Gold Standard
for the Global Goals

TEMPLATE

MONITORING REPORT

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

RELATED SUPPORT **- TEMPLATE GUIDE Monitoring Report v. 1.1**

This document contains the following Sections

KEY PROJECT INFORMATION

Key Project Information

GS ID (s) of Project (s)	GS 7154[1]
Title of the project (s) covered by monitoring report	Chanju I Hydro Electric Project
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	05
Version number of the monitoring report	08
Completion date of the monitoring report	05/01/2026
Date of project design certification	12/01/2022
Date of Last Annual Report	27/01/2024
Monitoring period number	2
Duration of this monitoring period	01/07/2019 to 25/07/2022 (Inclusive of both days)
Project Representative	Project Participant: IA Hydro Energy Private Limited Project Representative: Climera Carbon Private Limited
Host Country	India
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	ACM0002: Grid-connected electricity generation from renewable sources- Version 20.0[2]
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

[1] https://registry.goldstandard.org/projects/details/1425
[2] https://cdm.unfccc.int/UserManagement/FileStorage/AG07ZJQ3EXD42LT5YV9HR16M8KINPO

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG 7- Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all	MWh of renewable energy generated	457,980.36	MWh
SDG 8- Decent Work and Economic Growth: substantially reduce the proportion of youth not in employment, education or training	Number of hiring through project activity and Number of trainings through the project activity	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0) employment and 06 Trainings	Number of trainings and Employment generated through project
SDG 13- Take urgent action to combat climate change and its impacts	Emission reductions	417,782	tCO_2e

Table 2 – Product Vintages

		Amount Achieved
Start Dates	End Dates	GS VERs (SDG 13)
01/07/2019	05/01/2022[3]	80,644
06/01/2020	03/01/2021	151,375
04/01/2021	02/01/2022	124,889
03/01/2022	25/07/2022	60,874

[3] Exact year to year end vintage dates is not possible in this project activity as JMR prepared in 7 days basis.

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

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Purpose of the Project activity

Chanju-I Hydro Electric Project is a grid connected run-of-river hydropower project located in Himachal Pradesh, India is being implemented by I.A. Energy, a special purpose vehicle formed for implementation of the project by M/s Indo Arya central transport ltd. Project was initially allotted to M/s Indo Arya Central Transport Limited but as per conditions of Himachal Pradesh Hydro Power Policy, a SPV (I.A. Energy) formed for implementation of the project activity. The proposed project is located in the Northern power region and has been conceived for harnessing the power potential of Chanju Nallah, a tributary of Baira nallah and sub tributary of River Ravi. The project relates to the installation of three vertical axis Francis's turbine generating units of 12 MW each to generate 36 MW of power utilizing a design head of 236.67 m and a design discharge of 16.85 m^3/s. The reservoir area created by the diversion barrage would be of the order of 0.017 sq km and the power density is 2,117.64 W/m^2. The project is fully commissioned on 26/07/2017.

The project has successfully transitioned from the CDM framework to Gold Standard and is no longer listed under CDM registration. In line with this transition, the Project Developer (PD) has explicitly committed that Emission reductions will not be claimed from this activity as project webpage clearly shows no emission reductions verified after 30/06/2019 under CDM[4]. All emission reductions generated will be accounted for solely as GS VERs, in accordance with the current registration status and the relevant Gold Standard requirements.

The objective of the project is to generate power from harnessing the water to meet the ever-increasing demand for power in India. The generated power is exported to the NEWNE grid (Now Indian Grid) via the sub-station at Kurthala. The project activity is displaces the fossil fuel fired power generation of the grid and hence contribute to a reduction in the greenhouse gases.

Hydropower is a clean renewable source of energy and does not contribute to air or water pollution nor does it lead to the emission of greenhouse gases. The water after powering the turbines is discharged back into the Chanju nallah through an open channel tailrace just upstream of the Bhaled intake of the downstream Baira Siul project. The baseline scenario relates to the export of electricity to the grid by the operation of grid connected power plants and by the addition of new generation sources. The baseline scenario is the same as the scenario existing prior to the start of the implementation of the project activity. The project boundary includes the CO_2 emissions from electricity generation in the fossil fuel fired power plants that are displaced due to the project activity.

