



VERIFICATION REPORT “URI II HYDROELECTRIC PROJECT”



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Summary:

NHPC Ltd has commissioned the LGAI Technological Center, S.A. (Applus+ Certification) , herein after called as Applus+ Certification to carry out the 2nd verification of the project “Uri II Hydroelectric Project” (VCS ID:1424)^{/6/} with regard to the relevant requirements of [VCS Program Guide, v4.4](#) and [VCS standard, version 4.5](#)^{/8/}. The project is Greenfield Hydro Power Project located on river Jhelum near village Uri, district Baramullah of J&K Union Territory of India; exporting electricity to the regional grid. The hydel energy generated from the hydel power plant is evacuated to the State Grid System which is part of Indian Grid. An undertaking has been submitted by PP for double counting would never happens with the any other GHG program. During the current monitoring period, project activity was operational during the current monitoring period and there were no major breakdowns (except those stated under Appendix-II of MR).

The monitoring period covered in the verification is 29-09-2014 to 31-08-2020 (inclusive both days). During the current verification period, the project activity has supplied 8,263,535.8856 MWh of electricity, and thus contributing to the GHG reductions of 7,997,421 tCO₂e^{/4/}. A risk-based approach has been followed to perform this verification activity. In the course of verification, 06 Corrective Action requests (CAR), 02 Clarification Requests (CLs) and 00 Forward action requests (FARs) were raised and successfully closed. The review of the monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided VVB with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and Final Verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against “ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0”^{/7/}
- the project's monitoring plan is assessed against “ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0”^{/7/}

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Carbon Units (VCUs).

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR^{/3/}. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VCUs.

This project has supplied 8,263,535.8856 MWh of electricity to the grid and achieved 7,997,421 tCO₂e emission reductions during the current monitoring period i.e., 29-09-2014 to 31-08-2020.

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

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1 INTRODUCTION

1.1 Objective

Applus+ Certification has been appointed to perform the verification of the project entitled “Uri II Hydroelectric Project” that is managed by NHPC Limited under VCS Program Guide, v4.4 and VCS standard, version 4.5^{/8/}. The verification is the independent review and ex post determination by VVB of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined monitoring period.

During the verification the VVB perform, the assessment of the project design, monitoring report^{/3/. /4/} and final verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against “ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0”^{/7/}
- the project's monitoring plan is assessed against “ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0”^{/7/}
- the project's compliance with the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1^{/23/}, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS Program Guide, v4.4 and VCS standard, version 4.5^{/8/}
- CDM Validation and Verification Standard for project activities, version 03.0
- CDM Project Standard for project activities, version 03.0
- Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of estimated verified emission reductions (VERs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR) prepared as per the registered PD and registered approved methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0^{/7/}.

The MR is reviewed against the criteria stated in

- Article 12 of the Kyoto Protocol^{/23/},
- the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, and
- including the approved baseline and monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0^{/7/}.
- The verification was based on the requirements in the VCS Program Guide, v4.4 and VCS standard, version 4.5, CDM validation and verification standard for project activities, Version 03.0.

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring Report. In line with VCS Standard, version 4.5 requirements (para 3.10, 3.10.2, 4.1.10, 4.1.13) and Guidelines for Application of materiality in verifications version 02, the verification team has conducted a

complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It follows the paper trail back to the raw data such as meter reading records (captured under the deviation settlement account statements). There are no material errors, overestimation of ER, omission, or misstatement. The verification team has reviewed all the documents like commissioning certificates^{/10/}, weekly deviation settlement account statements^{/11/}, calibration certificates^{/14/}, etc.

1.3 Level of Assurance

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions^{/24/}.

In our opinion the GHG emissions reductions reported for the project activity for the period 29-09-2014 to 31-08-2020 are fairly stated in the Monitoring Report Version 6.01 dated 28-04-2024^{/3/}.^{/4/}. The GHG emission reductions were calculated correctly based on the approved baseline and monitoring methodology ACM0002, Version 16.0^{/7/}, and the VCS standard. For more information, please refer to section 4 of this verification report.

1.4 Summary Description of the Project

The project is a large-scale Power Project installed on river Jhelum near village Uri, district Baramullah of Jammu & Kashmir state of India^{/1/}. It is a run of the river project with a concrete gravity dam and an underground power house. It involves installation of four vertical Francis turbines of the capacity 60 MW each, totalling to 240 MW. The project activity geo-coordinates are: Latitude: 34° 5'34"N to 34° 6'27"N ", Longitude: 74° 1'52"E to 73° 56'23"E which were verified from the NHPC website and during the remote site inspection. The hydel energy generated from the hydel power plant is evacuated to the State Grid System which is part of NEWNE Grid.

The energy from the hydropower plant is a cleaner form of energy and displaces electricity that would otherwise be generated using fossil fuel sources. The commissioning details of the project are as follows^{/10/}:

Unit No	Commissioning date
I	25-09-2013
II	16-11-2013
III	27-09-2013
IV	02-02-2014

The commissioning details were already verified form the commissioning certificate^{/10/} during the first verification^{/21/}. The commissioning date of the first turbine has been considered the start date of the project crediting period and the current monitoring period. The project activity contributes to sustainable development through infrastructure development and providing job opportunities. Assessment concludes the following:

The capacity of the project activity was found to be in compliance with registered PD.

VVB has conducted the desk review and remote assessment to confirm the implementation status of the project/25/.

The commissioning date of the project activity was found to be accurately and consistently recorded.

The actual operation of project activity was found to be in compliance with the flow diagram provided in registered PD.

There was increase in emission reduction from estimates made in registered PD/1/, explanation is given by the PP regarding the same.

The project is only registered under VCS program and is not opting for any other GHG programs.

This is the second verification for the project, and the monitoring period for the same is 29-09-2014 to 31-08-2020. 8,263,535.8856 MWh of electricity was exported to grid during the monitoring period and the total emission reductions achieved is 7,997,421 tCO_{2e}.

2 VERIFICATION PROCESS

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

2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using VVB's internal procedures.

The Project was verified against the latest requirements and guidance set out in VCS and CDM standards.

No sampling approach has been applied by the verification team as all the monthly reported figures in the MR/3/, /4/ and the ER sheet/5/ were checked from the actual records.

Verification Process:

The project assessment is based on the Clean Development Mechanism Validation and Verification Standard for project activities, version 03.0, and VCS Program Guide, v4.4 and VCS standard, version 4.5^{8/} and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

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

- I. A desk review of the monitoring Report against the registered PD^{1/};
- II. Follow-up interviews with project participant^{25/};
- III. The resolution of outstanding issues and the issuance of the final verification report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the VCS executive board.

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

Appointment of the assessment team

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

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

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

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

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Srikanth Meesa	LA/TE	YES	YES	NA	YES
Mr. Simon Shen	TR	YES	YES	NA	No

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

Document review

The Monitoring Report draft version was submitted by the PP was reviewed against the approved methodology, registered PD^{/1/}, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

No sampling is used as the VVB has reviewed all the documents like commissioning certificates^{/10/}, Deviation Settlement Account Statement ^{/13/} etc.

Follow-up interviews

A remote audit was conducted by Applus+ Certification who performed interviews, telephone conferences with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report in the below sections.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report^{/3/}, ^{/4/}. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 6.0 submitted by PP on 28-02-2024 serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main VCS objectives. The two VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a verification of the final documentation including the verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e., each report has to be finally approved.

After the Technical Review process, the final documentation may undergo a final quality checking process called Administrative Review, done by the Applus+ Certification's Project Manager and/or Technical Support.

For final approval, the final set of documents are prepared by the VVB's Technical Manager or its deputy and signed by the authorized signatory of the VVB.

In case any of the persons performing this final internal quality control approval process has acted as a part of the Assessment Team or Technical Review team, the approval can only be given by VVB's personnel who are not part of those teams. After confirmation of the project owners the positive verification opinion and relevant documents are submitted to the VCS secretariat through the VCS web-platform.

2.2 Document Review

The verification is performed primarily as a document review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols. The assessment team cross checks the information provided in the documents (PDD/^{1/}, MR/^{3/},^{4/}, GHG Calculator/^{5/}, validation report/^{2/}) and information from sources other than those used, if available, and conducts independent background investigations. VVB conducted a desk review as under;

- a) A review of the data and information presented to verify their completeness.
- b) A review of the monitoring plan/^{1/}, the monitoring methodology/^{7/} including applicable tool(s)/^{7/} and, where applicable, the applied standardized baseline (not applicable to this project activity), paying particular attention to the frequency of measurements/^{1/},^{11/}, the quality of metering equipment including calibration requirements/^{14/}, and the quality assurance and quality control procedures/^{1/}.
- c) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions. The details of the document reviewed has been provided in above Section 2.1 and complete list of references used during the verification process are listed in Appendix 1 of this report.

2.3 Interviews

VVB performed a remote audit and interviews on 12-04-2023 with project stakeholders to confirm selected information and to resolve issues identified in the document review. During the audit the representatives of PP were interviewed.

Sr. No.	Name	Subject	Organization
1.	Sanjiv Kumar Roy	Project implementation	Manager, Power House, NHPC
2.	Jagannath Munda	CSR works	Sr. Manager-Civil, NHPC
3.	R. K. Mehta	Monitoring procedures	General Manager, NHPC
4.	Nidhi Kalini	Electrical Works	Manager-Electrical, NHPC
5.	Manish	Data monitoring	Sr. Manager, Environment, NHPC
6.	Subodh Kumar	Project maintenance	Manager-Civil, HPC
7.	Abhigna P	Emission reduction calculation, Queries on the MR	Consultant, Core CarbonX

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.

