Verification Report for Carbon Offset Units (CoUs) for Project (UCR ID Number: 079)

Title: "4 MW Small Scale Hydro Power project by M/S USP Hydro Energy Pvt. Ltd."



Project Owner details:

M/S USP Hydro Energy Pvt. Ltd.,

Highway Building. Main Bazzar, Ner Chowk, Distt. Mandi (H.P) 175008, India.

Submitted by:

Naturelink Solutions Pvt Ltd

Approved Verifier, UCR

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COVER PAGE Project Verification Report Form (VR) BASIC INFORMATION Name of approved UCR Project Verifier / Reference Mr. Arjun K Vyas No. (Lead Verifier) **Type of Accreditation** ☐ CDM Accreditation ☐ ISO 14079 Accreditation □ UCR Approved Verifier Approved UCR Scopes and GHG Sectoral scopes for Sectoral Scope: 01 Energy **Project Verification** Industries 27/04/2022 onwards Validity of UCR approval of Verifier 27/04/2022 Completion date of this VR 4 MW Small Scale Hydro Title of the project activity Power project by M/S USP Hydro Energy Pvt. Ltd. **Project reference no.** (as provided by UCR Program) 079 M/S USP Hydro Energy Pvt. Name of Entity requesting verification service Ltd. (can be Project Owners themselves or any Entity having authorization of Project Owners, example aggregator.) Contact details of the representative of the Entity, Creduce Technologies Private requesting verification service Limited-(Focal Point assigned for all communications) Address: 2-O-13,14 Housing Board Colony, Banswara, Rajasthan - 327001, India. Country where project is located India **Applied methodologies** AMS-I.D.: "Grid connected renewable electricity (Approved methodologies by UCR Standard used) generation", version 18 **Project Verification Criteria: UCR Standard** \boxtimes \boxtimes Mandatory requirements to be assessed Applicable Approved Methodology Applicable Legal requirements /rules of host country

	Eligibility of the Project Type
	Start date of the Project activity
	Others (please mention below)
Project Verification Criteria:	
Optional requirements to be assessed	Safeguards Standard and do- no-harm criteria
	Social Safeguards Standard do-no-harm criteria
Project Verifier's Confirmation: The UCR Project Verifier has verified the UCR project activity and therefore confirms the following:	The UCR Project Verifier Arjun K Vyas, certifies the following with respect to the UCR Project Activity "4 MW Small Scale Hydro Power project by M/S USP Hydro Energy Pvt. Ltd."
	The Project Owner has correctly described the Project Activity in the Project Concept Note (dated 19/01/2022) including the applicability of the approved methodology A.M.S.I. D and meets the methodology applicability conditions and has achieved the estimated GHG emission reductions, complies with the monitoring methodology and has calculated emission reductions estimates correctly and conservatively.

	The Project Activity is likely to generate GHG emission reductions amounting to the estimated 33,972 TCO _{2e} , as indicated in the PCN, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable UCR rules, including ISO 14064-2 and ISO 14064-3.
	☐ The Project Activity is not likely to cause any net-harm to the environment and/or society
	The Project Activity complies with all the applicable UCR rules and therefore recommends UCR Program to register the Project activity with above mentioned labels.
Project Verification Report, reference number and date of approval	Verification Report UCR Project ID: 079
	Date: 27/04/2022
Name of the authorised personnel of UCR Project Verifier and his/her signature with date	Arjun K Vyas
	Independent of GHG Auditor Gandhinager

Project Verification Report

A. Executive Summary

The verification work has been contracted by project aggregator Creduce Technologies Pvt Ltd to perform an independent verification of its UCR project titled "4 MW Small Scale Hydro Power project by M/S USP Hydro Energy Pvt. Ltd. UCR approved project ID:079, to establish number of CoUs generated by project over the crediting period from 17/10/2019 to 31/12/2021 (both days included).

Verification for the period : 17/10/2019 to 31/12/2021

In my opinion, the total GHG emission reductions over the crediting / verification period stated in the Monitoring Report (MR), submitted to me is found to be correct and in line with the UCR guidelines.

The GHG emission reductions were calculated on the basis of UCR Protocols which draws reference from, Standard Baseline, AMS. I. D - Grid connected renewable electricity generation (Version 18.0). Owing to the Covid pandemic, the verification was done remotely by way of video calls, phone calls and submission of documents for verification through emails.