The total GHG emission reduction in this monitoring period 01/07/2019 to 25/07/2022 (inclusive of both days) is 417,782 tCO_2e.

[4] https://cdm.unfccc.int/Projects/DB/TUEV-SUED1431953233.8/view

Contribution of the project activity to Sustainable Development

The project is a run-of-river hydroelectric plant; hence, it does not involve the construction of a dam. Therefore, the negative impacts often associated with dams, such as the relocation of communities and residents as well as the transfer of waterways, do not occur.
Locally, the project is contributed significantly to the social and economic situation of the local residents through creation of employment opportunities during the construction of the power plant besides providing regular employment opportunities after the operation of the project.

The project activity improves the connectivity of the project area, since it results in the construction of additional roads and other infrastructure developments by spending an amount equal to 1.5% of the final cost of the project as part of the local area development assistance.

Contribution of the project activity to the Environment

The project activity utilizes available hydro sources for power generation. Hydro power plants are considered zero emission power sources. The state of Himachal Pradesh is part of the NEWNE (Now Indian Grid) regional grid system and power generation is dominated by fossil fuels. The project activity has not result in any greenhouse gas emissions and cause no negative impacts on the environment both at a local as well as at a global level. The project activity does not result in degradation of any natural resources, health standards, etc. at the project area. The project has not caused any air, water, or noise pollution.

Contribution of the project activity to Technological Well Being

The project has utilized environmentally safe and sound technologies available in the hydroelectric power generation sector. The technology is expected to be produced locally and hence no technology transfer might take place.

A.2. Location of project

Host Country : India

Region/State/Province etc. : Himachal Pradesh, India

City/Town/Community etc. : Chamba district

The project is located on Chanju nallah, a tributary of Baira nallah and sub-tributary of the river Ravi. The access distance of the project site from:

State Capital, Shimla : 378 km

District headquarter, Chamba : 70 km

Nearest railhead, Pathankot : 190 km

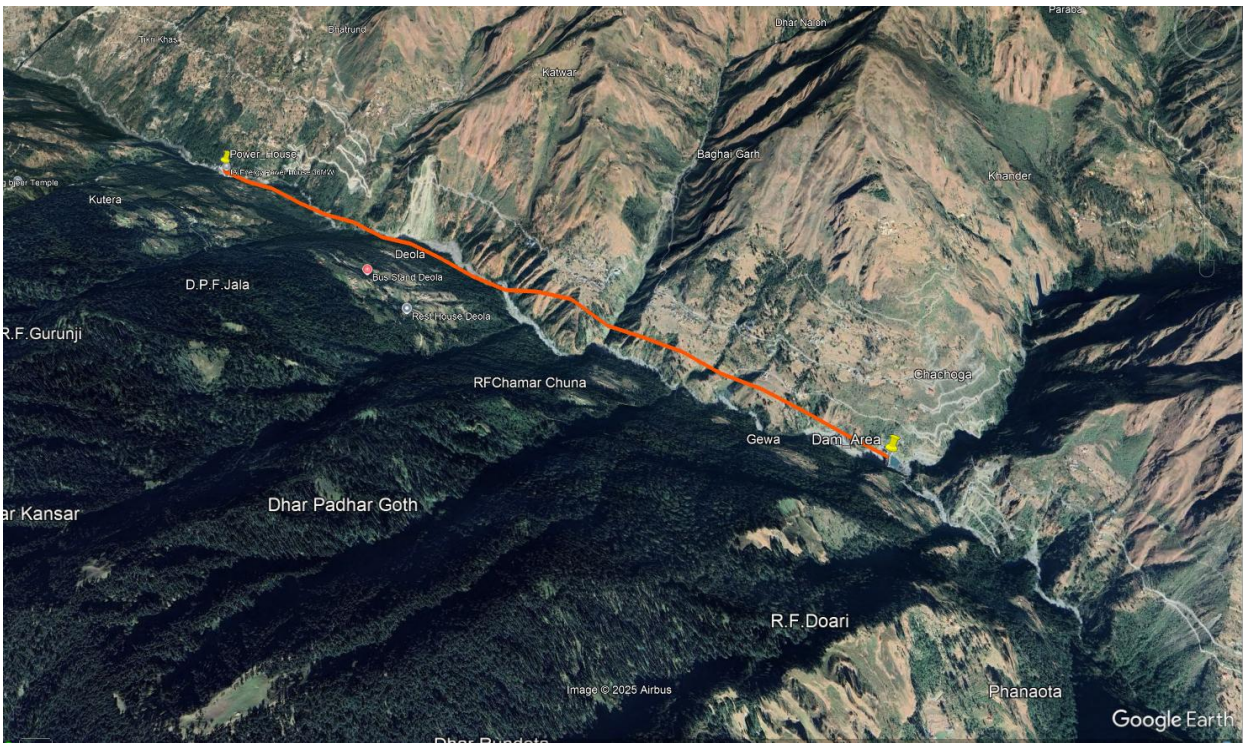
The geographical co-ordinates of the power plant site are:

Longitude : 76°12’06’’ (76.2016) E to 76°14’52’’ (76.2477) E

Latitude : 32°44’14’’ (32.7372) N to 32°45’43’’ (32.7619) N

Power house Location: 32°45'40.0"N 76°12'05.0"E (32.761111, 76.201389)

The project activity is clearly illustrated in the map below:



Project Activity

A.3. Reference of applied methodology

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Methodology: ACM0002, Version 20.0[3], **Sectoral Scope:** 01
Tool: It has been referred from the list of approved methodologies for CDM project activities in the UNFCCC CDM website:
"http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html"

The approved methodology also draws upon:

- **TOOL 01**: Tool for the demonstration and assessment of additionality - Version 7.0.0[4]
- **TOOL 07**: Tool to calculate the emission factor for an electricity system - Version 7.0[5]

This GS4GG Monitoring report has been developed using the methodology ACM0002, Version 20.0 though registered CDM PDD follows ACM0002, Version 16.0.

The applied methodology is ACM0002, Version 20.0, and the project activity meets the applicability and eligibility criteria of the methodology, ensuring that all relevant requirements are adhered to for accurate and reliable implementation.

A.4. Crediting period of project

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26/07/2017 (this is commissioning date of full 36 MW capacity and is within two years back from expected GS registration)

Type of crediting period	Renewable
Crediting period from	26/07/2017 – 25/07/2022
Length of the Crediting Period	5 Years
Monitoring period from	01/07/2019 – 25/07/2022 (including both the days)
Length of the Monitoring Period	1,121 days

Note- As per the applicable product requirements under Gold Standard for the Global Goals, the Crediting Period (CP) start date for transition projects remains unchanged. This means that for projects transitioning from earlier Gold Standard frameworks (e.g., GS CER to GS VER), the original CP start date—established under the previous framework—continues to apply under the updated GS4GG framework.

3 https://cdm.unfccc.int/UserManagement/FileStorage/AG07ZJQ3EXD42LT5YV9HR16M8KINPO
4 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf
5 https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

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Prior to the implementation of the project activity the electricity distribution system was supplied by at least one fossil fuel fired generating unit. The baseline scenario is same as the scenario existing prior to the start of implementation of the project activity. The project is running smoothly since commissioning with scheduled maintenance and without any major breakdowns during the monitoring period. There is no transfer of technology involved in the project activity.
The proposed project is a run-of-river hydro-electric power plant with a design discharge of 16.85 m^3/sec and design head of 236.67 m. The hydro power plant has an installed capacity of 36 MW (3x12) and is capable of producing 157,850 MWh of power per year in a 90% dependable year with 95% machine availability and operating at a plant load factor of 50.05%. The catchment area at the diversion site is 307 km^2.

The salient features of the Chanju I Hydro Electric Project are:

Parameter	Value
Net head	236.67 m
Type of powerhouse	Surface
Design discharge for individual units	5.62 m^3/sec
Type of switchgear	132 kV air insulated switchgear
Speed of turbine	750 rpm
Generation voltage	11 kV
Transmission voltage	132 kV
GSU transformer	25/20 MVA 3 phase, 11/132 kV

The main components of the project are:

- A 54 m wide gated weir
- A side intake comprising of two segments
- Twin desilting basins to provide flexibility in operation in case one is out of operation
- A 5,328 m length of water conductor system
- A 140.4m long, 2.3m diameter surface penstock
- A surface power house to house three vertical axis Francis units of 12MW each

- A tail race channel with a reverse slope that discharge into the river in the direction of the river flow
- A surface switchyard 100m x 50m which shall house the generator transformer, station transformer and the feeder bays
- 132 kV DC line from Kurthala to Bathri for evacuation of power.

