:	Meters used for the monitoring of export, import shall be calibrated in every five years basis as per PPA/19/ but the PP is following a good practise of calibrating/replacing meters every year thus minimizing any chance of error, which is in line with the VCS standard Version 4.3 and thus acceptable to the VVB.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is once in five years as per PPA/19/ and also outlined in the registered VCS Joint PD&MR/3/ is in accordance with the national standards i.e., Clause 18 of Central Electricity Authority (Installation and Operation of Meters) /18[14]/.In the PPA itself the accepted calibration frequency is once in every five years/19/ verified through onsite present field staff/30/, which is in line with

[14]https://cea.nic.in/wpcontent/uploads/regulations_cpt/2022/03/Gazette_Notification_of_Central_Electricity_Authority_Installation_and_Operation_of_Meters_Amendment_Regulations_2022_dated_28_Feb_2022.pdf

		VCS Standard version 4.3 /5/ calibrations requirements are as per the registered monitoring plan. Also, the PP adopt yearly replacement of meters as a good practice. This was also confirmed during interview with onsite personnel /30/
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration certificates /20/ of the measuring equipment's is carried out by NABL accredited agency through state utility HPSEB as per PPA/19/ All the main meters and check meters are tested by PGCIL (Power Grid Corporation of India Limited) on a periodic basis. In case of any faulty readings observed appropriate corrective action will be taken. If the error is found beyond the permissible limits, the PP will inform the respective agency so as to immediately rectify the error in the instrument, which was confirmed during onsite visit while interviewing/30/ the site personnel at project site/PP/Consultant
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for the whole reporting period and there are no any delays in the calibration as per registered monitoring plan/3/
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately. As per the calibration certificates, error variation observed is lesser than the error variation specified. Hence, it is within the measurable range. The calibration is carried out

		appropriately as per the registered monitoring plan and VCS VVS manual version 3.2/6/
	How were the values in the monitoring report verified?	Cumulative value of $EG_{PJ,facility,y}$ for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. The monthly values were verified from the JMRs issued by state utility and found to be consistent/22/ Value of this parameter for the current monitoring period was verified as ***1,376,932.94 MWh***.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,facility,y}$ were further cross checked with the monthly invoices /23/ raised by the PP to state utility, JMRs /22/ Daily Progress Report /21/ and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview /30/with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02, CAR#02, CAR#03, CAR#04 CAR#05 & CAR#06 were raised and resolved	

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the Project activity. Since 100% data was verified, the team can ascertain that the values adopted for emission reduction calculation are free from material errors.

Table No: 06 Parameters fixed ex ante:

Parameter	Unit	Description	Value[15]
$EF_{grid,OM,y}$	tCO_2/MWh	Operating Margin CO_2 Emission Factor in year y	0.9843 tCO_2/MWh is consistent with the registered VCS Joint PD&MR/5/.
$EF_{grid,BM,y;}$	tCO_2/MWh	Build Margin CO_2 Emission Factor in year y	0.9083 tCO_2/MWh is consistent with the [16] Methodological Tool: Tool to calculate the emission factor for an electricity system *(Section 6.5 Paragraph 72[17])* PP has also followed the same rule-based approach and has updated the build margin in RCP (registered VCS Joint PD & MR/5/) VVB thus verified the same

[15] https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver12.pdf

[16] am-tool-07-v7.0.pdf (unfccc.int)

[17] The build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE.

			and states that the ER calculation is as per VCS requirements/Standards
$EF_{grid,CM,y}$	tCO_2/MWh	Combined Margin CO_2 Emission Factor in year y	0.9273 tCO_2/MWh is consistent with the registered VCS Joint PD&MR /5/.

Calibration of meters /20/

During the verification assessment of the project activity, accuracy of all the metering equipments have been checked and found appropriate. The installation and working conditions of the meters were checked during the site inspection and were found to be satisfactory. Details of meters are provided in below table:

Table No: 07 Calibration details of meters:

Date of Meter Installation→		10-November-2020	21-October-2021[18]	20-November-2021	11-November-2022
Feeder 1	Main Meter (Main-1)	HPU 06213	Q0333490	Q0333309	HPU13630
	Check Meter (Check-1)	HPU 06214	Q0333301	Q0333448	HPU13631
Feeder 2	Main Meter (Main-2)	HPU 06215	Q0333441	Q0333368	HPU13632
	Check Meter (Check-2)	HPU06216	Q0333379	Q0333403	HPU13633

Table No: 08: Meter calibration details

Serial No.	Meter Type	Date of calibration	Validity till
HPU06213	E3M024	20-December-2016	19-December-2021
HPU06214	E3M024	20-December-2016	19-December-2021
HPU06215	E3M024	20-December-2016	19-December-2021
HPU06216	E3M024	20-December-2016	19-December-2021
Q0333309	APEX150	17-November-2021	16-November-2026
Q0333448	APEX150	17-November-2021	16-November-2026
Q0333368	APEX150	18-November-2021	17-November-2026
Q0333403	APEX150	18-November-2021	17-November-2026

Assessment on delay in calibration:

The energy meter calibration certificates/20/ are checked by assessment team with respect to their calibration validity, accredited entity, accuracy class, make and calibration date and found that the calibration details provided in the MR/1/ are correct. From the verification of above

[18] As per the Annex E (Clause 12.2.2.1) of recommended sampling plan, A random selection of meters from the lot are taken to perform tests to detect any errors. These tests include evaluations under no load conditions and assessments for repeatability of errors. As a result, meters are replaced at frequent intervals.

table, verification team also confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-August-2021 to 31-July-2022 (inclusive of both the dates).