I am able to certify that the emission reductions from the 4 MW Small Scale Hydro Power project by M/S USP Hydro Energy Pvt. Ltd. UCR (UCR ID – 079) for the period 17/10/2019 to 31/12/2021 amounts to 33,972 CoUs (33,972 tCO2eq).

Scope

The scope of the verification is the independent, objective review and ex post determination of the monitored reductions in GHG emission by the project activity.

- 1. The quality of data management and records of underlying data;
- 2. Completeness and accuracy of calculations and baseline emission reports;
- 3. Proper inclusion and documentation of all project locations.
- 4. Correct application of offset rules for filling Baseline Period data gaps;
- 5. Other data, methods and procedures deemed necessary to establish the accuracy of emission reductions.
- 6. Agreement stating Assurance to avoid double accounting for the project to be verified, along with required proof.

The project is assessed against the requirements of the UCR programme verification Guidance Document, UCR Standard, UCR Programme Manual and related rules and guidelines. Due professional care has been exercised and ethical conduct has been followed by the assessment team during the verification process. The verification report is a fair presentation of the verification activity. The validation of project is not part of present assignment and projects deemed validated post registration by UCR.

Description of the Project

As described in the Project Concept Note (PCN), the project activity involves hydro project of installed capacity of 4 MW at Balh village of Mandi district respectively. The details of the project activity are verified with the project report copy submitted for verification.

As mentioned in the Monitoring Report and Emission Reduction Calculation sheet submitted for the verification, the project replaces anthropogenic emissions of greenhouse gases

(GHGs) estimated to be approximately 33,972 tCO2e for the said period under verification, there on displacing 37,746 MWh amount of electricity from the generation mix of power plants connected to the Indian electricity grid, which is mainly dominated by the fossil-fuel based power plant.

The project activity is a grid connected renewable energy generation project having capacity of less than 15 MW. The project is a small-scale activity. The methodology applied in the Monitoring Report is verified against the A.M.S I. D "Grid connected renewable electricity generation" version 18.0.

Verified total emission reductions achieved through the project activity during the monitoring period is summarised below:

Summary of the Project Activity and ERs Generated for the Monitoring Period		
Start date of this Monitoring Period	17/10/2019	
Carbon credits claimed up to	31/12/2021	
Total ERs generated (tCO2eq)	33,972 tCO2eq	
Leakage	0	

B. Project Verification team, technical reviewer and approver:

No.	Role	Last	First	Affiliation	Involvement in		in
		name	name		Doc review	Off-Site inspection	Intervie ws
1.	Team Leader	Vyas	Arjun	Lead Verifier	Yes	No	Yes
2.	Validator	Vyas	Arjun	Lead Verifier	Yes	No	Yes
3.	Technical Expert	Shah	Kalindi	Outsourced Entity	Yes	No	No

C. Means of Project Verification

Desk/document review

The project documents submitted to UCR approved verifier Mr. Arjun K Vyas was reviewed by the technical expert and validated by the verifier at Gandhinagar. The documents reviewed involves verification of legal status of individual project owner for consistency, project related documents like installation and commissioning of equipment used in project activity. Environmental clearances from state or central pollution control board Consent to establish and operate, monitoring related meters/parameters equipment measuring instruments and their calibration records, to establish running of equipment for the crediting period etc.

The PCN is made available to verifier post approval by UCR which is considered as validated documents and the content of validated PCN are considered as record wherever required. Further the communication agreement made between project owner and project aggregator is document of UCR registry hence the project aggregator is treated as authorized representative of project owner. All the documents submitted by project aggregator to verifier is treated as documents submission on behalf of project owner.

The list of submitted document is available in subsequent section of this verification report under section "Document reviewed or referenced"-section I.

On-Site inspection- Not applicable.

Date of inspectito DD/M	off-site on: DD/MM/YYYY IM/YYYY	Not applicable as per UCR guideline site visit not conducted this verification activity.		ducted for
No.	Activity performed Off-Site		Site location	Date
1.				

Interviews: Not applicable

As per UCR guideline the site visit was not conducted during the course of verification and no interview conducted.

No.	Interview		Date	Subject	
	Last name	First name	Affiliation		
1.					

Sampling approach:

For the verification of monitoring parameter of electricity generation Joint Metering Report was made available to verifier and the same has been verified. Data are being monitored on monthly basis. Since physical visit of installation site was not conducted, meter photos, calibration certificates and JMR copies are used for the verification.

