

# Verification Report for Carbon Offset Units (CoUs) for Project (UCR ID Number: 046)

Title: “10 MW Bundled Small Scale Hydro  
Power Project in the State of Sikkim,  
India”



## Project Owner details:

Sikkim Power Development Corporation Limited,

(Govt. of Sikkim Enterprise)

Near STNM Hospital, Arithang, Gangtok, Sikkim, Pin-737101, India

## Submitted by:

Naturelink Solutions Pvt Ltd

Approved Verifier, UCR


Contact No.: +91 8320809503

Email: [arjun@thenaturelink.in](mailto:arjun@thenaturelink.in)

**COVER PAGE****Project Verification Report Form (VR)****BASIC INFORMATION**

<b>Name of approved UCR Project Verifier / Reference No.</b>	Mr. Arjun K Vyas (Lead Verifier)
<b>Type of Accreditation</b>	<input type="checkbox"/> CDM Accreditation <input type="checkbox"/> ISO 14046 Accreditation <input checked="" type="checkbox"/> UCR Approved Verifier
<b>Approved UCR Scopes and GHG Sectoral scopes for Project Verification</b>	Sectoral Scope: 01 Energy Industries
<b>Validity of UCR approval of Verifier</b>	14/05/2022 onwards
<b>Completion date of this VR</b>	14/05/2022
<b>Title of the project activity</b>	10 MW Bundled Small Scale Hydro Power Project in the State of Sikkim, India.
<b>Project reference no. (as provided by UCR Program)</b>	046
<b>Name of Entity requesting verification service</b> (can be Project Owners themselves or any Entity having authorization of Project Owners, example aggregator.)	Sikkim Power Development Corporation Limited
<b>Contact details of the representative of the Entity, requesting verification service</b> (Focal Point assigned for all communications)	Creduce Technologies Private Limited- Address: 2-O-13,14 Housing Board Colony, Banswara, Rajasthan - 327001, India.
<b>Country where project is located</b>	India
<b>Applied methodologies</b> (Approved methodologies by UCR Standard used)	AMS-I.D.: "Grid connected renewable electricity generation", version 18
<b>Project Verification Criteria:</b> Mandatory requirements to be assessed	<input checked="" type="checkbox"/> UCR Standard <input checked="" type="checkbox"/> Applicable Approved Methodology <input type="checkbox"/> Applicable Legal requirements /rules of host country

	<input checked="" type="checkbox"/> Eligibility of the Project Type <input checked="" type="checkbox"/> Start date of the Project activity <input checked="" type="checkbox"/> Meet applicability conditions in the applied methodology <input checked="" type="checkbox"/> Credible Baseline <input checked="" type="checkbox"/> Do No Harm Test <input checked="" type="checkbox"/> Emission Reduction calculations <input checked="" type="checkbox"/> Monitoring Report <input checked="" type="checkbox"/> No GHG Double Counting <input type="checkbox"/> Others (please mention below)
<p><b>Project Verification Criteria:</b></p> <p>Optional requirements to be assessed</p>	<input checked="" type="checkbox"/> Environmental Safeguards Standard and do-no-harm criteria <input type="checkbox"/> Social Safeguards Standard do-no-harm criteria
<p><b>Project Verifier's Confirmation:</b></p> <p>The <i>UCR Project Verifier</i> has verified the UCR project activity and therefore confirms the following:</p>	<p>The UCR Project Verifier Arjun K Vyas, certifies the following with respect to the UCR Project Activity "10 MW Bundled Small Scale Hydro Power Project in the State of Sikkim, India</p> <p><input checked="" type="checkbox"/> The Project Owner has correctly described the Project Activity in the Project Concept Note (dated 10/05/2022) 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.</p>