The verification team has checked all the meters during the onsite visit/31/ and confirmed that the meters were working satisfactorily. Also, the calibration /20/of meters are completely under purview of state utility i.e., HPSEB at site and the calibration is conducted by PGCIL (Power Grid Corporation of India Limited) on a periodic basis. In case of any faulty readings observed appropriate corrective action will be taken. If the error is found beyond the permissible limits, the PP will inform the respective agency to immediately rectify the error in the instrument and PP has no control over the same as confirmed through interviews of site personnel/30/ and PPA /19/signed by the PP with state utility.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of VCS Validation and Verification manual version 3.2/6/ and also in line with the para 366 of CDM Validation and Verification Standard /7/.

The registered VCS Joint PD&MR version 02 /3/ & MR /1/ and site audit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly JMRs issued by the state utility and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations.

In view of the above discussion the assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations

The emission reduction as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

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

BE_y	=	Baseline emissions in year y (tCO_2)
EG_{PJy}	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh)
$EF_{grid,y}$	=	Combined margin CO_2 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 CO_2/MWh)

Where:

In the present monitoring period,

$EG_{PJ,y}$ = 1,376,932.94 MWh

$EF_{grid,y}$= 0.9273 tCO_2/MWh

BE_y = 1,376,932.94 MWh * 0.9419 tCO_2/MWh

BE_y= 1,276,829 tCO_2 (Round down value)

Emission reductions are calculated as follows:

$ER_y = BE_y - PE_y - LE_y$

Where,

ER_y	=	Emission reductions in year y (tCO_2e)
BE_y	=	Baseline emissions in year y (tCO_2e)
PE_y	=	Project emissions in year y (tCO_2e)
LE_y	=	Leakage emissions in year y (tCO_2e)

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The estimated emission reduction to be achieved from the project activity for the current monitoring period is 1,212,379 tCO2e, whereas actual emission reductions achieved are 1,276,829 tCO_2e (round down value), thus the actual emission reduction achieved is 5.32% higher than the estimated figure to match the monitoring period as per registered VCS Joint PD&MR version 02/3/ dated 21-March-2018.

The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved are 5.32% high than the estimated figure to match the monitoring period as per registered VCS Joint PD&MR/3/, which is due to the high PLF achieved by the project activity during the current monitoring period which is completely governed by the availability of water and melting of snow which is a natural phenomenon and same is beyond the control of PP.

The PLF achieved by the project activity is as follows:

Table no: 09 PLF Comparison for last 05 Years

PLF Comparison Sheet			
Duration		Net Electricity Supplied to Grid (MWh)	PLF %
From Date	To Date		
01-01-2018	31-12-2018	1258883.22	47.90%
01-01-2019	31-12-2019	1355354.56	51.57%
01-01-2020	31-12-2020	1312902.79	49.82%
01-01-2021	31-12-2021	1282037.34	48.78%
01-01-2022	31-07-2022	737247.00	48.30%

For current monitoring period the PLF achieved is 52% whereas estimated PLF as reported in VCS Joint PD-MR is 50% so comparing the two we get 4.8% percentage higher PLF as reported in ER Sheet /2/. This higher PLF correlates with the 5.32% higher emissions achieved than estimated VCUs *(refer section 5.4 of MR/1/ for GHG calculations and above in this report for the same)* for the current monitoring period.

Operation of plant at peak loads in the season also contributes to higher generation of electricity and thus avoiding emissions of 1,276,829 tCO_2e carbon dioxide into atmosphere. During personnel Interview/30/ with site personnel it was noted that plant has to operate at specific hours (Peak Hours) throughout the day to support the Indian Grid, if not done so the plant is charged penalty for the same. VVB identified and verified it during the interview with the O & M team and respective heads of the plant/30/ *(also refer Table 01 in this report)*

This comparison is submitted in the ER sheet along with a justification confirming that this event of higher power generation was an unforeseen situation and also not under the direct control of PP.

Based on the 4 full years PLF data preceding this monitoring period, we can see that the except for 2019, the average PLF for the rest of years was 48.84%. The PLF for the present monitoring period of 52% is an outlier witnessed in 2019 as well. Thus, the higher emission reductions achieved during this monitoring period although higher than the estimated by 4.8%, by no means is it deviating from the assumed PLF at the time of validation.

All the data were made available and have been monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation and project emission calculation, is described above.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk identified by the project proponent for the project activity hence not applicable.

5 VERIFICATION CONCLUSION

VKU Certification Pvt. Ltd. (here after VKU) has performed fourth verification of second crediting period (01-April-2016 to 31-March-2026, Inclusive of both start and end dates) & overall periodic 16th verification of the project activity. The emission reductions reported for the project activity "300MW Hydropower project by JHPL" in India, VCS Registry Project ID 92, for the period 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) is 1,276,829 tCO_2e, with regard to the relevant requirements for VCS activities. The project proponents of the "300MW Hydropower project by JHPL" Project by JSW Hydro Energy Limited (formerly Himachal Baspa Power Company Ltd) is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS Joint PD&MR/3/ (version 02) dated 21-March-2018.
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project's conformity with the requirements of VCS Standard version 4.3 /5/ and GHG program applied, on the reported greenhouse gas emission reductions from the project

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- the project has been implemented and operated as per the registered VCS Joint PD&MR /3/;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.3/5/ requirements;
- the monitoring is in place as per the applied baseline and monitoring methodology;
- the monitoring plan in the registered VCS Joint PD&MR/3/ is as per the applied baseline and monitoring methodology/8/.

VKU's 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. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give *reasonable level of assurance* that reported GHG emission reductions are fairly stated. It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 05 of 23-February-2023 for the "300MW Hydropower project by

JHPL" in India for the period 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) are fairly stated.

The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable sources- (version 17.0) /8/ and the monitoring plan included in the registered VCS PD&MR /3/ (version 02) dated 21-March-2018.

Hence VKU is able to certify that the emission reduction from the project during the monitoring period 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) amounts to 1,276,829 tCO2e. The following table shows the Net Emission Reduction from 01-August-2021 to 31-July-2022 (Inclusive of both start and end dates) of second crediting period.