The VVB has taken necessary measures for ensuring a reasonable level of assurance while conducting the Verification process, using standard auditing techniques and advanced communication solutions in order to be able to interview the relevant stakeholders and to cross-check the relevant documentation, implementation of the project activity and its design, monitoring performance, equipment in the project activity, etc. (all the evidences and processes of cross-check are detailed within this Verification Report).

The interviewed personnel and the scope and mean of interview are listed in above Section 2.3 of this Verification Report.

Technical details & metering / monitoring arrangement verified through remote audit / name plates and calibration certificates/14/ shared by PP. All the documents were cross checked to ensure conservative estimation of emission reduction.

During the remote audit, the PP representatives personal were interviewed about the implementation of the project activity. Several topics like the verification of commissioning date/10/ of project activity, performance of monitoring system, the generation, recording, and monitoring of the data and the error accountability were discussed. Various documents like the Weekly Deviation Settlement Account document/11/, inspection of name plates through on-line tour during the remote audit, meter specifications, key technical specifications of major equipment like panel, consistency check between the serial number of installed meter and the calibration certificates/14/, review of single line diagram, and allied metering system and bills etc. were verified to establish the current status and the implementation of the Project Activity.

2.4 Site Visits

As per section 4.1.12 of the VCS standard 4.5,

A site visit that includes a visit to facilities and/or project areas shall be conducted at validation. Such a site visit shall be conduct at verification under the following circumstances: The first verification of the project after validation;

- Verification of project baseline reassessments;
- Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality, or the appropriateness of the baseline scenario.

It is to be noted that the project has undergone first verification for the following monitoring period: 25-09-2013 to 28-09-2014. Currently, the project is undergoing 2nd verification. Hence, as per the VERRA guidelines site visit is not mandatory for the 2nd verification of the project activity.

Based on the above, verification team has performed the remote audit and ensured that there is risk to the audit to the audit criteria.

2.5 Resolution of Findings

The objective of this phase of the verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification's positive conclusion on the project design and Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the validation process, the concerns raised and responses given are summarized below in the Appendix 2.

The final monitoring report Version 6.0 submitted by PP on 28-02-2024 serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main

objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	1	1	0
Description of project activity	0	1	0
Application of selected baseline and monitoring methodology and selected standardized baseline			
- Applicability of methodology and standardized baseline	0	0	0
- Deviation from methodology	0	0	0
- Clarification on applicability of methodology, tool and/or standardized baseline	0	1	0
Project boundary	0	1	0
Establishment and description of baseline scenario	0	0	0
Demonstration of additionality	0	0	0
Emission reductions	0	1	0
Calibration details	1	0	0
Monitoring plan	0	1	0
No Net harm assessment	0	0	0
Local stakeholder consultation	0	0	0
Others (please specify)	0	0	0
Total	02	06	00

The list of findings and their resolution is presented in Appendix 2 of this report.

2.5.1 Forward Action Requests

This is 2nd verification of the project activity. There were no FARs raised during the validation or first verification.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification as LGAI holds the accreditation to perform Validation and Verification Activities under the VCS. Activities under the VCS <https://verra.org/validation-verification/lgai-technological-center-s-a-applus/>), and it holds the accreditation for validation/verification for the sectoral scope: “1. Energy (renewable/non-renewable)” (valid from 14-11-2011), to which the project belongs.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity has not participated under any other GHG program, apart from Verified Carbon Standard. PP will not claim benefits of carbon emission reduction credits achieved through this project activity under any other GHG programme for the crediting period claimed under VCS. Also, the project has not generated any other form of environmental credit and a declaration for the same has been submitted to the assessment team and the same is acceptable. This project activity is not a result of any binding limit of National/International bodies. The project is purely voluntary in nature. The project is also not participated in any other emission trading programs. Further, the project is not registered under the REC mechanism of India and the same is cross-checked at <https://recregistryindia.nic.in>. This was confirmed through a declaration submitted by the PP and hence accepted by the assessment team. Project Proponent has provided a declaration that the PP will not claim emission reduction from any other GHG program for the current monitoring period.

3.2 Methodology Deviations

The project activity used ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0/7/ which is as per the registered VCS PDD/1/ and thus no deviation is sought regarding the methodology. The project complies with all the requirement of the methodology and thus deviation to the methodology is not a requirement for the present project activity.

3.3 Project Description Deviations

PP has requested the following deviations under the current monitoring period:

Deviation - 01
In registered VCS PD, the export parameter mentioned source as Joint Meter Reading (JMR) / Monthly Special Energy Meter statement (SEM) from the energy meters, however project activity does not have JMR or monthly energy meter statement, hence deviation is requested to use source as “Deviation Settlement Account document” for export parameter. Also, there are no invoices raised for actual export value, thus actual export cannot be cross checked with invoices but can compare with Monthly Generation Report.

Since the calibration frequency is not followed as per registered VCS PD, and PP have delayed calibration certificates, thus error factor of accuracy class is applied to export values as a conservative approach and deviation is requested for the not following calibration frequency as per registered VCS PD.

y”

Reason for change

a) Since hydro projects involves scheduling of energy and invoice is based on scheduled energy, however the difference between scheduled energy and actual energy is reflected in Deviation Settlement Account document. There is no any JMR prepared for the project activity and no invoices are raised based on actual export values. Thus, for proposed project activity, the deviation settlement account data has been considered for actual electricity supplied to grid parameter and also same data can be cross checked with Monthly Generation Report. The deviation Settlement account document considers actual export through online measurement of line 1 and line 2 meters. The Monthly generation report gives the gross generation by the project activity and this monthly generation report value should be higher than export value mentioned in deviation Settlement account document. The change is sources for the export parameter and its cross-check mechanism is mentioned as deviation in VCS MR.

b) As per CDM guideline, if the delayed calibration result is within permissible limit of accuracy class, then error factor of accuracy class needs to use conservatively to conclude the verification. PP have not initial calibration certificates; however delayed calibration result is within permissible limit of accuracy class. Hence PP has applied accuracy class of meter as error factor for the export of project activity conservatively. The deviation is requested for not following calibration frequency due to non-availability of initial calibration certificates and application of error factor to export values.

Verification Team Background Assessment

- The VVB has assessed the Single Line Diagram (SLD).
- The VVB during the remote audit confirmed through interviews, remote verification of metering system, calibration records^{14/} that installed meters were operating under normal conditions.
- The monitoring through installed main and check meter happens on line 1 and line 2 which are installed on HT side; thus, determination of the parameter will lead to accurate and conservative of baseline emissions.
- During the remote audit, the VVB noted that NHPC declares available Hydel power plant capacity on NRLDC website (<https://nrlc.in/>) by punching in data on a daily basis. This is called Declared Generation (DG).
- NRLDC responds to NHPC's declared DG by punching in Scheduled Capacity of the hydel plant on a daily basis, which is called Scheduled Generation (SG).
- The energy-meter jointly installed by NRLDC and NHPC for Uri Hydroelectric Project, in Baramullah, records and sends the actual daily generation (AG) to NRLDC on a daily basis through SCADA, measuring net sent out energy (net of auxiliary power consumption).
- NRLDC (also called Power System Corporation of India POSOCO) publishes a daily generation report on its website mentioning DG, SG, AG and the deviation between AG and SG.
- NRPC (Northern Region Power Committee) settles these energy accounts on a weekly basis based on daily generation data published by NRLDC and publishes the weekly "Weekly Deviation Settlement Account"^{11/} on <http://www.nrpc.gov.in>. This information is considered as the final approved generation data of any power plant and is to be used for billing and payments.
- Actual Generation Data published by NRLDC on daily basis is the actual generation.

- The VVB has also understood the NRLDC website and confirmed the mechanism by downloading the recent available "Weekly Deviation Settlement Account"/^{11/}.
- Thus, the parameters $EG_{Export,y}$ & $EG_{import,y}$ become redundant and no more applicable for the applied monitoring period.

Verification Team Opinion

- The deviation proposed by the PP was accepted by the VVB since the monthly JMR is not available for the project activity. The exported electricity is in turn sourced from "Weekly Deviation Settlement Account document"/^{11/} which are publicly available documents issued by the 'Northern Regional Power Committee', Ministry of power; Government of India entity, as already assessed above. The source was therefore found acceptable.
- In addition, the invoices provided by the PP did not conform the export values. The project being a hydro project the invoices are based on scheduled energy. The actual energy exported varies from the scheduled amount, this information gets reflected in the "Deviation Settlement Account document." Therefore, the cross-check document to "Weekly Deviation Settlement Account document"/^{11/} will be generation data. Since NHPC Ltd is a government of India enterprise and the documents contains generation details of all its projects it is fair to assume it a credible source.
- Lastly, the Deviation is accepted as it will not lead to over-estimation of emission reductions.