	<p><input checked="" type="checkbox"/> The Project Activity is likely to generate GHG emission reductions amounting to the estimated 2,28,387 TCO<sub>2e</sub>, 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.</p> <p><input checked="" type="checkbox"/> The Project Activity is not likely to cause any net-harm to the environment and/or society</p> <p><input checked="" type="checkbox"/> The Project Activity complies with all the applicable UCR rules and therefore recommends UCR Program to register the Project activity with above mentioned labels.</p>
<p><b>Project Verification Report, reference number and date of approval</b></p>	<p>Verification Report UCR Project ID: 046 Date: 14/05/2022</p>
<p><b>Name of the authorised personnel of UCR Project Verifier and his/her signature with date</b></p>	<p>Arjun K Vyas</p> 

# 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 “**10 MW Bundled Small Scale Hydro Power Project in the State of Sikkim, India. UCR approved project ID:046**”, to establish number of CoUs generated by project over the crediting period from 01/01/2014 to 31/12/2021 (both days included).

Verification for the period : 01/01/2014 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 10 MW Bundled Small Scale Hydro Power Project in the State of Sikkim, India. UCR (UCR ID – 046) for the period 01/01/2014 to 31/12/2021 amounts to 2,28,387 CoUs (2,28,387 tCO<sub>2</sub>eq).

### 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 installation and operation of bundled hydro project of aggregated capacity of 10 MW at Mangley, Lachung and Sisney village of Sikkim state of India. 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 2,28,387 tCO<sub>2</sub>e for the said period under verification, there on displacing 2,53,762 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:

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**Summary of the Project Activity and ERs Generated for the Monitoring Period**

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Start date of this Monitoring Period	01/01/2014
Carbon credits claimed up to	31/12/2021
Total ERs generated (tCO <sub>2</sub> eq)	2,28,387 tCO <sub>2</sub> eq
Leakage	0

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**B. Project Verification team, technical reviewer and approver:**

No.	Role	Last name	First name	Affiliation	Involvement in		
					Doc review	Off-Site inspection	Interviews
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 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 off-site inspection: DD/MM/YYYY to DD/MM/YYYY	Not applicable as per UCR guideline site visit not conducted for this verification activity.		
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, and JMR copies are used for the verification.

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

<b>Areas of Project Verification findings</b>	<b>No. of CL</b>	<b>No. of CAR</b>	<b>No. of FAR</b>
<b>Green House Gas (GHG)</b>			
Identification and Eligibility of project type	NIL	NIL	NIL
General description of project activity	NIL	NIL	NIL
Application and selection of methodologies and standardized baselines	--	--	--
- Application of methodologies and standardized baselines	NIL	NIL	NIL
- Deviation from methodology and/or methodological tool	NIL	NIL	NIL
- Clarification on applicability of methodology, tool and/or standardized baseline	NIL	NIL	NIL
- Project boundary, sources and GHGs	NIL	NIL	NIL
- Baseline scenario	NIL	NIL	NIL
- Estimation of emission reductions or net anthropogenic removals	NIL	NIL	NIL
- Monitoring Report	NIL	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
<b>Total</b>	NIL	NIL	NIL







### Rongli Hydro Power



The power evacuation at the Substation is confirmed by Joint Meter Reading Report.

<b>Findings</b>	<ol style="list-style-type: none"> <li>1. Project Commissioning date is mentioned in the commissioning certificate.</li> <li>2. Turbine Capacity is same as mentioned in the name plate and technical specifications.</li> <li>3. Project implementation and sale of energy abide the power purchase agreement.</li> </ol>
<b>Conclusion</b>	<p>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.</p>

## Application and selection of methodologies and standardized baselines

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

<b>Means of Project Verification</b>	<p>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.</p>
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<b>Findings</b>	The methodology applied is applicable for the project activity.
<b>Conclusion</b>	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**

<b>Means of Project Verification</b>	The documents reviewed are A.M.S I. D “Grid connected renewable electricity generation” version 18, UCR Program standard, and UCR Verification Standard.
<b>Findings</b>	Emission factor calculated using the methodology is higher than UCR standard recommends.
<b>Conclusion</b>	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**