Verification period: 01-August-2021 **to** 31-July-2022 (Inclusive of both start and end dates)

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

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)
Year 2021 (01-August-2021 to 31-December-2021)	5,93,180	0	0	5,93,180
Year 2022 (01-January-2022 to 31-July-2022)	6,83,649	0	0	6,83,649
Total	1,276,829	0	0	1,276,829

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
HPSEB	Himachal Pradesh State Electricity Board
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH4	Methane
CL	Clarification Request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Proponent(s)
Ref.	Document Reference
SLDC	State Load Dispatch Centre
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

CAR: Corrective Action Request_06

CL: Clarification Request_02

FAR: Forward Action Request

Type		Date	30-November-2022
CL#01		Reference	Section 01/DR
Description of the Non-Conformance			
1. **In section 1.8 of MR;** PP is requested to provide reference for the mentioned Tool of additionality. As assessment team couldn't map it down into available RCP PD on Verra site dated 21-03-2018; version 02 or Validation Verification report version 02 dated 29-03-2018 2. **In section 1.10 of MR;** PP is requested to submit renewable energy certificates, and provide a clarification in section 1.10 required as per VCS guidelines to fill Monitoring Period template version 4.1 if during this monitoring period any claim has been made by PP. 3. **In section 1.10 of MR;** PP is requested to submit the evidence to proof the claim that no GHG-related environmental credits have been claimed. 4. **In section 1.11 of MR;** PP is requested to provide reference of the section of RMP referred here. Also, to justify how MR template version 4.1 in section 1.11 describes about Identification of which SD contributions described in Table 1 of this report contribute to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting the same			
1st Response from PP		**Date**	04-January-2023
1. Details regarding tool of additionality is not mentioned in RCP and or Validation Verification report version 02 dated 29-03-2018. So, deviation has been taken for including the same.Tool for demonstration and assessment of additionality V05.2, EB39 is used for the investment analysis and same was mentioned in 1st VCS PD. During the RCP it was not mentioned in the RCP PD and verification report but for RCP the additionality remains same and no revision has been done in the additionality section but it should be mentioned in the section 1.8 of VCS MR and in RCP PD. Therefore deviation has been taken for the inclusion. 2. PP has not taken Rec benefits or any other forms of credits during the monitoring period. Declaration regarding same from PP is submitted and also REC generator link is attached-https://www.recregistryindia.nic.in/index.php/publics/registered_regens and also provided in footnote in MR template section 1.10 3. Declaration from PP will be submitted to that no GHG-related environmental credits have been claimed. 4. As per VCS standard 4.3 of appendix 3 those projects which are registered before January 2023 it is not mandatory to demonstrate contributions to 3 SDGs but they shall if they want.			
1st Assessment by Audit Team	**Status**	Open	**Date**	12-January-2023

1. **For section 1.8 of MR;** Assessment Team confirms that PP has provided reference for the mentioned Tool of additionality and that the same can be traced in the 1st VCS PD dated 19/11/2007
2. **For section 1.10 of MR;** Assessment Team confirms that PP has confirmed that they have not received any REC benefits or any other forms of credits during the monitoring period &the same was confirmed from https://www.recregistryindia.nic.in/index.php/publics/registered_regens
   But PP has not submitted any declaration to support their claim. PP is requested to do the needful, also as per the MR template they need to mention about the IREC mechanism as well. **[OPEN]**
3. **For section 1.10 of MR;** VVB was unable to trace any declaration from PP to support the claim that no GHG-related environmental credits have been claimed. **[OPEN]**
4. **For section 1.11 of MR;** Assessment team confirms that PP has made relevant changes in the section and the sustainable development contribution table.

Hence CL#01 open.

2nd Response from PP		Date	16-January-2023

2. IREC mechanism is now incorporated in the MR and declaration to support the claim has now been submitted to the assessment team for reference.
3. Declaration has now been submitted to the assessment team

2nd Assessment by Audit Team	Status	Closed	Date	31-January-2023

2. For section 1.10 of MR; Assessment Team confirms that PP has confirmed that they have not received any REC benefits or any other forms of credits during the monitoring period & the same was confirmed from https://www.recregistryindia.nic.in/index.php/publics/registered_regens PP has also submitted the declaration to support their claim as per the MR template about the IREC mechanism.

3.For section 1.10 of MR; VVB now confirms that PP has submitted the declaration to support the claim that no GHG-related environmental credits have been claimed.

Hence CL#01 closed.

Type	Date	30-November-2022
CL#02	Reference	Section 02/DR/OSV; Section 03/DR; Section 05/DR

Description of the Non-Conformance

1. **In section 2.1 of MR;** PP to provide reference about the guidelines referred here, please add relevant weblinks to support the claim.
2. **In section 2.2 of MR; PP to e**laborate about the mentioned CSR activities Implemented on site.

3. **In section 2.2 of MR;** PP to update about the method of recording grievance at site and also submit evidences for the same. PP is also requested to mention & update regarding the process of digitally recording grievance through digital email process followed at site.
4. **In section 3.1 of MR;** PP is requested to include information about the operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring crucially required as per guidelines to fill VCS MR template version 4.1
5. **In section 5.2 of MR:** PP to explain the terms referred in the calculation of Project emissions.
6. **In section 5.2 of MR:** Sufficient Elaboration for the justification mentioned here for the Leakage is required.

1st Response from PP	Date	04-January-2023

1. 1.The references has now been provided about the guidelines referred.
2. CSR activities has now been elaborated and incorporated.
3. The method of recording grievance at site has been updated and grievance has been submitted to the assessment team.
4. Now Incorporated in the MR.
5. All the terminology is now mentioned and explained in section 5.2 of MR for calculation of Project emissions.
6. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use(e.g. extraction, processing, transport etc.) are neglected and leakage emissions is zero.