Deviation - 02

2) The below deviation is requested for the project activity

a) For the proposed project activity, for auxiliary purpose and emergency purpose, the electricity is consumed from DG sets and there is no any import from grid for the operation of project activity as mentioned in registered VCS PD. However, these regional supply lines are used for colony purpose only. Though this colony is not part of project boundary, PP has considered the electricity import of colonies as a conservative purpose. Since calibration certificates for import meters are not available with PP, error factor is applied as a conservative approach.

b) The NRPC publishes the net energy exported from the power plant to the grid. This net energy includes both export and import energy from the power plant. For the project activity within the project boundary of the Hydal Power plant there is a requirement of energy for auxiliary and emergency purposes and to meet the requirement of this energy consumption the project activity has DG sets and it is not imported from the Grid. However, the registered PD considers the import parameter of energy separately. The PP has requested a deviation for this import parameter and considered the import values for the regional supply lines to the colony which is under the control of NHPC even though this colony is not part of the project boundary. PP has considered the electricity import of colonies by following the conservative approach.

As mentioned in the registered VCS PD, the source of data for import parameters is the Monthly electricity sales bills raised by the State Electricity Board. Since the PP was not able to provide the bills in the previous monitoring period, a deviation was requested for the source of import energy to be changed to the statement certified by the State Electricity Board. This deviation was approved in the previous monitoring period.

For the current monitoring period, the PP is not able to trace out the electricity bills for the imported energy of the colony from February 2017 to April 2018, March, April, and June 2020. The values

in a few bills are not readable. The same has been mentioned in the ER sheet in detail. Owing to the above reasons, the PP has followed the conservative approach for the source of import energy.

To establish the daily average energy consumption for the colony the PP has followed the daily average of electricity import for the colony for the approved first monitoring period. As per the VCS Standard V4.5, section 3.20 deviation can be applied or where the deviation will achieve the same level of accuracy or is more conservative. Thus, PP has calculated the daily average values of the imported energy and has observed that they were much higher in the previous monitoring period in comparison to the daily average values (taken from the available electricity bills) of imported energy in the current monitoring period i.e. during the monitoring period 1 the daily average of import electricity was 4.79 MWh and for the current monitoring period the daily average of import electricity is 1.77 MWh. Hence, to ensure a more realistic approach which is more conservative as per section 3.20 of VCS Standard V4.5, the PP has taken the daily average import energy value of the previously approved MR and applied the same values to the current entire monitoring period. The complete calculations have been presented in detail in the ER sheet.

Thus, a deviation is requested in the deviation for the source of import energy data.

y”

Reason for change

a) For the proposed project activity, for auxiliary purpose and emergency purpose, the electricity is consumed from DG sets and there is no any import from grid for the operation of project activity as mentioned in registered VCS PD. However, these regional supply lines are used for colony purpose only. Though this colony is not part of project boundary, PP has considered the electricity import of colonies as a conservative purpose. Since calibration certificates for import meters are not available with PP, error factor is applied as a conservative approach.

b) The NRPC publishes the net energy exported from the power plant to the grid. This net energy includes both export and import energy from the power plant. For the project activity within the project boundary of the Hydal Power plant there is a requirement of energy for auxiliary and emergency purposes and to meet the requirement of this energy consumption the project activity has DG sets and it is not imported from the Grid. However, the registered PD considers the import parameter of energy separately. The PP has requested a deviation for this import parameter and considered the import values for the regional supply lines to the colony which is under the control of NHPC even though this colony is not part of the project boundary. PP has considered the electricity import of colonies by following the conservative approach.

As mentioned in the registered VCS PD, the source of data for import parameters is the Monthly electricity sales bills raised by the State Electricity Board. Since the PP was not able to provide the bills in the previous monitoring period, a deviation was requested for the source of import energy to be changed to the statement certified by the State Electricity Board. This deviation was approved in the previous monitoring period.

For the current monitoring period, the PP is not able to trace out the electricity bills for the imported energy of the colony from February 2017 to April 2018, March, April, and June 2020. The values

in a few bills are not readable. The same has been mentioned in the ER sheet in detail. Owing to the above reasons, the PP has followed the conservative approach for the source of import energy.

To establish the daily average energy consumption for the colony the PP has followed the daily average of electricity import for the colony for the approved first monitoring period. As per the VCS Standard V4.5, section 3.20 deviation can be applied or where the deviation will achieve the same level of accuracy or is more conservative. Thus, PP has calculated the daily average values of the imported energy and has observed that they were much higher in the previous monitoring period in comparison to the daily average values (taken from the available electricity bills) of imported energy in the current monitoring period i.e. during the monitoring period 1 the daily average of import electricity was 4.79 MWh and for the current monitoring period the daily average of import electricity is 1.77 MWh. Hence, to ensure a more realistic approach which is more conservative as per section 3.20 of VCS Standard V4.5, the PP has taken the daily average import energy value of the previously approved MR and applied the same values to the current entire monitoring period. The complete calculations have been presented in detail in the ER sheet.

Thus, a deviation is requested in the deviation for the source of import energy data.

a.

Verification Team Background Assessment

- a. During the interviews it is confirmed that the project is not dependent on the grid for its auxiliary needs and has DG sets installed at the site.
- b. The emissions due to use of fossil fuels for backup generators are to be neglected as per paragraph 37 of the applied methodology. the PP has in turn considered the electricity consumed by the residential colony which are not even a part of the project boundary. The monthly electricity consumption has been included in the emission reduction sheet and due to the non availability of the calibration certificates an error factor equating the permissible error has been applied by the PP leading to conservative emission reductions.
- c. There is no electricity import at the plant. The data certified by the State Electricity Board is utilized in place of Monthly electricity sales bills raised by State Electricity Board. As per the deviation request above, the electricity import data of the colony for a few months is not available and data for a few months is not readable. In order to ensure the approach is conservative, PP has chosen the import per day applied in the previous verification. Assessment team has checked the data and found the data is higher than the per day import data provided by PP for the available data during the current monitoring period. Hence, assessment team is of the opinion that the approach selected by PP is quite conservative and inline with the guidance provided in section 3.20 of VCS Standard V4.5.

Verification Team Opinion

- The deviation proposed by the PP was accepted by the VVB since no project emissions are applicable and no electricity is imported from the grid by the project activity.
- There is no electricity import for the project activity. The colony is not part of the project boundary; therefore, the PP has not deducted the electricity imports from, the colony for the applied verification. The approach is accepted by the VVB.
- Lastly, the Deviation is accepted as it is not impacting the emission reduction and does not have any impact on the ER's and hence does not compromise the conservativeness emission reduction as it also accounts the electricity import by the colony.

Deviation - 03

3) The typo error for unit 2 commissioning date is corrected as 16/11/2013. The supporting document is submitted to DOE.
Reason for change
To report accurate date and rectify the typo.
Verification Team Background Assessment
The VVB reviewed the commissioning certificate
Verification Team Opinion
- The typo error for unit 2 commissioning date is corrected as 16-11-2013. The supporting document is submitted to DOE. - Due to the proposed variation, there is no effect on the additionality. Even after the deviation is requested, the baseline scenario remains the same.

Therefore, the team concludes that there is no deviation in the project which may affect the applicability of methodology, additionality or the appropriateness of the baseline scenario and the project is in compliance with the applied methodology.

3.4 Grouped Project

The project is not a grouped project activity. thus, section is not applicable for this project activity.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity comprise installation of 240 MW hydro power plant located on river Jhelum near village Uri, district Baramullah of Jammu & Kashmir state of India^{/4/}. The generated electricity is exported to the regional electricity grid as per the signed power purchase agreement.

The project activity is run of the river project with a concrete gravity dam and an underground power house. The project activity involves installation of four vertical Francis turbines of the capacity 60 MW each, aggregating to 240 MW. The geo-coordinates were found to be: Latitude: 34° 5'34"N to 34° 6'27"N, Longitude: 74° 1' 52"E to 73° 56'23"E which were verified from the NHPC website and during the physical site inspection.

The commissioning details of the project are as follows^{/10/}:

Project Name	Unit No.	Turbine Capacity	Location	Commissioning Date
Uri Hydroelectric Project	i.	60 MW	Uri, Baramullah, J&K	25-09-2013
	ii.	60 MW		16-11-2013
	iii.	60 MW		27-09-2013
	iv.	60 MW		02-02-2014

The commissioning details were verified from the commissioning certificate, the commissioning date of the first turbine has been considered the start date of the project crediting period and also the current monitoring period. The project activity contributes to sustainable development through infrastructure development and providing job opportunities.

Assessment concludes the following:

- The capacity of the project activity was found to be in compliance with registered PD.
- VVB has conducted the desk review of documents and referred to the earlier verification reports (where the site visit was performed) to confirm the implementation status of the project.
- The commissioning date of the project activity was found to be accurately and consistently recorded inline with deviation.
- The monitoring plan in terms of the installed monitoring equipment and monitoring systems in inline with the PD in terms of compiling and analyzing the monitored data and parameters, with the exceptions to the assessed and validated deviations (process and schedule for obtaining and recording) regarding the to the established monitoring plan,
- The actual operation of project activity was found to be in compliance with the description provided in registered PD.
- There was increase in emission reduction from estimates made in registered PD, therefore, additional explanation was sought from PP regarding the same and same is documented under section 5 of this FVR.
- The project is only registered under VCS program and is not opting for any other GHG programs.
- The project activity does not claim any other form of environmental credit, or has become eligible to do so since validation or previous verification (refer the Appenxix-5).
- The project has implemented the activities that result in the SD contributions described in the monitoring report.
- The audit history table included under the MR is accurately reported.
- The deviation as approved during the last verification has been carried forward for the applied monitoring period.