<b>Means of Project Verification</b>	Letter from CPCB dated 07/03/2016 No. B-29012/ESS(CPA)/2015-16. PCN section B.4.
<b>Findings</b>	Project boundary is appropriately defined in PCN version 01 which is physical and geographical site of power house.
<b>Conclusion</b>	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**


<b>Means of Project Verification</b>	PCN Section B.5 and General Project Eligibility Criteria and Guidance, UCR Standard.
<b>Findings</b>	Declared information is correct and verified.
<b>Conclusion</b>	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**

<b>Means of Project Verification</b>	Joint Meter Reading Reports, and General Project Eligibility Criteria and Guidance, UCR Standard, page 4.
<b>Findings</b>	Declared information is correct and verified.

	Note: SLDC accepted JMR is considered as an acceptable document to check actual energy generation for each month. Copy of the sample has been cropped and attached for reference purpose.
<b>Conclusion</b>	Emission reductions are correctly calculated. The data used are either monitored at plant. The instruments are calibrated and hence the emission reduction is reported correctly and meets the requirements of UCR verification standard and UCR project standard.

**(.a.vi) Monitoring Report**

<b>Means of Project Verification</b>	<p>Joint Meter Reading Reports, and General Project Eligibility Criteria and Guidance, UCR Standard, page 4.</p> <p>Energy meters installed at the site:</p> 
<b>Findings</b>	Declared information is correct and verified.
<b>Conclusion</b>	Monitoring parameter as reported through MR adequately represents the parameters relevant to emission reduction calculation. The energy bills are used as supportive document to check the measured electricity 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.
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### Start date, crediting period and duration

<b>Means of Project Verification</b>	PCN and MR, Purchase order of Turbine and technical Specification sheet, Commissioning certificate, Detailed Project Report documents were referred.
<b>Findings</b>	Declared information is correct and verified.
<b>Conclusion</b>	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

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

### Project Owner- Identification and communication

<b>Means of Project Verification</b>	PCN, Communication Agreement, MR, Purchase order of Turbine, Commissioning certificate, Power Purchase Agreement.
<b>Findings</b>	Declared information is correct and verified.
<b>Conclusion</b>	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

<b>Means of Project Verification</b>	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.
<b>Findings</b>	--
<b>Conclusion</b>	Project has overall positive social impact.

## Sustainable development aspects (if any)

<b>Means of Project Verification</b>	Not Applicable
<b>Findings</b>	--
<b>Conclusion</b>	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 - 10 MW Bundled Small Scale Hydro Power Project in the State of Sikkim, India. (UCR ID – 046) for the period 01/01/2014 to 31/12/2021 amounts to 2,28,387 CoUs (2,28,387 tCO<sub>2</sub>eq).

## G. Abbreviations

<b>Abbreviations</b>	<b>Full texts</b>
UCR	Universal Carbon Registry
CPCB	Central Pollution Control Board
GoS	Government of Sikkim
SPDCL	Sikkim Power Development Corporation Limited
SLDC	Energy and Power Department, State Load Dispatch Centre
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.
tCO <sub>2</sub> eq	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 ver. 2.0		PA
3	Creduce	Monitoring Report		PA
4	Creduce	Avoidance of double accounting		PA
5	Creduce	Emission Reduction Excel		PA
6	SPDCL & SLDC	Joint Meter Reading (JMR) (2014-2021)		PA
7	SPDCL	Electricity sale Invoices		PA
8	SPDCL	Commissioning Certificate		PA
9	SPDCL & GoS	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**

<b>CL ID</b>	Xx	<b>Section no.</b>		<b>Date:</b> DD/MM/YY YY
<b>Description of CL</b>				
<b>Project Owner's response</b>				<b>Date:</b> DD/MM/YY YY
<b>Documentation provided by Project Owner</b>				
<b>UCR Project Verifier assessment</b>				<b>Date:</b> DD/MM/YY YY