1st Assessment by Audit Team	Status	Closed	Date	12-January-2023

1. **For section 2.1 of MR;** Assessment team confirms that PP has added weblinks and provided references for the mentioned guidelines.
2. **For section 2.2 of MR**; Assessment Team confirms that PP has incorporated the CSR activities undertaken by PP which was confirmed with PP on site.
3. **For section 2.2 of MR**; PP has successfully updated the grievance recording mechanism along with suitable evidences to support the claim.
4. **For section 3.1 of MR;** PP has stated the operational status of the project activity and has also mentioned that there were no event of may impact the GHG emission reductions or removals which was verified by the assessment team.
5. **For section 5.2 of MR:** PP has incorporated the terminology for calculation of project emissions which is in line with registered PD as verified by the VVB.
6. **For section 5.2 of MR:**PP has provided sufficient elaboration for the Leakage

Hence CL#02 closed

Type	Date	30-November-2022
CAR#01	Reference	Section: Cover MR/DR Section 01/DR
Description of the Non-Conformance		

1. PP to ensure editorial correction throughout the report. Please ensure proper formatting and spacing between sentences and letters.
2. **On title Page of MR;** PP to fill Title page using either Arial or Century Gothic size 10.5 point, black, regular (non-italic) font ss per VCS MR template version 4.1
3. **In section 1.6 of MR;** PP is requested to specify the nature of crediting period viz Renewal or Fixed, required as per VCS Validation Verification Standard version 4.3. P to provide justification along with reference to support the reason for choosing the type of crediting period.
4. **In section 1.8of MR;** PP to correct the font used in the footnotes and make it consistent with the VCS Template guidelines to fill MR version 4.1
5. **In section 1.11 of MR;** As identified during onsite visit about the social wellbeing activities implemented at site
    - A. PP to incorporate about the decision to keep all the employees on permanent basis working at the project activitythus justifying the PPs contribution towards social well-being towards the Local people in the project site.
6. **In section 1.11 of MR;** PP to mention about the free electricity share with Himachal Pradesh government from the net electricity supplied to the grid.
7. **In section 1.11of MR;** of MR in Sustainable Development Contributions Table No 1 PP is requested to update this section as per project activity. This section does not contain information regarding the project activity as implemented.
    - PP to submit Evidences of the project's SD contributions as appendices to this report which is required as per guidelines to fill VCS MR Template version 4.1

1st Response from PP	Date	04-January-2023

1. **All** the editorial mistakes have been now corrected in MR
2. Title Page has been now aligned with MR template guidelines
3. Crediting period is renewable and twice renewable
   Reference: Please refer section 3.8.1 https://verra.org/wp-content/uploads/2022/06/VCS-Standard_v4.3.pdf
4. Font is now corrected as per VCS Template guidelines to fill MR version 4.1
5. The decision to keep all the employees on permanent basis working at the project activity has been incorporated.
6. As per PPA (page 47) mentioned in article 8 of section 8.1 PP shall sell 88% of the electrical energy delivered by the project and balance 12% of the energy will be delivered by the company to board at interconnection point at Jharki, free of cost.
7. SDG evidences has been submitted to the assessment team.

1st Assessment by Audit Team	Status	Open	Date	12-January-2023

1. Assessment team confirms that PP has ensured editorial changes throughout the MR.
2. On title Page of MR; PP has corrected the font size and style on cover page of MR as per VCS guidelines to fill MR.
3. **For section 1.6 of MR; Assessment team confirms that PP has** specified the nature of crediting period viz Renewal or Fixed, required as per VCS Validation Verification Standard version 4.3, but PP to justify how they opted for a renewable crediting period of 10 years as the length of renewable crediting period should be 7 years and not 10 years as per the VCS standards Version 4.3**[OPEN]**

4. **For section 1.8of MR; Assessment team confirms that** PP has correct the font used in the footnotes and has made it consistent with the VCS Template guidelines to fill MR version 4.1
5. **For section 1.11 of MR;** Assessment team confirms that PP has incorporated about the decision to keep all the employees on permanent basis working at the project activity and has justified the PPs contribution towards social well-being towards the Local people in the project site.
6. **For section 1.11 of MR;** PP has made relevant changes in the MR which is acceptable to the VVB.

Hence CAR#01 Open

2nd Response from PP	**Date**	16-January-2023

3. This project is duly registered as per VCS standard 3.7 as per the validation report, in accordance with 3.8.1 of VCS standard 3.7 the project crediting period shall be a maximum of ten years which may be renewed at most twice. Please refer VCS Standard 3.7 : https://verra.org/wp-content/uploads/2020/11/PREVIOUS-VERSION-VCS-Standard-v3.7.pdf

2ndAssessment by Audit Team	**Status**	Closed	**Date**	31-January-2023

3. For section 1.6 of MR; Assessment Team confirms that PP opts for renewal crediting period of 10 years as per VCS standard 3.7 as per the validation report, in accordance with 3.8.1 of VCS standard 3.7 the project crediting period shall be a maximum of ten years which may be renewed at most twice. Hence PP has incorporated this justification in the MR in the relevant section.

Hence CAR#01 is closed

Type	**Date**	30-November-2022
CAR#02	**Reference**	Section: 02/DR Section: 03/DR Section: 04/DR

Description of the Non-Conformance

1. **In section 2.1 of MR;** PP to provide weblink for the referred EIA guidelines as instructed by MOEFCC for the Hydro project.
2. **In section 2.1 of MR;** PP to submit evidence for the claim mentioned in Water Environment section.
3. **As mentioned in section 3.1 of MR;** No shut down details can be found in the MR version 01 dated 08-11-2022, PP is requested to add the same in the appendix below in this particular report.