Thus, based on above assessment, it is confirmed that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

There were no harms identified from the implementation of the project. It is confirmed that the project is a clean renewable energy project and did not result in any negative environmental or social economic impacts during this monitoring period. Also, the EIA of the project is performed by “The Environment and Pollution Control Division of Forest Department and the State Land Use and Environment Board which confirms that there are not adverse impacts on the Water, Land, Air and noise, biological environment as well as socio-economic environment (refer the VCS-PD, section 5. Environmental Impact and corresponding Validation Report).

Also, no potential environment or social economic matter was found during the review and interviews with the project developer.

4.2.2 Local Stakeholder Consultation

As per the remote audit interviews^{/25/}, the PP confirmed that there were no major issues which would affect the life of the local community or raise any environment related problems in the region by the implementation of the project activity were identified during the discussion with stakeholders. The VVB also confirmed during the interviews^{/25/} that there is interaction between PP and the local stakeholders on a regular basis. As per verified records (sample basis), the meeting with the local village panchayat were taking place on monthly basis and regular feed back is taken. No adverse comments /incidents were registered by the PP.

4.3 AFOLU-Specific Safeguards

For Non AFOLU projects, this section is not required.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the MR ^{/3/, /4/} . The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD ^{/1/} and MR ^{/3/, /4/} .
Findings	CAR 06 was raised on this section and closed successfully. Please refer Appendix 2 for further details
Conclusion	Baseline emission: The baseline Emissions for power generation in the kWh produced by the renewable generating unit multiply by an emission coefficient (measured in kgCO₂e/kWh) calculated in a transparent and conservative manner as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the “Tool to calculate the emission factor for an electricity system (version 4.0). Formula Used:

BE_{y,e} - baseline emissions in year y (tCO₂) EG_{PJ,y} – Quantity of electricity that has been displaced by the project activity (MWh) EF_{grid,CM,y} – The grid CO₂ emission factor in year y (t CO₂/MWh) Ex-ante parameters: The baseline emission factors are taken ex-ante in line with the registered RCP VCS PD/^{1/} as well as cross checked with section validation report and found correct. Combined margin CO₂ emission factor (EF_{grid,CM,y}) is equal to 0.9678 tCO₂/MWh. The calculation approach was in line with the VCS PD. Values of ex-ante parameters are as follows: EF_{grid,OM,y} = 0.9862 tCO₂/MWh “Tool to calculate the emission factor for an electricity system, version 04.0.0” as 3-year generation weighted average using data for the years 2011-2012, 2012-2013 & 2013-2014. The data are obtained from “CO₂ Baseline Database for Indian Power Sector” version 14.0, published by the Central Electricity Authority, Ministry of Power, Government of India. Verification team checked the VCS PD/^{1/} and confirms that value is correct. EF_{grid,BM,y} = 0.9495 tCO₂/MWh(Calculated as per “Tool to calculate the emission factor for an electricity system, version 04.0.0” for the year 2013-2014. The data is obtained from “CO₂ Baseline Database for Indian Power Sector” version 10.0, published by the Central Electricity Authority, Ministry of Power, Government of India. Verification team checked the VCS PD/^{1/} and confirms that value is correct. EF_y= EF_{grid,CM,y}= 0. 9678 tCO₂/MWh The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: EF_{grid,BM,y} = Build margin CO₂ emission factor in year y (tCO₂/MWh) EF_{grid,OM,y} = Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 50% W_{BM} = Weighting of build margin emissions factor (%) = 50% After calculation, the Combined Emission factor is obtained as 0.9678 tCO₂/MWh. Verification team checked the VCS PD/^{1/} and confirms that value is correct. EG_{PJ,y} - Total Net Electricity exported to NRPC (MWh): This is calculated value based on monitored data of export, Import and transmission losses. The meter reading of the electricity exported/imported to and from the grid is undertaken by NRPC personnel jointly with PP representatives at the site. As per deviation project activity doesn't have JMR or

monthly energy meter statement instead the export is sourced from “Weekly Deviation Settlement Account Document”^{/11/}.

The net electricity supplied to the grid by the project activity is calculated as a difference of electricity exported to the grid and electricity imported from the grid. The details of meter are provided in Section 4.5 of this report. Meters are calibrated by Electrical Research and Development Association (ERDA)– (Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India) /14/ as per calibration frequency i.e., once in five years.

During the current monitoring, the net electricity supplied to grid by the project activity is 8,263,535.8856 MWh. The same has been verified with the Weekly Deviation Settlement Account Document prepared by NRPC. Also, the monthly Deviation Settlement Account Document are cross checked and found consistent. PP has considered the actual net electricity supplied by the project activity to grid as per Deviation Settlement Account Document (MWh) on monthly basis for ER calculations/5/ with application of error factor.

EG_{Export} - Quantity of Electricity exported by the project to the grid at project site switch yard in year y (MWh)

EG_{Import} - Quantity of Electricity imported by the project from the grid at interconnection point of the Regional Supply in year y (MWh)

The electricity export and Import has been measured continuously by bi-directional (Trivector) main and check energy meters of accuracy class 0.2s and 0.5s. The readings are recorded every month on Deviation Settlement Account Document which has been signed by the PP representative and NRPC official. The details of meters are as follows:

Details of MAIN & CHECK METER for LINE -1

MAIN METER for LINE-1		CHECK METER for LINE-1	
Meter Serial No.	NP-7035-A	Meter Serial No.	NP-7074-A
New Meter Serial No.	Not Applicable	New Meter Serial No.	Not Applicable
Model	ER300P	Model	ER300P
Make	L&T	Make	L&T
Accuracy Class	0.2S	Accuracy Class	0.2S
Installation Date	25/09/2013	Installation Date	25/09/2013
Date of Calibration	05/05/2016	Date of Calibration	05/05/2016
Performance	Satisfactory	Performance	Satisfactory

	Due Date of Calibration		04/05/2021	Due Date of Calibration		04/05/2021
	Details of MAIN & CHECK METER for LINE -2					
	MAIN METER for LINE-2			CHECK METER for LINE-2		
	Meter Serial No.	Old	New	Meter Serial No.	NP-7007-A	
		NP-7067-A	NP-3253-A	New Meter Serial No.	Not applicable	
	Model	ER300P	Alpha A1640	Model	ER300P	
	Make	L&T	Elster	Make	L&T	
	Accuracy Class	0.2S	0.2S	Accuracy Class	0.2S	
	Installation Date	25/09/2013	29/11/2019	Installation Date	25/09/2013	
	Date of Calibration	05/05/2016	29/11/2019	Date of Calibration	05/05/2016	
	Performance	Satisfactory	Satisfactory	Performance	Satisfactory	
	Due Date of Calibration	04/05/2021	28/11/2024	Due Date of Calibration	04/05/2021	
It is to be noted that, as per the approved deviation during the previous verification, PP did not have the control and details of the import energy meter except the accuracy class. Hence, the deviation is chosen to apply the import data for the colony on a conservative basis¹ to calculate the net energy delivered to the grid. Hence, assessment team is convinced that the achieved emission reductions are not only verifiable but also conservative. During the current monitoring period, project activity has delivered the net electricity 8,263,535.8856 MWh. The values are verified with the Weekly Deviation Settlement Account Document/^{11/} and that the value considered is correct. Calibration of all energy meters were done on 05-05-2016 and calibration certificates/^{14/} at the time of commissioning was not available, thus delay in calibration						

¹ The plant energy import data would be smaller than the colony.

	is considered and error factor is applied for until the calibration date. For details pertaining to calibration please refer para “Calibration” Section 4.5 of this report. The verification team has crosschecked the emission reduction sheet^{/5/} and monitoring report data^{/3/. /4/} with the Weekly Deviation Settlement Account Document^{/11/} and found all the values are matching. Thus, the total net electricity supplied to grid by the project activity during the current monitoring period is 8,263,535,.8856 MWh. The calculation approach found in line with the VCS PD^{/1/}. During the verification all relevant monitoring parameters (as listed in section 4.2 of PD) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation^{/5/}, the accuracy, and applied QA/QC measures. The Verification team identified that the correct emission factor is reported under the section 4.1 of the monitoring report^{/3/. /4/} to apply the appropriately report the emission factor. Based on above assessment the verification team confirms that requisite parameters are monitored in line with registered monitoring plan. Baseline emissions are calculated as follows: $BE_y = EG_{PJy} \times EF_{grid,CM,y}$ BE_y - baseline emissions in year y (tCO₂) EG_{PJy} – Quantity of electricity that has been displaced by the project activity (MWh) $EF_{grid,CM,y}$ - Combined Margin CO₂ emission factor in year y (Where $EG_{PJy} = EG_{facilityy}$) $EG_{PJy} = 8,263,535.8856 \text{ MWh}$ $EF_{grid,y} = 0.9678 \text{ tCO}_2/\text{MWh}$ $BE_y = 8,263,535.8856 \text{ MWh} \times 0.9678 \text{ tCO}_2/\text{MWh}$ $= 8,7,997,421 \text{ tCO}_2$ (rounded down value after rounding down each year’s energy delivered to the grid) As per applied methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0^{/7/} and the registered VCS PD^{/1/}, project emission is considered zero as the project activity involved hydro power generation. Leakage: As per applied methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 16.0^{/17/} and VCS PD^{/1/} Leakage emissions are not considered for the project activity. Hence, $ER_y = BE_y - PE_y - Ly$
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	= 7,997,421 tCO₂ – 0 - 0 = 7,997,421 tCO₂e Verification team confirms that The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD and the applicable deviations. The methods and formulae set out in the project description for calculating baseline emissions have been followed (the project emissions and leakage are not applicable for this project). The default values (grid emission factor) used in the monitoring report are in line with the PD. The quality of external backup evidences was satisfactory (refer section 4.5 below for details) The manual transfer of the “EGPJ,y” can be deemed as accurate after addressing all the errors as identified under CAR 06. Assessment team confirmed that the GHG emission reductions and removals have been quantified correctly in line with the registered VCS PD It is confirmed that overall GHG emission reductions and removals have been quantified correctly in accordance with the project description, deviations and applied methodology (refer closure of all the raised findings).
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4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Monitored Parameters