Clarification request (CLs), corrective action request (CARs) and forward action request (FARs) raised

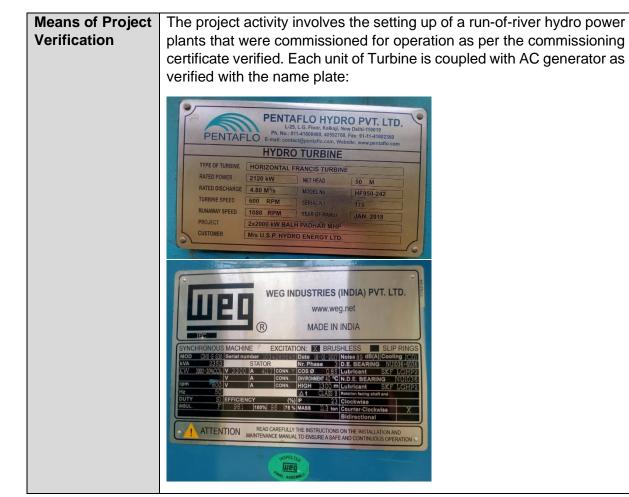
Areas of Project Verification findings	No. of CL	No. of CAR	No. of FAR
Green House Gas	(GHG)		
Identification and Eligibility of project type	NIL	NIL	NIL
General description of project activity	01	NIL	NIL
Application and selection of methodologies and			
standardized baselines			
 Application of methodologies and 	NIL	NIL	NIL
standardized baselines			
 Deviation from methodology and/or 	NIL	NIL	NIL
methodological tool			
 Clarification on applicability of 	NIL	NIL	NIL
methodology, tool and/or standardized			
baseline			
 Project boundary, sources and GHGs 	NIL	NIL	NIL
- Baseline scenario	NIL	NIL	NIL
 Estimation of emission reductions or 	NIL	NIL	NIL
net anthropogenic removals			
- Monitoring Report	01	NIL	NIL
Start date, crediting period and duration	NIL	NIL	NIL
Environmental impacts	NIL	NIL	NIL
Project Owner- Identification and communication	NIL	NIL	NIL
Others (please specify)	NIL	NIL	NIL
Total	02	NIL	NIL

D. Project Verification findings

Identification and eligibility of project type

Means of Project Verification	Project has taken reference of CDM methodology AMS-I D, version 18 Grid Connected Renewable Electricity Generation.
Findings	 Project activity is described through UCR approved PCN. UCR project communication agreement clearly defines the Project Proponent and Project Aggregator.
Conclusion	The UCR approved format is used for description and project meets the requirement of UCR verification standard and UCR project standard. UCR project communication agreement submitted to verifier and the same has been verified. Methodology referenced and applied appropriately describing the project type. The eligibility of project aggregator is verified using UCR communication agreement, Project correctly applies the verification standard, UCR project standard and UCR regulations. The project activity is overall meeting the requirements of UCR Verification standard and UCR project standard.

General description of project activity



	The power evacuation at the Substation is confirmed by Joint Meter Reading Report.
Findings	 Project Commissioning date is mentioned in the commissioning certificate. Turbine Capacity is same as mentioned in the name plate and technical specifications. Project implementation and sale of energy abide the power purchase agreement.
Conclusion	The description of the project activity is verified to be true based on the review of PCN, MR, Commissioning Certificate, Purchase Order Copies and Technical Specification sheet.

Application and selection of methodologies and standardized baselines

(.a.i) Application of methodology and standardized baselines

Means of Project Verification	Project has taken reference of CDM methodology A.M.S I.D. CDM website is referred to check the latest version of the methodology. For the applicability mentioned in the PCN and MR, Turbine Specification, Commissioning certificate, Detailed Project Report documents were referred.
Findings	The methodology applied is applicable for the project activity.
Conclusion	Methodology application is appropriate meeting the requirements of UCR and its standardized baseline. The methodology version is correct and valid. Referenced methodology is applicable to project activity.

(.a.ii) Clarification on applicability of methodology, tool and/or standardized baseline

Means of Project Verification	The documents reviewed are A.M.S I. D "Grid connected renewable electricity generation" version 18, UCR Program standard, and UCR Verification Standard.
Findings	Emission factor calculated using the methodology is higher than UCR standard recommends.
Conclusion	Methodology has not been applied "as it is" rather it is referenced. The emission factor considered for the calculation of the emission reductions is verified with the UCR Program Standard. The total installed electrical energy generation capacity of the project equipment does not exceed 15 MW thus meeting the requirement of small-scale project.