**Table 2. CARs from this Project Verification**

<b>CAR ID</b>	xx	<b>Section no.</b>		<b>Date:</b> DD/MM/YY YY
<b>Description of CAR</b>				
<b>Project Owner's response</b>				<b>Date:</b> DD/MM/YY YY
<b>Documentation provided by Project Owner</b>				
<b>UCR Project Verifier assessment</b>				<b>Date:</b> DD/MM/YY YY

**Table 3. FARs from this Project Verification**

<b>FAR ID</b>	xx	<b>Section no.</b>		<b>Date:</b> DD/MM/YY YY
<b>Description of FAR</b>				



<b>Project Owner's response</b>	<b>Date:</b> DD/MM/YY YY
<b>Documentation provided by Project Owner</b>	
<b>UCR Project Verifier assessment</b>	<b>Date:</b> DD/MM/YY YY

## ANNEXURE I: Photographs of the Power Plant

Figure-1: 2 MW Mangley Hydro Turbine inside Power House



Figure-2: 3 MW Lachung Hydro Turbine inside Power House



Figure-3: 5 MW Rongli Hydro Control Room



## Annexure II

### 1. 2 x 1 MW Mangley SHEP

PAN NO. AAMCS 4611G  
TAN NO. CALS21582 B

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Tel : 91-3592-209  
Fax : 91-3592-208  
E-mail : spdcskm@gmail.c  
spdcskim@rediffmail.c

### SIKKIM POWER DEVELOPMENT CORPORATION LIMITED

(A Government of Sikkim Enterprise)

31-A, National Highway, Near UD & HD Department, Gangtok - 737101, Sikkim, INDIA

Ref. No. SPDC /

Dated

Period: January 2014

M/c No.	Present reading as on 1.2.2014 (Kwh)	Previous reading as on 1.1.2014 (Kwh)	Energy Generated (Kwh)	Total Energy generated (Kwh)	Auxiliary consumption (Kwh)	Energy Transmitted (Kwh)
UNIT-I						
UNIT-II	62,33,000	59,66,000	2,67,000	2,67,000	2,175	2,64,825

Mr. *J.K. (SLDC)*

Assistant Engineer ( SLDC)  
Energy & Power Department.

*[Signature]*  
Manager (P)  
S.P.D.C.

SIKKIM POWER DEVELOPMENT CORPORATION LTD.							
2x1MW MANGLAY S.H.E.P, SOUTH SIKKIM							
GENERATION SUMMARY REPORT FOR THE MONTH OF DECEMBER-2021							
Sl. No	Machine No.	Unit	Energy Generated	Energy Exported	Running Hours	Average Plant Load (KW)	Peak Load of the Month (KW)
1	Unit # 1	MWH	0.00	0.00		0	0
2	Unit # 2	MWH	454.67	442.40	639Hrs13Min	708.0	738.0
	Total	MWH	454.67	442.40	639Hrs13Min.	708	738

Description	Unit (Kwh)
Total Energy Generation	4,54,670
Station Auxillary consumption & Transformer losses	12,270
Energy Exported Ex-Bus 11KV	4,42,400
Net Energy Billing	4,42,400

  
 D.G.M. (Projects)  
 Sikkim Power Dev. Corp. Ltd.  
 (A Govt. of Sikkim Enterprise)  
 For Sikkim Power Development Corporation Ltd.

  
 Assistant Engineer (S.D.C.)  
 Energy & Power Deptt.  
 For Energy & Power Department.