4. **In section 3.2 of MR;** PP is requested to specify the Monitoring period dates, crediting period number and also the number of periodic verifications to specify the transparency of project deviations as elaborated in this section. PP to provide reference of the verification referred here during which the Project description was requested and approved.
5. **In section 4.1 of MR;** PP is requested to correct the format of table and make it consistent with the VCS MR template version 4.1
6. **On page number 16 of MR;** PP to ensure a single font to be used throughout the MR either Franklin Gothic or Arial even in the footnotes
7. PP is requested to please elaborate the short forms throughout the MR
8. **In section 4 of MR;** PP to explain the reason for extending the columns of table to extreme ends of the Monitoring report

1st Response from PP	Date	04-January-2023

1. Please refer: https://parivesh.nic.in/writereaddata/ENV/EnvironmentalClearance-General/20.pdf
2. As per the EIA report, refer clause 1.8.4.2 of Water Environment.
3. Shutdown details is included in Appendix 2 of MR template
4. Monitoring period and Crediting period in which the project deviation was approved is now mentioned in MR template.
5. Format of table have been corrected and now consistent with VCS MR template version 4.1
6. Fonts are now in franklin Gothic and all the corrections have been made.
7. Short forms have been elaborated.
8. Columns has been now aligned.

1st Assessment by Audit Team	Status	Closed	Date	12-January-2023

1. **For section 2.1 of MR;** PP has justified the statement mentioned with a weblink.
2. **For section 2.1 of MR;** PP has submitted the EIA report, refer clause 1.8.4.2 of Water Environment with which the justification was verified, hence acceptable to the VVB.
3. **For section 3.1 of MR;** Shutdown details is included in Appendix 2 of MR template, also PP has justified that the breakdowns are only the scheduled maintenance and thus there is no event of breakdown during current monitoring period, which was also verified during onsite visit to the project implemented site.
4. **For section 3.2 of MR;** PP has specified the Monitoring period and Crediting period in which the project deviation was approved is now mentioned in MR template, which was verified by the VVB from the VCS website.
5. **For section 4.1 of MR;** Assessment Team confirms that the format of table has been corrected and is consistent with VCS MR template version 4.1
6. **On page number 16 of MR;** Fonts are now in franklin Gothic and all the corrections have been made by the PP and are also verified by the VVB.
7. Assessment Team confirms that PP has incorporated the short forms wherever required throughout the MR.
8. **For section 4 of MR;** Columns has been now aligned, as verified by the VVB.

Hence CAR#02 closed.

Type	Date	30-November-2022

CAR#03	Reference	Section: 04/DR/OSV Section:05/DR
Description of the Non-Conformance		
1. **In section 4 .2 of MR;** PP to specify/mention the accuracy class of meters required as per VCS MR template version 4.1 2. **In section 4 .2 of MR;** PP to provide reference of selecting the calibration as per 05 years. 3. **In section 4 .2 of MR;** PP to specify if the calibration of meters is done by any NABL accredited laboratory required as per VCS VVS version 4.3 4. **In section 4 .3 of MR;** PP is requested to incorporate • The procedures used for handling any internal auditing performed and any non-conformities identified. • QA/QC procedures • Mention about the SLD submitted to the VVB 5. **In section 4 .3 of MR;** Please specify and mention the name of the reputed agency. 6. **In section 4 .3 of MR;** PP to correct the accuracy class of equipment mentioned here. As the energy meters have accuracy class of 0.2s 7. **In section 5.4 of MR;** PP to provide sufficient justification of the potential causes for the difference in actual versus estimated GHG ERRs. PP is requested to provide information that could possibly lead to the substantial difference between the ex-ante and ex-post GHG ERR.		
1st Response from PP	**Date**	04-January-2023
1. Meters of accuracy class 0.2 has been used at site and same is mentioned in Appendix of MR template v4.1 2. Please refer: https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf 3. Calibration of meter is not under the control of PP and it is done by the state electricity board and the labs are mostly NABL accredited (PGCIL). 4. All now incorporated in the MR. 5. All the main meters and check meters are tested by PGCIL (Power Grid Corporation of India Limited) on a periodic basis 6. The accuracy class of equipment mentioned is now corrected as 0.2s. 7. Sufficient justification of the potential causes for the difference in actual versus estimated GHG ERs is now incorporated.		

1st Assessment by Audit Team	Status	Open	Date	12-January-2023
1. **For section 4 .2 of MR;** PP has specified the accuracy class of meters required as per VCS MR template version 4.1 in the appendix section of MR as verified by the assessment team. 2. **For section 4 .2 of MR;** PP to provide reference of primary document of selecting the calibration as per 05 years**. [OPEN]** 3. **For section 4 .2 of MR;** Assessment team confirms that PP has specified that the calibration of meters is done by any NABL accredited laboratory PGCIL required as per VCS VVS version 4.3 4. **For section 4 .3 of MR;** PP has incorporated the procedures used for handling any internal auditing performed along with QA/QC procedures and any non-conformities identified, which is verified by the assessment team.				

5. **For section 4 .3 of MR;** PP is requested to mention about the SLD submitted to the VVB. **[OPEN]**
6. **For section 4 .3 of MR; PP has** Please specified and mentioned the name of the reputed agency, this was verified by the assessment team from the calibration certificates submitted to the VVB by the PP and was also verified from the PP during onsite visit.
7. **For section 4 .3 of MR;** PP to correct the accuracy class of equipment mentioned here. As the energy meters have a accuracy class of 0.2s **[OPEN]**
8. **For section 5.4 of MR;** PP has provided sufficient justification of the potential causes for the difference in actual versus estimated GHG ERs. PP has also provided information about possible reasons to the substantial difference between the ex-ante and ex-post GHG ERR, this was verified by the assessment team and is acceptable to the VVB.

Hence CAR#03Open

2ndResponse from PP	**Date**	16-January-2023

2. Reference document has been provided in the web link: https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf please refer point no. 18 (1. Interface meter of b): Calibration and periodical testing of meters which states the calibration frequency of 5 years.