- a) Quantity of net electricity generation supplied by the project plant/unit to the grid in year y;
EGPJ,y;MWh

Parameter	EGPJ,y (MWh)	
	Criteria / Requirements	Assessment / Observations
Means of verification	Measuring / Reading / Recording frequency	The parameter is continuously measured and monthly recorded.
	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 is outlined in the registered PD ^{01/} a monitoring methodology ^{07/} .
	Monitoring equipment	EGExport,y is measured using Tri-vector Energy Meters of 0.2s accuracy class.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring	Yes.

	equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the calibration results confirmed the operation of the installed meters employed for the monitoring operating within allowable accuracy limits
	Calibration frequency /interval:	Once in 5 years
	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, pending until the findings are closed or as per the manufacturer's specifications?	No, The details of the monitoring equipment's calibration frequency have been provided under the respective parameter heads.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by a certified agency ^{14/} .
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of all energy meters were done on 05-05-2016 and calibration certificates ^{14/} at the time of commissioning was not available, thus delay in calibration is considered and error factor is applied for until the calibration date. For details pertaining to calibration please refer para "Calibration" Section 4.5 of this report.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, the details of the calibration of monitoring equipment's calibration frequency have been provided under the respective parameter heads.
	How were the values in the monitoring report verified?	The monthly reported data was cross-checked, with the Weekly Deviation Settlement Account Document ^{11/} and the data was found comparable. The value obtained for the parameter is 8,263,535.8856 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported data is issued by the NHPC declares available Hydel power plant capacity on NRPC website (http://164.100.60.165/) by punching in data on a daily basis.. Thus, reported data can be cross checked by visiting the website.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system is transparent and reliable. The values are manually transferred from the Weekly Deviation Settlement Account

		Document ^{/11/} and calibrations are performed regularly.
	In case project participants 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	No findings.	
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^{/07/}. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The implementation of the project is as per the registered VCS PD which was confirmed by the verification team. The emission reduction calculation for the project activity is estimated based on the electricity generated by the hydropower plant. and result in 7,997,421 tCO₂e of emission reductions.	

- b) Quantity of Electricity exported by the project to the grid at project site switch yard in year y;
EG_{Export,y}; MWh

Parameter	EG _{Export, y} (MWh)	
Means of verification	Criteria / Requirements	Assessment / Observations
	Measuring / Reading / Recording frequency	The parameter is continuously measured and monthly recorded.
	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 registered VCS PD ^{/01/} and the applied monitoring methodology ^{/07/} .
	Monitoring equipment	EG _{Export,y} is measured using Tri-vector Energy Meters of 0.2s accuracy class.
	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?	Yes.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the calibration results confirmed the operation of the installed meters employed for the monitoring operating within allowable accuracy limits.
	Calibration frequency /interval:	Once in 5 years
	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, pending until the findings are closed or as per the manufacturer's specifications?	No, The details of the monitoring equipment's calibration frequency have been provided under the respective parameter heads.

	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by a certified agency ^{/14/} .
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of all energy meters were done on 05-05-2016 and calibration certificates ^{/14/} at the time of commissioning was not available, thus delay in calibration is considered and error factor is applied for until the calibration date. For details pertaining to calibration please refer para "Calibration" Section 4.5 of this report.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, the details of the calibration of monitoring equipment's calibration frequency have been provided under the respective parameter heads.
	How were the values in the monitoring report verified?	The monthly reported data was cross-checked, with the Weekly Deviation Settlement Account Document ^{/11/} and the data was found comparable. The value obtained for the parameter is 8,273,956.1613 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported data is issued by the NHPC declares available Hydel power plant capacity on NRPC website (http://164.100.60.165/) by punching in data on a daily basis. Thus, reported data can be cross checked by visiting the website.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system is transparent and reliable. The values are manually transferred from the Weekly Deviation Settlement Account Document ^{/11/} and calibrations are performed regularly.
	In case project participants 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	No findings.	
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^{/07/}. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The implementation of the project is as per the registered PD which was confirmed by the verification team. The emission reduction calculation for the project activity is estimated based on the electricity generated by the hydropower plant. and result in 7,997,421 tCO₂e of emission reductions.	

- c) Quantity of Electricity imported by the project from the grid at interconnection point of the Regional Supply in year y; $EG_{import,y}$, MWh

Parameter	$EG_{import,y}$ (MWh)	
	Criteria / Requirements	Assessment / Observations
Means of verification	Measuring / Reading / Recording frequency	The parameter is continuously measured and monthly recorded.
	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 is outlined in the registered PD/ ^{01/} a monitoring methodology/ ^{07/} .
	Monitoring equipment	$EG_{Export,y}$ is measured using Tri-vector Energy Meters of 0.5s accuracy class.
	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?	Yes.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the calibration results confirmed the operation of the installed meters employed for the monitoring operating within allowable accuracy limits
	Calibration frequency /interval:	Once in 5 years
	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, pending until the findings are closed or as per the manufacturer's specifications?	No, The details of the monitoring equipment's calibration frequency have been provided under the respective parameter heads.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	No. Please refer the deviation 2 above. Highly conservative approach is applied to calculate this import data.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration records were not available. Hence, maximum error factor is applied. Kindly refer deviation -2 above..
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, the details of the calibration of monitoring equipment's calibration frequency have been provided under the respective parameter heads.
	How were the values in the monitoring report verified?	As per the deviation -2 described above, a highly conservative approach is applied by the PP to calculate this parameter data. The value obtained for the parameter is 10420.2758 MWh.
	If applicable, has the reported data been cross-checked with other available data?	Refer the above.

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Refer the above
	In case project participants 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	No findings.	
Conclusion	The parameter has been monitored appropriately, in accordance with the deviation 2 stated above and in the MR and applied methodology^{07/}. The implementation of the project is as per the registered PD which was confirmed by the verification team. The emission reduction calculation for the project activity is estimated based on the electricity generated by the hydropower plant. and result in 7,997,421 tCO₂e of emission reductions.	

This parameter is not applicable for the monitoring period as there was no import.

Parameters fixed ex ante

Values were taken from the PD. Refer corresponding assessment under section 4.4 of this report above.

Calibration

During the remote audit, the team visited the metering locations through the virtual tour using the internet. It was found that no meter has been replaced during the current monitoring period; therefore, there is no change in the accuracy class of the meters. The details of the equipment monitoring electricity exported have been provided below:

Sr. No.	Meter	Meter Identification Number	Meter Model & Make	Accuracy Class	Installation date	Calibration Date	Validity	Result
1.	Main meter Line 1	NP-7035-A	ER300P & L&T	0.2s	25-09-2013	05-05-2016 29-11-2019(For main meter feeder-2)	04-05-2021	Error within limit.
2.	Check meter Line1	NP-7074-A	ER300P & L&T	0.2s	25-09-2013		28-11-2024 (For main meter Feeder 2)	
3.	Main meter Line 2	NP-7067-A	ER300P & L&T	0.2s	25-09-2013			
		NP-3253-A	ALPHA A1640& ELSTER		29-11-2019			
4.	Check meter Line 2 2	NP-7007-A	ER300P & L&T	0.2s	25-09-2013			

It is to be noted these energy meters were installed during 2013 and thus there is no need to calibrate them for 5 years i.e. until 2018. However, PP has applied the error from the start date of monitoring period until the calibration date as there is no calibration record available for the energy meters installed on 25-09-2013. Further, PP has ensured all the energy meters are calibrated during 2016 as stated above. In Line-2, the main meter was found faulty and replaced on 29-11-2019. All the calibration records were provided by the PP were reviewed and found that the error is within the permissible limit. Thus, the calibration covers the entire monitoring period.

4.6 Non-Permanence Risk Analysis

This is not relevant for this project as it is not a AFOLU project.

5 VERIFICATION OPINION

Applus+ Certification has been engaged by NHPC Limited to perform the verification of the “Uri II Hydroelectric Project.” The management of project participant/owner is responsible for the preparation of the GHG emissions data and the reported/estimated GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the VCS PD/^{1/} and MR/^{3/}, ^{4/} and the approved methodology ACM0002: Grid-connected electricity generation from renewable sources — Version 16/^{7/}

Our Verification approach was based on the requirements as defined under the Kyoto Protocol/^{23/}, Marrakesh accord, as well as those defined by the CDM Executive Board and VCS standard, version 4.5. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- The project is operated as planned and described in the project document;
- The monitoring plan is as per the applied methodology;
- The monitoring process in Monitoring Report/^{3/}, ^{4/} is as per the PD/^{1/} and the applied deviation;
- The development and maintenance of records and reporting procedures are in accordance with the Deviation request (for supporting documents) and monitoring plan (QA/ QC);
- The installed equipment being essential for generating emission reduction runs reliably; and is calibrated appropriately except delayed calibration is addressed in line with para 366 (a) of the “CDM validation and verification standard for project activities, Version 03”
- The monitoring system is in place and generates GHG emission reductions data;
- The GHG emission reductions are calculated without material misstatements.
- A reasonable level of assurance was achieved during the verification.
- No limitation observed for the present verification
- Project has been implemented in accordance with the project description and subsequently validated Deviations.