## 2. 2 x 1.5 MW Lachung SHEP

**Generation Report of 2x 1.5MW Lachung HEP for the Month of January 2014**

Date	11KV OG		AUXILLARY		LOAD (KW)	
	KWh Meter	Daily Kwh	Kwh Meter	Daily Kwh	Max. KW	Min KW
31-12-13	771.70		4862.40			
01-01-14	772.20	0.50	4864.90	2.50	1369	540
02-01-14	773.10	0.90	4868.60	3.70	1224	528
03-01-14	773.70	0.60	4872.40	3.80	1345	528
04-01-14	774.70	1.00	4875.90	3.50	1309	634
05-01-14	775.40	0.70	4879.00	3.10	1349	624
06-01-14	776.20	0.80	4881.90	2.90	1345	524
07-01-14	777.00	0.80	4884.60	2.70	1318	641
08-01-14	777.80	0.80	4887.50	2.90	1447	625
09-01-14	778.60	0.80	4890.60	3.10	1268	619
10-01-14	779.40	0.80	4894.40	3.80	1352	621
11-01-14	780.30	0.90	4897.70	3.30	1403	629
12-01-14	780.80	0.50	4901.00	3.30	879	616
13-01-14	781.50	0.70	4904.70	3.70	1355	358
14-01-14	781.90	0.40	4908.00	3.30	862	602
15-01-14	782.50	0.60	4911.70	3.70	1259	309
16-01-14	783.20	0.70	4914.90	3.20	1337	542
17-01-14	784.00	0.80	4918.30	3.40	1389	522
18-01-14	784.80	0.80	4922.20	3.90	1356	521
19-01-14	785.60	0.80	4925.50	3.30	1349	523
20-01-14	785.70	0.10	4928.10	2.60	727	574
21-01-14	785.90	0.20	4929.10	1.00	1215	456
22-01-14	786.60	0.70	4932.1	3.00	1364	516
23-01-14	787.40	0.80	4935.2	3.10	1376	513
24-01-14	788.00	0.60	4938.6	3.40	1174	516
25-01-14	788.50	0.50	4940.6	2.00	1137	681
26-01-14						
27-01-14		Shut down due to pen stock leakage				
28-01-14						
29-01-14	788.70	0.20	4942.2	1.60	1054	406
30-01-14	789.30	0.60	4945.5	3.30	1349	635
31-01-14	790.10	0.80	4950.0	4.50	1297	616
		18.40		87.60		

Total Generation

		X Factor	Kwh
a.	11KV O/G	18.4	25000
b.	Auxillary	87.6	50
	Gross (a+b)		464380

  
 For SPDCL  
 Manoj Kumar (Projects)  
 Sikkim Power Dev. Corp. Ltd.  
 (A Govt. of Sikkim Enterprise)