5. Schematic line diagram is being added to section 4.3 of the revised MR.

7. The accuracy class of the meters is now update to 0.2s.

2ndAssessment by Audit Team	**Status**	Open	**Date**	31-January-2023

2. For section 4 .2 of MR; Assessment Team confirms that PP has provided the provide reference of primary document of selecting the calibration as per 05 years. **[Closed]**

5. For section 4 .3 of MR; PP has added a SLD in section 4.3 of MR but PP is requested to clarify about the unit energy meters as depicted in this SLD**. [OPEN]**

7. For section 4 .3 of MR; The accuracy class has been made consistent with the meters present at site and also with calibration certificates i.e. 0.2s, which is been verified by assessment team hence verified**. [Closed]**

8. In section 5.4 of MR: PP is requested to explain if the Estimated ER are 1212379 tCO2e and Actual ER achieved 1276829 tCO2e and the variation as per calculation is 5.32% higher than how come the ERs achieved are lower than estimated and how is Lower PLF a justification of the achieved ERs. **[OPEN]**

9. In section 4.1 of MR: PP is requested to please update the weblinks for CEA. As the weblink currently added is not accessible.

10. In section 4.3 of MR: PP to justify if the JMRs were used to calculate the value of ER in the ER sheet why Net electricity as per invoices is mentioned throughout the ER sheet.

11. In section 5.4 of MR: Since the ER achieved are 5 % more than that of estimated. PP is requested to clarify the higher emissions achieved in this MP, as outlier by providing with the

PLF data for 3 years (if available) or at least 1-year PLF data prior to this MP. This data will allow assessment team to assess the ER calculations in line with VCS MR template v4.1 sections 3.1 and 5.4 **[OPEN]** **Hence CAR#03 is open**				
3rd Response from PP			**Date**	08-February-2023
5. SLD has now been updated with billing energy meters in the MR. 8. The actual VCU is about 5.32% higher than the estimated VCUs. There are no any design changes for the project activity and increase is due to high production only. Also, there is no any impact on additionality due to higher production as additionality is demonstrated based on "barrier due to prevailing practice". 9. Web link of CEA data base is now updated in the revised MR. 10. The source of data for calculation of net electricity supplied is JMRs and same has been updated in the ER sheet. 11. The actual VCU is about 5.32% higher than the estimated VCUs. There are no any design changes for the project activity and increase is due to high production only. Also, there is no any impact on additionality due to higher production as additionality is demonstrated based on "barrier due to prevailing practice".				
3rdAssessment by Audit Team	**Status**	Open	**Date**	20-January-2023
5.For section 4 .3 of MR; Assessment team confirms that PP has added a SLD in section 4.3 of MR, which is acceptable to the VVB. **8.In section 5.4 of MR:** PP has corrected about the actual VCUs is about 5.32% higher than the estimated VCUs, which is acceptable to the VVB. **9.In section 4.1 of MR:** PP has updated the Web link of CEA data base. **10.In section 5.4 of MR:** PP has updated the ER sheet about the source of data for calculation of net electricity supplied is JMRs. **11.In section 5.4 of MR: As per PP** there is no any impact on additionality due to higher production as additionality is demonstrated based on "barrier due to prevailing practice". Hence PLF data not required. However, the ERs achieved are 5% higher and to justify that PP to please quote the PLF achieved. for previous MPs to substantiate the higher ERs achieved in this Monitoring period. **CAR#03 Open**				
3rd Response from PP			**Date**	23-February-2023
11. This variation is majorly due to the variations in water flow which is mainly dependent on rainfall which leads to variation in PLF and with other parameters including grid availability –				

these factors are not in the control of project proponent. There are no any design changes for the project activity and increase is due to high production only. From 01-January-2018 to 31-July-2022 the yearly PLF has been observed as 47.90%, 51.57%, 49.82%, 48.78%, and 48.30% respectively. As the PLF's from the last four year are not on the higher side when summarized with previous verification. The observed PLF is 52.39% for the current monitoring period. With reference to the emission reduction achieved during the last two verification, the generation is not on the higher side when summarized with previous verifications. There is no any impact on additionality due to higher production as additionality is demonstrated based on "barrier due to prevailing practice".				
3rdAssessment by Audit Team	**Status**	Closed	**Date**	26-February-2023
11. In section 5.4 of MR: PP has provided comparative PLF estimation for last 5 years that clarifies the higher ER achieved during this monitoring period. Also the generation is not on the higher side when summarized with previous verifications. There is no any impact on additionality due to higher production as additionality is demonstrated based on "barrier due to prevailing practice". Hence **CAR#03 closed**				

Type	**Date**	30-November-2022
CAR#04	**Reference**	Section: 04/DR/OSV Section:05/DR/OSV Section: ER SHEET/DR/OSV
Description of the Non-Conformance		
1. **In Appendix (METER CAIBRATION DETAILS) of MR:** PP to mention about the entity who performed calibration& if the calibration was performed by a NABL accredited laboratory. 2. **In Appendix (METER CAIBRATION DETAILS) of MR:** PP to specify the practice of annual replacement of meters As and also update the meter details as per the meters that were working at site during the current monitoring period. 3. **In Appendix (METER CAIBRATION DETAILS) of MR:** As found during interview with the Operational Head and AGM for project activity amid current monitoring period the replacement of meters occurred twice, so PP is requested to update the meter details. • PP is specifically requested to add sections about replacement and reasons for the same. • PP to mention each and every detail about the set of meters replaced (Date of replacement/Type/Make/date of calibration/accuracy class) 4. **In Appendix (METER CAIBRATION DETAILS) of MR:** Even though calibration frequency opted is once in five years PP to also mention about the good practice of replacing meters annually.		