Monitoring period: From 29-09-2014 to 31-08-2020 (first and last date included).

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

Year	Baseline emissions or removals (tCO _{2e})	Project emissions or removals (tCO _{2e})	Leakage emissions (tCO _{2e})	Net GHG emission reductions or removals (tCO _{2e})
29-09-2014-- 31-12-2014	223,909	0	0	223,909
01-01-2015-- 31-12-2015	808,754	0	0	808, 754
01-01-2016-- 31-12-2016	1,386,484	0	0	1,386, 484
01-01-2017-- 31-12-2017	1,347,803	0	0	1,347, 803
01-01-2018-- 31-12-2018	1,311,081	0	0	1, 311, 081
01-01-2019-- 31-12-2019	1,653,119	0	0	1,653, 119
01-01-2020- 31-08-2020	1,266,233	0	0	1, 266,233
Total	7,997,421	0	0	7,997,421

The quantified emission reduction calculation for the monitoring period is correct and justified. Assessment team also compared actual VCUs with the estimated VCUs and found that the actual VCUs is 7,997,421 tCO_{2e} which is 28.66% higher than the estimated emission reduction 6,215,878 tCO_{2e}. Value is rounded down and provided in the in the table in the next page (1,048,427 tCO_{2e}/ 365 days x 2,164 days) during this monitoring period. The hydro power plant is “run off river.” The generation depends on the available head and the flow volume throughout the monitoring period. The changes are due to more water availability which is not in control of PP. It can be seen from above that the PLF is continuously fluctuating, initially it was lower than the estimation and later on there was an increase in PLF. Furthermore, it is also noted that the increasing PLF was also not uniform. The project activity is otherwise operated according to its description in registered PD^{1/} and no changes observed during the monitoring period.

It is to be noted as per the registered “As per the DPR prepared by third party the Generation is 1083.31 and an increase in the Generation by 31.71% over a period of 35 years consistently is highly unrealistic,” PP has provided a table showing the generation, PLF and PLF variance data from 2014-2022. From the

data evidence it is evident that increase in PLF was not more 31.71% for a period of 35 years. Further, the average PLF observed which is calculated from the actual generation for the duration 2014-2022 indicated that the PLF increase is not more than 31.71%. Thus, verification team is able to confirm that the increase in PLF does not have impact on the IRR and on the additionality of the project.

As per the approved VCS PD and IRR sheet, it was observed that the project lifetime is 35 years. The design PLF was stated as 51.53% for the project life time of 35 years in the approved VCS PD and IRR sheet. However, assessment team took into consideration of the PLF calculated from the actual generation data of 5 years which is 63.33% for the calendar years of the current monitoring period. It is to be noted, the achievable PLF is not under the control of PP as the Hydropower is intermittent, and unlike conventional (coal) power plants for the remaining life time of the project. Hence, assessment team opines, it is not appropriate to compare the actual generation data of 5 years to assess the additionality of the project. However, in order to demonstrate whether there is any possibility of crossing the benchmark, PP has applied the actual PLF calculated from the increased generation of the net electricity supplied to the grid for the current monitoring period. Further, PP also applied all the actual key parameters such as project cost, Tariff, O&M cost etc. and the relevant IRR sheet was submitted. It's assessment is provided in the below table:

Key input parameter	Value	Assessment
Plant Load Factor ^{/28/}	63.33%	The actual PLF achieved by the plant's current monitoring period was reviewed during the remote audit for the VCS project is from 29-Sep-2014 to 31-Aug-2020.
Actual Cost ^{/26/}	INR 2175.69 Cr.	Audited actual cost statement was provided in the publicly available document.
Tariff ^{/28/}	INR 4.43 / KWh	Average of the actual tariff values from the financial years 2014-15 to 2020-21 (The monitoring period is from 29-Sep-2014 to 31-Aug-2020). The same was confirmed after reviewing the 2 samples of invoices provided by the PP.
Loan Amount ^{/28/}	INR 1522.98 Cr.	Audited loan amount statement was provided in the publicly available document.
O&M Cost ^{/28/}	INR 32.64 Cr.	Audited O&M amount statement was provided in the publicly available document...

It is to be noted sensitivity analysis is not required as the actual values are applied to demonstrate the additionality of the project. Verification team has reviewed the revised MR & the IRR sheet and other key documents such as audited data on the total project cost, O&M cost and the loan etc. and confirm that the even after applying the actual values, the project IRR is not crossing the benchmark. Hence, assessment team is convinced that the project is additional.

Year	Ex-ante emissions reductions /removals	Achieved emissions reductions/removals	Percent difference (%)	Justification for the difference
29-09-2014-- 31-12-2014	270,005	223,909	-20.58	Overall, it is assessed the generation is high for the duration of the current monitoring period. This is due to high PLF of project activity due to water availability. It is to be noted, this is not under control of PP.
01-01-2015-- 31-01-2015	1,048,427	808,754	-29.63	
01-01-2016-- 31-01-2016	1,051,299	1,386,484	+24.17	As per the registered PD, "As per the DPR prepared by third party the Generation is 1083.31 MU and an increase in the Generation by 31.71% over a period of 35 years consistently is highly unrealistic".
01-01-2017-- 31-01-2017	1,048,427	1,347,803	+22.21	Hence, as per the registered VCS PD, to cross the benchmark, the generation values should not cross more than 31.71%.
01-01-2018-- 31-01-2018	1,048,427	1,311,081	+20.03	However, during this monitoring period, the increment in energy generation is 28.66% which does not effect the Project IRR. Thus, it does not affect the additionality of the project.
01-01-2019-- 31-01-2019	1,048,427	1,653,119	+36.58	Based on the above, assessment team is of the opinion that the achieved emission reductions are realistic and acceptable.
01-01-2020-- 31-08-2020	700,866	1,266,271	+44.65	
Total	6,215,878	7,997,421	+28.66	

APPENDIX 1: REFERENCES

Sr. No.	Title of Document	Version	Date																	
1.	Registered VCS PD	5.0	31-10-2015																	
2.	VCS Validation Report	03	28-12-2015																	
3.	VCS Monitoring Report	1.0	24-01-2023																	
4.	VCS Monitoring Report	6.2	25-07-2024																	
5.	VCS ER spreadsheet (corresponding to the final monitoring report)	6.0	27-02-2024																	
6.	VCS website for project information https://registry.verra.org/app/projectDetail/VCS/1424	-	-																	
7.	ACM0002: 'Grid-connected electricity generation from renewable sources' Methodology	16.0	-																	
8.	<u>VCS standard, version 4.5.</u> <u>VCS Program Guide, v4. 4</u>	4.5 4.4	-																	
9.	Power Purchase Agreement	-	-																	
10.	Commissioning certificates for the project activity confirming below schedule <table border="1"> <tr> <th>Unit No.</th><th>Turbine Capacity</th><th>Location</th><th>Commissioning Date</th></tr> <tr> <td>i.</td><td>60 MW</td><td rowspan="4">Uri, Baramullah, J&K</td><td>25-09-2013</td></tr> <tr> <td>ii.</td><td>60 MW</td><td>16-11-2013</td></tr> <tr> <td>iii.</td><td>60 MW</td><td>27-09-2013</td></tr> <tr> <td>iv.</td><td>60 MW</td><td>02-02-2014</td></tr> </table>	Unit No.	Turbine Capacity	Location	Commissioning Date	i.	60 MW	Uri, Baramullah, J&K	25-09-2013	ii.	60 MW	16-11-2013	iii.	60 MW	27-09-2013	iv.	60 MW	02-02-2014	-	-
Unit No.	Turbine Capacity	Location	Commissioning Date																	
i.	60 MW	Uri, Baramullah, J&K	25-09-2013																	
ii.	60 MW		16-11-2013																	
iii.	60 MW		27-09-2013																	
iv.	60 MW		02-02-2014																	
11.	Weekly Deviation Settlement Account statements for the project activity for the current monitoring period.	-	-																	
12.	Monthly generation report issued by NHPC Limited.	-	-																	
13.	Procedure of obtaining Weekly Deviation Settlement Account statements.	-	-																	
14.	Calibration certificates for the export meters used in the current monitoring period.	-	Refer Section 4.4 of this report.																	