  
 For Energy & Power Dept.  
 Energy & Power Dept.  
 Govt. of Sikkim

**2x1.5 MW LACHUNG H.E.P. NORTH SIKKIM**

**GENERATION SUMMARY REPORT FOR THE MONTH OF DECEMBER-2021**

DATE	11KV O/G Ex Bus		Unit No.01				Unit No.02				Daily Aux (KWH)
	METER READING (KWH)	Daily Export (KWH)	GENERATION (KWH)	DAILY GENERATION (KWH)	RUNNING HOURS (Hr)	AVERAGE LOAD (KW)	GENERATION (KWH)	DAILY GENERATION (KWH)	RUNNING HOURS (Hr)	AVERAGE LOAD (KW)	
30-11-2021	55053020		25875440				29925890				
01-12-2021	55092920	39900	25895470	20030	24:00:00	835	29946280	20390	24:00:00	850	345
02-12-2021	55131620	38700	25915170	19700	23:43	831	29965990	19710	23:39	833	340
03-12-2021	55171120	39500	25935280	20110	23:46	846	29986090	20100	23:42	848	350
04-12-2021	55210020	38900	25955090	19810	23:28	844	30005800	19710	23:23	843	350
05-12-2021	55248120	38100	25974500	19410	23:12	837	30025170	19370	23:20	830	370
06-12-2021	55283220	35100	25991480	16980	18:53	924	30043980	18810	20:11	932	335
07-12-2021	55319920	36700	26016710	25230	23:44	1063	30056040	12060	14:53	810	340
08-12-2021	55355820	35900	26044740	28030	23:31	1192	30064590	8550	10:07	845	365
09-12-2021	55390720	34900	26073870	29130	24:00:00	1214	30070960	6370	07:41	829	335
10-12-2021	55425120	34400	26101480	27610	24:00:00	1150	30078320	7360	08:46	840	335
11-12-2021	55445820	20700	26122640	21160	15:32	1362					205
12-12-2021	55477320	31500	26154760	32120	22:54	1403					370
13-12-2021	55509920	32600	26187890	33130	23:38	1402					345
14-12-2021	55542420	32500	26220930	33040	23:39	1397					270
15-12-2021	55568020	25600	26247020	26090	19:38	1329					255
16-12-2021	55592820	24800	26272340	25320	19:04	1328					270
17-12-2021	55623920	31100	26303960	31620	23:23	1352					305
18-12-2021	55653220	29300	26333860	29900	23:32	1270					300
19-12-2021	55679820	26600	26359490	25630	21:30	1192	30079810	1490	01:33	961	300
20-12-2021	55705620	25800	26385830	26340	22:49	1154					275
21-12-2021	55733220	27600	26414060	28230	24:00:00	1176					300
22-12-2021	55759020	25800	26440370	26310	23:17	1130					305
23-12-2021	55785020	26000	26466940	26570	22:39	1173					290
24-12-2021	55809720	24700	26492080	25140	22:11	1133					265
25-12-2021	55836720	27000	26508650	16570	14:47	1121	30090850	11040	08:45	1262	340
26-12-2021	55858820	22100	26531180	22530	19:25	1160	30091010	160	00:07	1371	260
27-12-2021	55878320	19500	26551050	19870	18:38	1025					235
28-12-2021	55903020	24700	26576300	25250	22:36	1117					300
29-12-2021	55908520	5500	26581910	5610	04:58	1129					80
30-12-2021	55910720	2200	26584170	2260	02:19	975					45
31-12-2021	55920520	9800									140
<b>TOTAL:</b>		<b>867500</b>		<b>710220</b>	<b>622:46:00</b>	<b>914</b>	<b>30101030</b>	<b>10020</b>	<b>10:58</b>	<b>914</b>	<b>8920</b>

MACHINE NORMAL SHUT DOWN

MACHINE NORMAL SHUT DOWN

MACHINE NORMAL SHUT DOWN

Projects)  
Dev. Corp. Ltd.  
For Sikkim Power Development Corporation Ltd  
(Govt. of Sikkim Enterprise)

*Savay*  
For Energy & Power Department (SLD)  
Energy & Power Dept.  
Sikkim

### 3. 2 x 2.5 MW Rongli SHEP

2 X 2.5 MW RONGLI S.H.E.P. EAST SIKKIM					
UNIT # 1 GENERATION SUMMAERY FOR THE MONTH OF JANUARY - 2014					
Date	Generation (MWH) (UCB Meter)	Daily Generation (MWH) UCB Panel	* AVG: LOAD (Kw/h)	Running Hours	Aux Consump (Kwh)
31-12-13	1963.0				
01-01-14					17062
02-01-14	1964.9	1.90	1300	1:30	17047
03-01-14	1977.4	12.50	1400	9:10	17118
04-01-14					
05-01-14					
06-01-14					
07-01-14					
08-01-14					
09-01-14					
10-01-14					
11-01-14					
12-01-14					
13-01-14					
14-01-14					
15-01-14					
16-01-14					
17-01-14					
18-01-14		Only m/c unit-II operational due to less water			
19-01-14					
20-01-14					
21-01-14					
22-01-14					
23-01-14					
24-01-14					
25-01-14					
26-01-14					
27-01-14					
28-01-14					
29-01-14					
30-01-14					
31-01-14					
<b>TOTAL(MWh)</b>		<b>14.40</b>			

**Total Energy Generated**

a. Unit-	14.40 x 1000	14400	Kwh
b. Unit-II	693.50 x 1000	693500	Kwh
Total		707900	Kwh
Less auxillary (-)		4004	kwh
		703896	Kwh

  
 6/2/14  
 For SPDC  
 Manager (Projects)  
 Sikkim Power Dev. Corp. Ltd.  
 (A Govt. of Sikkim Enterprise)

  
 For Energy & Power Dept.