5. **In Appendix (METER CAIBRATION DETAILS) of MR:** PP to provide Reference for considering calibration frequency of 05 years
6. **In ER SHEET:** PP to add date of submission and version number in the Emission Reduction sheet submitted to the VVB.
7. **In ER SHEET:** PP to correct the typo error in column title of Net Electricity Supplied to the Grid.

1st Response from PP	Date	04-January-2023

1. All the main meters and check meters are tested by PGCIL (Power Grid Corporation of India Limited) on a periodic basis.
2. The meter details are now updated as per the meters that are working at site during the current monitoring period along with the practice of annual replacement of meters.
3. Meter details are now updated.
4. Now incorporated in Appendix 1.
5. Reference has now been incorporated in the MR. Please refer: https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf

1st Assessment by Audit Team	Status	Open	Date	09-January-2022

1. **For Appendix (METER CAIBRATION DETAILS) of MR:** Assessment Team confirms that PP has mentioned about the entity who performed calibration and that the entity is a NABL accredited laboratory.
2. **For Appendix (METER CAIBRATION DETAILS) of MR:** Assessment Team confirms that PP has specified about the practice of annual replacement of meters and has also updated the meter details as per the meters that were working at site during the current monitoring period.
3. **For Appendix (METER CAIBRATION DETAILS) of MR:** Assessment Team confirms that PP has incorporated details about the replacement of meters occurred twice, amid current monitoring period.

   PP has also mentioned each and every detail about the set of meters replaced (Date of replacement/Type/Make/date of calibration/accuracy class)amid current monitoring period
4. **For Appendix (METER CAIBRATION DETAILS) of MR:** Assessment team confirms that PP has mentioned about the good practice of replacing meters annually, even though calibration frequency opted is once in five years as per PPA.
5. **For Appendix (METER CAIBRATION DETAILS) of MR:** PP to provide basic document reference *(PP to please refer specific clause of whichever document they are referring to)* for considering calibration frequency of 05 years**[OPEN]**
6. **In ER SHEET:** PP to add date of submission and version number in the Emission Reduction sheet submitted to the VVB. **[OPEN]**
7. **In ER SHEET:** PP to correct the typo error in column title of Net Electricity Supplied to the Grid. **[OPEN]**

Hence CAR#04 OPEN

2nd Response from PP	Date	16/-January-2023

5. Reference document has been provided in the web link: https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf please refer point no. 18 (1. Interface meter of b): Calibration and periodical testing of meters which states the calibration frequency of 5 years.

6. Emission Reduction sheet has now been submitted to the assessment team.				
2nd Assessment by Audit Team	**Status**	Open	**Date**	31-January-2023
5. For Appendix (METER CAIBRATION DETAILS) of MR: Assessment Team confirms that PP has provided the provide reference of primary document of selecting the calibration as per 05 years. **[Closed]** **6. For ER SHEET**; PP has made the relevant corrections in the ER sheet**. [Closed]** **7. In ER Sheet;** PP to specify the source of the data mentioned in the table. As in the MR the source of data for calculation of net electricity supplied is JMRs. PP to justify the same. **Hence CAR#04 is open.**				
3rd Response from PP			**Date**	08-February-2023
7. The source of data for the calculation of net electricity supplied is JMRs and same has been incorporated in the ER sheet. As per RCP PDD "Source of data Joint Meter Reading (JMR) by SEB", the same is being mentioned over ER sheet.				
3rd Assessment by Audit Team	**Status**	Closed	**Date**	12-February-2023
7.In ER Sheet; PP has specified the source of the data mentioned in the table., hence acceptable **Hence CAR#04 closed**				

Type	**Date**	31-January-2023
CAR#05	**Reference**	Section: 01/DR/OSV Section: 03/DR/OSV
Description of the Non-Conformance		
1. **On Cover Page:** PP is requested to explain if the title of the project was approved and changed from 300MW Hydropower project by JHPL to 300MW Hydropower project by HBPCL in Validation verification report dated 29/03/2018, why it is not updated as per the deviation requested for title change. 2. **In section 1.7 of MR:** The geocoordinates mentioned in this MR for the project implemented site was checked using google earth and assessment team was not able locate any Hydro-power Project. PP to include appropriate and correct geocoordinates of the project implemented site. 3. **In SDG Contributions Table in MR**: PP is requested to explain if SDG Indicator 13.0 is same as described. 4. **In section 3.2 of MR:** PP is requested to clearly explain about the • Ownership transfer of the project • Requested deviation and in which monitoring period. • If the requested deviation is approved or not		
1st Response from PP	**Date**	08-February-2023

1. Yes, during the RCP PDD name was changed but the next version again the project name was updated. The latest verification report[19] (Monitoring period: 01-November-2020 to 31-July-2021) section 3.3 exactly explained the scenarios.
2. Geo coordinates are now updated in the revised MR. A deviation has been added for the appropriateness of the report.
3. The description of SDG indicator for SDG target 13.0 is now updated as "Tonnes of greenhouse gas emissions avoided or removed" and the indicator is as per the MR filling template.
   - Ownership of the project is transferred to JSW of 11/09/2018 (supporting is now submitted to the assessment team).
   - This deviation has been requested in the Verification period: Monitoring period from First crediting period; 01/09/2015 to 31/03/2016 and monitoring period from second crediting period; 01/04/2016 to 31/12/2017. Monitoring period: 01-September-2015 to 31-December 2017
   - The requested deviation is approved and same has been confirmed by the VVB report[19].