(.a.iii) Project boundary, sources and GHGs

Means of Project Verification	Letter from CPCB dated 07/03/2016 No. B-29012/ESS(CPA)/2015-16. PCN section B.4.
Findings	Project boundary is appropriately defined in PCN version 01 which is physical and geographical site of power house.
Conclusion	Project boundary is correctly defined in revised PCN version 01. GHG source correctly identified and reported. The project meets the requirements of UCR project standard, Verification standard and methodology requirements for boundary, GHG source.

(.a.iv) Baseline scenario

Means of Project Verification	PCN Section B.5 and General Project Eligibility Criteria and Guidance, UCR Standard.			
Findings	Declared information is correct and verified.			
Conclusion	Baseline scenario is appropriately described. The conservative or default value for emission considered. The baseline scenario is in accordance with UCR project verification standard and UCR project standard.			

(.a.v) Estimation of emission reductions or net anthropogenic removal

Means of Project Verification	Meter Calibration reports, Joint Meter Reading Reports, and General Project Eligibility Criteria and Guidance, UCR Standard, page 4.				
Findings	Declared information is correct and verified.				
Conclusion	Emission reductions are correctly calculated. The data used are eith monitored at plant. The instruments are calibrated and hence the emission reduction is reported correctly and meets the requirements UCR verification standard and UCR project standard.				

(.a.vi) Monitoring Report

Means of Project Verification	Meter Calibration reports, Joint Meter Reading Reports, and General Project Eligibility Criteria and Guidance, UCR Standard, page 4.					
	Energy meters installed at the site:					
	Main Meter:					



Check Meter:



Findings

Declared information is correct and verified.

Conclusion

Monitoring parameter as reported through MR adequately represents the parameters relevant to emission reduction calculation. The calibration report ensures the accuracy of data reported. The number of CoUs generation is calculated based on this accurately reported data. The calculation was done using excel sheet where all the parameters reported. The emission factor for electricity is as per UCR standard for electricity component. Based on monitoring and emission reduction calculations are correctly calculated and reported. The monitoring report meets the requirements of UCR project verification requirements.

Start date, crediting period and duration

Means of Project Verification	PCN and MR, Purchase order of Turbine and technical Specification sheet, Commissioning certificate, Detailed Project Report documents were referred.			
Findings	Declared information is correct and verified.			
Conclusion	The start date, crediting period and project duration reported correctly and this meets the requirements of UCR verification standard and UCR project standard.			

Positive Environmental impacts

Means of Project Verification	PCN				
Findings	Declared information is correct and verified.				
Conclusion	The positive environmental impact meets the requirement of UCR verification standard and UCR project standard.				

Project Owner- Identification and communication

Means of Project Verification	PCN, Communication Agreement, MR, Purchase order of Turbine, Commissioning certificate, Power Purchase Agreement.				
Findings	Declared information is correct and verified.				
Conclusion	Project owner identified through communication agreement signed between PP and PA. Equipment purchase order and commission verified. Also, legal document like Power Purchase Agreement clearly establishes the project owner. The identification and communication correctly meet the requirement of project verification and UCR project standard.				

Positive Social Impact

Means of Project Verification	Project has provided temporary employment to local people during its installation and commissioning. Also post commissioning some of people have employed permanently and local people were engaged leading to social financial benefit to surrounding. Overall social impact of project implementation is positive on the surrounding area.
Findings	
Conclusion	Project has overall positive social impact.

Sustainable development aspects (if any)

Means of Project	Not Applicable
Verification	
Findings	
Conclusion	The Project has capability to address SDG 7 Affordable and Clean Energy and SDG 13 Climate Action

E. Internal quality control:

- Due professional care has been taken while reviewing the submitted document.
- There is no conflict of interest as the verifier has no other engagement with either aggregator or project owner directly or indirectly.
- Verification team consists of experience personnel.
- Technical review is performed by experienced and independent person.

F. Project Verification opinion:

Considering the above mentioned verification conducted on the basis of UCR Protocol, which draws reference from UCR Protocol Standard Baseline, AMS.I.D – Grid connected renewable electricity generation (Version 18.0), the documents submitted during the verification including the data, Project Concept Note (PCN) / Monitoring Report (MR), I am able to certify that the emission reductions from the project - 4 MW Small Scale Hydro Power project by M/S USP Hydro Energy Pvt. Ltd. (UCR ID – 079) for the period 17/10/2019 to 31/12/2021 amounts to 33,972 CoUs (33,972 tCO2eq).