15.	CEA database, Version 14, December 2018; https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver14.pdf	-	For the entire monitoring period.
16.	General project information http://www.nhpcindia.com/Default.aspx?id=186&lg=eng&CatId=1&ProjectId=14	-	For the entire monitoring period.
17.	For verification of Deviation Settlement Account. https://cercind.gov.in/2014/regulation/noti132.pdf	-	For the entire monitoring period.
18.	CDM Validation and Verification Standard (VVS)	3.0	For the entire monitoring period.
19.	Electricity Import data certified by state electricity board.(not available for February 2017 to April 2018, March, April, and June 2020)	-	For the monitoring period.
20.	Central Electricity Regulation Commission Notification No. L-1/132/2013/CERC http://www.cercind.gov.in/2014/regulation/noti132.pdf	-	Last accessed on 22/05/2018
21.	Last Issuance https://registry.terra.org/app/projectDetail/VCS/1424	-	-
22.	Deviation Settlement Account	-	-
23.	Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1	-	-
24.	Verification contract between the LGAI and the PP for the monitoring period 29-09-2014 to 31-08-2020	-	-
25.	Interviews between the PP and the Assessment Team (Telephonic, Video Conferencing and Email as applicable)	-	-
26.	Revised petition for determination of final tariff for the period 11-10-2013 to 31-03-2014 which is the basis for increased for the following years that are part of the current monitoring period https://www.nhpcindia.com/assesses/Tariff_Ptition/tariff_petition_Uri_II_E.pdf This contains the information of the actual project cost and O&M cost of the project.		07-08-2018
27.	Tariff extension acceptance letter until 30-04-2019.		26-04-2019

	https://cercind.gov.in/2019/technical_validation/279-GT-2018-26-04.pdf https://www.nhpcindia.com/welcome/page/108 is reviewed to confirm the following statement: * Tariff of FY 2018-19 shall be applicable for billing purpose till tariff order for period 2019-24 are issued by CERC. Sample invoices to confirm the tariff for years 2017-18 and 2018-19.		Accessed on 30-07-2024
28.	IRR sheet-With DPR values IRR sheet- With actual values		

APPENDIX 2: VERIFICATION FINDINGS

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

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

Table 2. CL from this verification

CL ID	01	Section No.	1.3	Date: 20/04/2023
Description of CL				
As per VCS PD section 1.3, the contact information is relating to the Executive Director, R&D Division, NHPC Limited Sector-33, Faridabad 121 003 Haryana, India Fax: +91-129-2271405 However, the stated information in section 1.3 of the submitted MR. Clarification is required.				
Project participant response				Date: 16/05/2023
The contact information in the section 1.3 of the submitted MR has been revised.				
Documentation provided by project participant				
The revised MR is submitted as Annex 1.				
DOE assessment				Date: 20/05/2023
Received the revised MR and found the contact information consistent. FINDING IS CLOSED.				

CL ID	02	Section No.	4.3	Date: 20/04/2023
Description of CL				
PP is required to clarify the below:				
1. Meter Serial No.: NP7043A, NP7045A, NP7046A, NP7047A are included in the submitted calibration certificates document "Annex-II". For the sake of transparency and completion, PP is required to clarify the role of these meters in this Project.				
2. From the provided documents, it is evident that calibration of the energy meters was completed on 05/05/2016. However, the calibration status of these meters since the installation date is not clear.				
3. For the sake of transparency, PP is also required to clarify whether there is any change in the installed energy meters since the commissioning date. Meter Number: NR 3253-A for Line 2 visible in the submitted photograph, clarification is required if the installed meters got replaced. Date of replacement, reason of failure and its impacts of the baseline emissions shall be justified.				

4. The Meter Numbers mentioned in “Details of Special Energy Meters installed at Uri-II Power Station” (in the submitted photograph) for Unit 1, Unit 2, Unit 3, Unit 4 are not provided in the MR. 5. A metering diagram is not provided in the monitoring plan. Hence, PP is required to provide a diagram of the installed energy meters in section 4.3 of the MR.	
Project participant response	Date: 16/05/2023
1. The role of meters is mentioned in the Appendix I of the revised MR. The four meters are used for the reading the net energy generated from the plant. Two meters are used for Line 1 (Main and Check) and two meters for Line 2(Main and Check). 2. The meters were installed on 25/09/2013 and the calibration after the installation was done on 05/05/2016. Hence, the first calibration done for the meters i son 05/05/2016. 3. There was a change in energy meter in Line 2. The meter number N-7067-A has been replaced by meter number N-3253-A due to the meter being faulty. Since, the meters are under the control of PGCIL, they have replaced the faulty meter with the new meter. As the new meter data has been found correct and in line with the previous readings, there is no impact on the baseline emissions of the Project. The details of the same has been submitted as Annex 3. 4. Since the meters for Unit 1, 2, 3 and 4 are not used for the final net generation value and billing does not happen on the above said meters, the details have not been included in the MR. The metering diagram has been included in the section 4.3 of the revised MR.	
Documentation provided by project participant	
1. The meter changing certificate is submitted as Annex 3. 2. The revised MR is submitted as Annex 1.	
DOE assessment	Date: 20/05/2023
1. By reviewing the explanation of the PP, the role of the reported meters NP7043A, NP7045A, NP7046A, NP7047A and corresponding calibration certificates. 2. The dates of meter installation and calibration dates of meters are checked and found consistent. 3. Annex 3 is missing in the submission. 4. Explanation is accpeted. What about the import electricity for colony that was considered in the earlier issuance. 5. The metering diagram of installed energy meters have provided in the monitoring plan which have checked and found consistent. Please clarify regarding the import meters. FINDING IS KEPT OPEN.	
Project participant response	Date: 29/05/2023
1. The meters with serial numbers NP7043A, NP7045A, NP7046A and NP7047A are placed at the four generators 1, 2, 3 and 4 respectively to measure energy generated at the generating point. These meters do not measure the net energy supplied to the grid, so the details are not provided in the MR. 3. Annex 3 (Meter change certificate) is submitted. 4. The proposed project activity consumes electricity from DG sets for auxiliary and emergency purposes and hence there is no actual import from the grid as mentioned in the VCS PD. However, these regional supply lines are used for colony purpose only. Though this colony is not part of the project boundary., PP has considered the electricity import of colonies as a conservative purpose. The project activity involves DG set for auxiliary requirements during emergency purposes and there is no any grid import for the project activity. Thus, value of grid import parameter is zero for the project activity. Thus, a deviation is requested for the no grid import for project activity. Hence, the details of import meters have not been included in the MR.	
DOE assessment	Date: 30/05/2023
1. Explanation is accpeted. 3. Found the Annex 3 in the submission. 4. Explanation is accpeted for import electricity for colony and details of the import meter. FINDING IS CLOSED.	

Table 3. CAR from this verification

CAR ID	01	Section No.	1.1	Date: 20/04/2023
Description of CAR				
- Website information is not included in the title page. - The section 1.1 of MR lacks the tabular details of the audit history of the project. Refer requirement from monitoring template which is reproduced as below: “Using the table below, include the audit history of the project. For the project validation, state the validation date in the Period column. This table should include all monitoring periods, including the period of this monitoring report.”				
Project participant response				Date: 16/05/2023
- The telephone number, email and website information has been provided in the title page. - The section 1.1 of the MR has been revised and the tabular details of the Audit history of the Project has been included.				
Documentation provided by project participant				
The revised MR is submitted as Annex 1. The revised ER sheet is submitted as Annex 2.				
DOE assessment				Date: 20/05/2023
- The telephone number, email and website information is found consistent in the submitted revised MR. - The section 1.1 of the revised MR contains the Audit history of the Project. FINDING IS CLOSED.				

CAR ID	02	Section No.	1.6 and 3.1	Date: 20/04/2023
Description of CAR				
Under section 1.6 of MR, information about renewal of crediting period and its type is missing. During the remote audit, it was understood coffer dam are used only during the construction stage and not in the operation stage. Hence, it shall be excluded as it is not existing during the project operation stage in section 3.1 of the MR.				
Project participant response				Date: 16/05/2023
The section 1.6 of the MR has been revised and the details of renewal of crediting period and its type have been included. The details of coffer dams have been removed from the section 3.1 of the MR.				
Documentation provided by project participant				
The revised MR is submitted as Annex 1.				
DOE assessment				Date: 20/05/2023
The details of renewal of crediting period and its type have included in revised MR. The details of coffer dams have removed in revised MR also checked and found correct. FINDING IS CLOSED.				

CAR ID	03	Section No.	1.7	Date: 20/04/2023
Description of CAR				
- Refer section 1.7 of MR, the Latitude and Longitude Range mentioned in MR is inconsistent with the registered PD. - Breakdown information during 2019 and 2020 are not included in the Appendix II.				
Project participant response				Date: 16/05/2023
- The latitude and longitude range has been corrected in the section 1.7 of the MR in line with the registered PD. - There are no major breakdowns in the year 2019 and 2020 and hence, the breakdown details have not been included.				
Documentation provided by project participant				
The revised MR is submitted as Annex 1.				
DOE assessment				Date: 20/05/2023
- The latitude and longitude range has checked and is consistent and in the section 1.7 of the MR and in line with the registered PD. - Explanation is accepted. FINDING IS CLOSED.				