1st Assessment by Audit Team	Status	Closed	Date	12-February-2023

1. **For Cover Page:** PP has provided justification against the title change in RCP PDD, which was approved in previous verification by VERRA, hence acceptable.
2. **In section 1.7 of MR:** PP has taken deviation with updated geocoordinates Latitude: 31.49666667 Longitude: 78.18972222, which is verified by the VVB with google earth software, now the updated coordinates are correct and hence deviation is accepted.
3. **In SDG Contributions Table in MR**: PP has updated as "Tonnes of greenhouse gas emissions avoided or removed" and the indicator is as per the MR filling template.
4. **In section 3.2 of MR:** PP has confirmed with evidence:
   4.1. Ownership of the project is transferred to JSW of 11-September-2018 (supporting is now submitted to the assessment team).
   4.2. That the deviation was requested in the Verification period: Monitoring period from First crediting period; 01/09/2015 to 31/03/2016 and monitoring period from second crediting period; 01/04/2016 to 31/12/2017. Monitoring period: 01-September-2015 to 31-December 2017
   4.3. PP confirms that above requested deviation was approved and it is confirmed by the VVB from the previous monitoring and verification report dated 06-June-2022.

Hence CAR#05 closed

Type	Date	20-January-2023
CAR#06	Reference	Section: 01/DR Section: 03/DR
Description of the Non-Conformance		

[19] https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=68049&IDKEY=2kjalskjf098234kj28098sfkjlf098098kl32lasjdflkj909293839571

1. **In section 1.1 of MR:** PP to please mention the number of the monitoring period.
   1.1. Is the mentioned time period inclusive of both the dates?
   1.2. Please state what this number achieved?
2. **In section 1.6 of MR:** As per guidance document, PP is requested to state the number of years in the crediting period
   2.1. Both the dates are inclusive?
3. **In section 1.11 of MR:** Please specify the monitoring period number for continuity
   3.1. As per the MR template PP is requested to state the cumulative impact of project's activities related to SDG indicator over project lifetime. Since this is the 3rd MP of the 2nd crediting period, PP is requested to follow the requirements of the MR template guidance completely
4. **In section 2.1 of MR:** ETP of STP?
   4.1. PP is requested to clarify this sentence
5. **In section 3.1 of MR:** What is the input voltage that is subsequently stepped up to 400 kV?
   5.1. Please state the total shutdown hours in this section
6. **In APPENDIX 02 of MR** Please include the scheduled shut down hours as per the guidance for MR in this section

1st Response from PP	Date	23-February-2023

1. Monitoring period is being mentioned over section 1.11.
   1.1. Monitoring period is being mentioned over the revised MR.
   1.2. 1,276,829 tCO2e of emission avoidance as a result of supplying 1,376,932.94 MWh clean electricity to grid.
2. Number of crediting are being mentioned.
   2.1. Inclusive of both day statement are being added.
3. Monitoring period number is being mentioned.
   3.1. A Verra program team justification is being provided which states that the approved SDGs number are needed to be presented as summation of last monitoring figures. Since this is the first SDG labelling, the current contribution and the overall contribution are same. The Verra statement is being provided.
4. ETP is being added.
5. Input voltage is being added.
   5.1. Total shutdown hours are being mentioned.
6. Appendix 2 has been removed as there is zero shutdown hours.

1st Assessment by Audit Team	Status	Closed	Date	26-February-2023

1. **In section 1.1 of MR:** PP has mentioned the number of the monitoring period.
   1.1. PP has included that the mentioned time period is inclusive of both the dates.
   1.2. PP has stated about the achieved number.
2. **In section 1.6 of MR:** Assessment Team confirms that the PP has stated the number of years in the crediting period also if the dates is inclusive of first and last date.
3. **In section 1.11 of MR: Assessment Team confirms that PP has** specified the monitoring period number for continuity.
   3.1. As PP has stated with justification that the approved SDGs number are needed to be presented as summation of last monitoring figures. Since this is the first SDG labelling, the current contribution and the overall contribution are same. VVB verifies the same with VERRA statement submitted to the VVB by PP and was found correct and justified

4. **In section 2.1 of MR: ETP is established as justified in the EIA report.**
   4.1. PP is requested to clarify this sentence
5. **In section 3.1 of MR:** PP has added Input voltage that is subsequently stepped up to 400 kV.
   5.1. PP has stated the total shutdown hours in the Appendix 02 and section 3.1 of MR
6. **In APPENDIX 02 of MR** PP has included the scheduled shut down hours as per the guidance for MR in this section

Hence CAR#06 closed

~~Type~~			~~Date~~	~~DD/MM/YYYY~~
~~FAR~~			~~Reference~~	
~~Description of the Non Conformance~~				
~~1st Response from PP~~			~~Date~~	~~DD/MM/YYYY~~
~~1st Assessment by Audit Team~~	~~Status~~	~~Open/Closed~~	~~Date~~	~~DD/MM/YYYY~~
~~2nd Response from PP~~			~~Date~~	~~DD/MM/YYYY~~
~~2nd Assessment by Audit Team~~	~~Status~~	~~Open/Closed~~	~~Date~~	~~DD/MM/YYYY~~

APPENDIX C: COMPETENCE STATEMENT

Team Leader

Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Indonesia, Bangladesh, Nepal, Ghana, Uganda, Kenya etc
Education Qualification	B.E. (Mechanical Engineering) M. Tech (Energy Management)
Year of Experience	10 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 2.1 - Process GHG Emission Expert TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 2.1, 3.1, 6.1, 13.1, 13.2)	YES

Reviewed by	Vandana Gupta (Quality Manager)	**Date**	09/09/2022
Approved by	Vikas Kumar Aharwal (Director)	**Date**	09/09/2022

Validator/Verifier-Trainee

Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Niharika Kaushik
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Zoology Honours) M.Sc. (Environmental Sciences)
Year of Experience	2.5+ Years
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	YES
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	02.02.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	02.02.2023

Project Trainee

Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Anil Dhankar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	NA, Fresher
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	YES
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

Technical Reviewer

Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 3.1, 6.1, 13.1, 13.2)	YES

Reviewed by	Ayushi Garg (Quality Manager)	**Date**	11/07/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	**Date**	11/07/2022