G. Abbreviations

Abbreviations	Full texts	
UCR	Universal Carbon Registry	
СРСВ	Central Pollution Control Board	
PSPCL	Punjab State Power Corporation Limited	
HPSEBL	Himachal Pradesh State Electricity Board Limited	
MR	Monitoring report	
PCN	Project Concept Note	
VR	Verification Report	
VS	Verification Statement	
DAA	Avoidance of Double Accounting Agreement	
COD	Commercial Operation Date	
PP/PO	Project Proponent / Project Owner	
PA	Project Aggregator	
PPA	Power Purchase Agreement	
ER	Emission Reduction	
CoUs	Carbon offset Units.	
tCO2eq	Tons of Carbon Dioxide Equivalent	
kWh	Kilo-Watt Hour	
MWh	Mega-Watt Hour	
kW	Kilo-Watt	
MW	Mega-Watt	
CDM	Clean Development Mechanism	
SDG	Sustainable Development Goal	
CAR	Corrective Action Request	
CL	Clarification Request	

FAR	Forward Action Request
GHG	Green House Gas
HEP	Hydro Electric Power

H. Competence of team members and technical reviewers

No.	Last name	First name	Affiliation	Technical Competence
1.	Vyas	Arjun	Lead Verifier	Mr. Arjun K Vyas is post graduate engineer having more than 10 years of experience in the field of Energy, Power and Carbon mitigation projects. As a verifier, he has diverse portfolio of Renewable Energy Projects. Projects verified by him has gained more than 50 million CoUs.
3.	Shah	Kalindi	Outsourced Entity	Mrs. Kalindi Shah is post graduate scientist in the field of Climate Change. Currently, she is acting as technical expert for reviewing the project documents and emission reduction calculations.

I. Document reviewed or referenced

No.	Author	Title References to the document		Provider
1	UCR	Communication Agreement		PA
2	Creduce	Project Concept Note		PA
3	Creduce	Monitoring Report		PA
4	Creduce	Avoidance of double accounting		PA
5	Creduce	Emission Reduction Excel		PA
6	HPSEBL & PP	Joint Meter Reading (JMR) (2019- 2021)		PA
7	PSPCL	Meter Testing Report (2019)		PA
8	HPSEBL	Commissioning Certificate		PA
9	HPSEBL & PP	Power Purchase Agreement		PA
10	PP	Purchase order of Turbine		PA
11	PP	Purchase order of Generator		PA

J. Clarification request, corrective action request and forward action request

Table 1. CLs from this Project Verification

CL ID	01	Section no.	D	Date: 15/04/2022	
Description	of CL				
The Project	geo-coordinates are	slightly differe	nt in PCN as mentioned in	the MR	
Project Owner's response				Date:	
				20/04/2022	
Revised PC	Revised PCN Ver. 2.0 submitted on 20/04/2022				
Documentation provided by Project Owner					
PCN Ver. 2.0.					
UCR Project Verifier assessment			Date:		
				25/04/2022	
PCN Ver. 2.0 matches the latitude and longitude of the MR, which is the actual latitude and longitude of the project power house. Hence coordinates are verified using google maps.					

CL ID	02	Section no.	D. (a.vi)	Date: 15/04/2022	
Description	Description of CL				
There is no evidence of Diesel consumption during the project crediting period. But PCN mentions the parameters related to the diesel consumption in the project emission section.					
Project Owner's response Date			Date:		
			20/04/2022		
The section B.5 in the PCN has been revised as per the actual monitoring report. PCN Ver. 2.0 has been prepared and submitted.					
Documentation provided by Project Owner					
PCN Ver. 2.0.					
UCR Project Verifier assessment			Date:		
			25/04/2022		
PCN Ver. 2.0 clarifies the matter and hence the request is closed.					

Table 2. CARs from this Project Verification

CAR ID	XX	Section no.		Date: DD/MM/YY YY
Description of CAR				
Project Owner's response Date: DD/MM/ YY			DD/MM/YY	

Documentation provided by Project Owner	
UCR Project Verifier assessment	Date: DD/MM/YY YY

Table 3. FARs from this Project Verification

FAR ID	XX	Section no.		Date: DD/MM/YY YY
Description	of FAR			
				•
Project Owner's response			Date: DD/MM/YY YY	
Documentation provided by Project Owner				
UCR Project Verifier assessment			Date: DD/MM/YY YY	

ANNEXURE I: Photographs of the Power Plant

Figure-1: Electric Panel of the Power Plant



Figure-2: 4 MW Hydro Power House with evacuation facility



Figure-3: Plant Photographs