CAR ID	04	Section No.	1.11	Date: 20/04/2023
Description of CAR				
- The project proponent shall demonstrate that a project contributes to at least three SDGs by the end of the first monitoring period, and in each subsequent monitoring period. Refer: "Project requirement para 3.17: Sustainable Development Contributions" - The section 1.11 of MR does not demonstrate the below for the current project contributions provided in the disclosure under table 1 Sustainable Development Contributions: 11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operates regularly and democratically 6.b.2 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management. 6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management 3.b.1 Proportion of the target population covered by all vaccines included in their national programme 3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis 4.3.1 Participation rate of youth and adults in formal and nonformal education and training in the previous 12 months, by sex. 3.b.1 Proportion of the target population covered by all vaccines included in their national program - The evidence of the project's SD contributions is not included under appendices to submitted MR and provide the relevant documents.				
Project participant response				Date: 16/05/2023
- The demonstration of contribution to SDGs has been included in the section 1.11 of the revised MR. - The SDG activities corresponding to the current monitoring period only have been taken into consideration and the section has been revised accordingly. - The evidence of the project's SD contributions has been included in the Appendix III of the revised MR.				
Documentation provided by project participant				

DOE assessment	Date: 20/05/2023
1. The demonstration of contribution to SDGs is included in the section 1.11 of the revised MR. 2. Table 1 of the Section 1.11 of the revised MR contains the Sustainable Development Contributions for the current monitoring period. However, the number of persons that are going to benefited by the activity "Access to quality affordable and essential healthcare" in SDG Target 3.8 are not appropriate according to the calculation i.e., $400 \times 5 = 7000$. 3. The evidences of the CSR projects conducted are available on the web link provide in Appendix III. FINDING IS KEPT OPEN.	
Project participant response	Date: 29/05/2023
The table 1 of the Section 1.11 has been revised with the correct numbers. The revised MR is submitted as Annex 1.	
DOE assessment	Date: 30/05/2023
2. The calculation in Table 1 of the Section 1.11 of the MR contains the Sustainable Development Contributions for the current monitoring period. The number of persons that are going to benefited by the activity "Access to quality affordable and essential healthcare" in SDG Target 3.8 are found appropriate in the submitted revised MR. FINDING IS CLOSED.	

CAR ID	05	Section No.	2	Date: 20/04/2023
Description of CAR				
Refer section 2 of MR, as per the latest VCS Standard version 4.4, para 3.18.1, requirement is produced as below. <i>Note – Where a project has previously certified to the CCB or SD VSta Program, but is completing a VCS Program verification without also completing a CCB or SD VSta Program verification for the same verification period, the project proponent shall demonstrate conformance with the requirements set out in this Section 3.18. Compliance is missing.</i> As per para 3.18.4 of the latest version of the VCS standard, “ <i>The project proponent shall establish mechanisms for ongoing communication with local stakeholders to allow stakeholders to raise concerns about potential negative impacts during project implementation”.</i> Hence, PP is required to update section 2.2 of the MR.				
Project participant response				Date: 16/05/2023
<i>As the Project has not been previously certified to the CCB or SD VSta Program verification, the conformance to section 3.18 of the VCS Standard version 4.4 is not applicable to the Project.</i> <i>The PP has established mechanisms for ongoing communication with local stakeholders, and the same has been updated in the section in the revised MR.</i>				
Documentation provided by project participant				
<i>The revised MR is submitted as Annex 1.</i>				

DOE assessment	Date: 20/05/2023
Explanation is accepted.	
FINDING IS CLOSED.	

CAR ID	06	Section No.	2	Date: 20/04/2023
Description of CAR				
While carrying out consistency check between MR and ER Worksheet (ER Sheet URI.xlsx) following inconsistencies observed:				
a) Inconsistency between MR and ER Worksheet				
1. Net electricity supplied to the NEWNE regional grid (EG _{PJ,y}) calculated is inconsistent				
EG _{PJ,y} calculated in MR		EG _{PJ,y} in ER Worksheet (E15 cell, ER Year-wise tab)		
9026793.0382		8936525.1079		
2. Date of Issue “24/01/2023” in MR is inconsistent with date “23/11/2021” (D-3 cell of ER Sheet tab “ER Sheet.”				
a) Reported energy generation data in the ER sheet is not found consistent with the generation data sheet for the below stated dates/duration:				
1. 20-06-2015				
2. 8-12-2017 to 24-12-2017				
3. 24-09-2019 to 30-09-2019				
4. 16-12-2019 to 22-12-2019				
5. 24-06-2020 to 30-06-2020				
b) Inconsistencies in Actual Generation values between ER Sheet and Annex 1 Generation Data, request to update.				
c)				
Monitoring Period		Actual Generation (MU) in ER Sheet	Actual Generation in Annex 1 Generation Data	
From	To			
29/05/2016	30/05/2016	48.19619	48.19691	
22-07-2018	23-07-2018	57.06706	57.06709	
23-09-2018	24-09-2018	140.99669	34.02928	
24-09-2018	25-09-2018	55.78332	32.08309	
25-09-2018	26-09-2018	59.31689	31.71327	
26-09-2018	27-09-2018	-5.36485	35.05854	
27-09-2018	28-09-2018	2.4327	33.71127	
28-09-2018	29-09-2018	-146.45286	33.12873	
26-09-2018	27-09-2018	-5.36485	35.05854	
27-09-2018	28-09-2018	2.4327	33.71127	
28-09-2018	29-09-2018	-146.45286	33.12873	
29-09-2018	30-09-2018	-65.96755	32.73818	
15-12-2019	16-12-2019	753.27887	53.81073	

d) Actual Generation data is not provided for the below stated duration:	
29/09/2014 to 30/09/2014 01/10/2014 to 31/10/2014 01/11/2014 to 16/11/2014 17-09-2018 to 23-09-2018 03-02-2020 to 09-02-2020 09-03-2020 to 15-03-2020	
Project participant response	Date: 16/05/2023
1) The inconsistencies between MR and ER sheet have been corrected and updated in the revised MR and ER sheets. 2) The date of issue has been updated in both MR and ER sheet. - The generation data for the given dates has been corrected in MR and ER sheet. - The generation data for the given dates has been corrected in MR and ER sheet - The generation data is provided as Annex 4.	
Documentation provided by project participant	
- The revised MR is submitted as Annex 1. - The revised ER sheet is submitted as Annex 2. - The generation data is submitted as Annex 4.	
DOE assessment	Date: 20/05/2023
Refer Submitted Excel Sheet: Annex 2 - ER Sheet-URI Ver2_20.05.2023	
FINDING IS KEPT OPEN.	
Project participant response	Date: 29/05/2023
- The value has been changed in the Annex 2 - ER Sheet-URI Ver2_20.05.2023. The revised ER sheet is submitted as Annex 2. - The generation data is submitted as Annex 4.	
DOE assessment	Date: 30/05/2023
The values in the submitted Annex 2 - ER Sheet-URI Ver2_20.05.2023 and the submitted generation data is found consistent.	
FINDING IS CLOSED.	

Table 4. FAR from this verification

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

APPENDIX 3: COMPETENCY STATEMENT

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection ²	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	EI	Meesa	Srikanth	Applus+ Certification	Yes	Yes	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR)	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

Mr. Srikanth Meesa is a climate change professional with more than 18 years of experience in the fields of climate change, GHG auditing, carbon footprint assessments, water and energy audits, scope-3 emissions, net zero strategies, sustainability & ESG sectors and water and wastewater treatment sectors. He has completed his masters in Environmental Engineering & Management from I.I.T Delhi and Bachelors in Civil Engineering from Osmania University. Furthermore, he has extensive experience i.e., more than 16 years on the auditing of CDM, VERRA, GS, JCM projects of various sectoral scopes across the world. He has worked with reputed certification bodies such as TUV NORD, DNVGL, TUV SUD and LR. He also has consulting experience on sustainability reports & road-maps, stakeholder consultation and LCA studies while

² Remote Assessment was performed.

working at Thinkstep (Now called Sphera). Currently, he is associated with Global Green Solutionz and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes. Mr. Srikanth Meesa is based at Hyderabad, India. Mr. Srikanth Meesa participate in the project's audit team.

Mr. Simon Shen: Mr. Simon Shen (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD for 3.5 years before he joined Applus+. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager. Mr. Simon Shen is based in Shanghai, China.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CL	Clarification Request
CO ₂	Carbon dioxide
DOE	Designated Operational Entity
DSA	Deviation Settlement Account
ERDA	Electrical Research and Development Association
FAR	Forward Action Request
GHG	Green House Gas
JMR	Joint Meter Reading
MR	Monitoring Report
MW	Megawatt
MWh	Megawatt-hour
NHPC	National Hydroelectric Power Corporation
NRLDC	Northern Regional Load Despatch Centre
NRPC	Northern Region Power Committee
NEWNE	Northern Eastern Western North-Eastern
PD	Project Description
PGCL	Power Grid Corporation Limited

PP	Project Proponent
PPA	Power Purchase Agreement
QA/QC	Quality Assurance and Quality Control
SEM	Special Energy Meter
tCO_{2e}	tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 5: DECLARATION BY PP



एन एच पी सी लिमिटेड
(भारत सरकार का उद्यम)
NHPC Limited
(A Government of India Enterprise)

फोन/Phone : _____

संदर्भ सं./Ref. No. : NH/EDM/VCS/385

दिनांक/Date : 11.05.2023

TO WHOMSOEVER IT MAY CONCERN

This declaration is in reference to the VCS Project activity titled **URI II HYDROELECTRIC PROJECT** for the monitoring period of 29-September-2014 to 31-August-2020.

In line to the above-mentioned details, **NHPC Limited**, hereby declares that we are not going to claim same GHG emission reductions of the project from different GHG programs for the current monitoring period of 29-September-2014 to 31-August-2020.

The project activity has not been rejected by any other GHG program.

The project activity has not created any form of environmental credits for the given monitoring period other than voluntary emission reductions.

Project ownership and the right to use as per the VCS compliance rest with NHPC Limited.

Also, it is to be noted that, NHPC Limited would not use net GHG emission reductions by this project for compliance with emission trading program to meet binding limits on GHG emissions.

For NHPC Limited,

Name: - 
(Avinash Kumar)

Designation: - **महाप्रबंधक (पर्यावरण)**
General Manager (Environment)
एन एच पी सी लिमिटेड / NHPC Limited
(भारत सरकार का उद्यम / A Govt. of India Enterprise)
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