The project comprises of a diversion weir across Chanju nallah at about 100m downstream of the confluence of Chanju and Bhararu nallahs, twin intakes, twin feeder/ connecting tunnels, twin desilting basins approximately 83 m long each, a headrace tunnel approximately 4580 m concrete lined and 748 m steel lined. A 528 m long construction adit, which acts as a surge gallery has been provided at Naredh nallah crossing. Tail water is proposed to be discharged into Chanju nallah through an open channel. A 132kV switchyard is proposed on the upside of the power house. The Full Reservoir Level (FRL) and Minimum Draw Down Level are proposed to be kept at El. 1,440m and El. 1,432.75m respectively. The live storage works out to be 130,700m^3 which is adequate to provide two hours of peaking twice a day at full installed capacity of 36MW. The energy storage capacity of the hydroelectric plant during peak period[7] is 50.07 GWh.

The turbine characteristics has selected such that the optimum efficiency falls close to the rated output of the unit at rated head. A pumping station has provided to supply an adequate quantity of water from the tailrace for cooling of the turbine generator bearings, generator air coolers and selected plant services and each synchronous generator has vertical shaft, salient pole type, 3 phase, 50Hz directly coupled to the turbine.
The power from the project activity has been planned to be injected at Nakrod by LILO arrangement in to 132 kV D/C line under construction between 132kV Kurthala sub-station. The transmission line segment from the project site to the Nakrod LILO point spans approximately 6 kilometers.

In the absence of the project activity the power in the grid would have been supplied by other grid connected power plants and addition of new power plants. The baseline scenario identified in Section B.4 corresponds to this situation. The technology involved nis environmentally safe and produced locally.

Age and Technical Lifetime:

Designed technical life time of project activity is 40 years. This confirms project activity continues to displace electricity for the life time comparable to the baseline scenario noted.

Technology Transfer:

The project activity does not involve any technology transfer. The Start date of project is 23/07/2011 (Date of Purchase order for civil work) and the total installed capacity of the project activity is 36 MW. Plant is in operation since being commissioned on 26/07/2017 (Commercial Operation of the Project). The installation details of the equipment's at the project site have remained the same during this monitoring period and there is no exchange of equipment's. Also, there are no events / situations leading to changes in project activity that occurred during the monitoring period.

B.1.1 Forward Action Requests

There is one forward action request has been raised during previous monitoring report of period 24/02/2019 to 30/06/2019 which is as follows.

1.The VVB shall verify the emission reductions will be capped to the upper bound of the sensitivity analysis (+/- 10%) range for next monitoring period if achieved emission reductions values higher.

Response: - In response to the Forward Action Request raised during the previous verification, the Project Participant confirms that the emission reductions for the current monitoring period have been assessed in accordance with the sensitivity analysis range. Specifically, if the achieved emission reductions exceeded the upper bound of the sensitivity analysis (+10%), the values have been conservatively capped at the upper bound, as per the FAR guidance. During this verification achieved emission reductions are under 10% limit of estimated value for this monitoring period.

2. The earlier site visit for the validation of this project activity was carried out on 24/02/2021 and site visit for previous verification (24/02/2019 to 30/06/2019) was carried out on 10/04/2024 which is after 3 years and as per rule update on applicability of minimum site visit requirement by VVB, the VVB shall not verify the monitoring period falling before three years of the site visit date.

Response: - The validation site visit was conducted on 24/02/2021, and the current verification site visit was carried out on 10/04/2024. The monitoring period under consideration 01-Jul-2019 to 25-Jul-2022 falls within the three-year window preceding the site visit date, and is therefore eligible for verification in accordance with the updated rule. Thus This FAR is Closed in previous performance review.

3. The VVB shall confirm that the project developer will make a declaration, in writing, in each monitoring report submitted to Gold Standard that project will/has not issue both a CER/A6.4 units under Paris Agreement Crediting Mechanism and a GSVER for the same vintage.

Response- The project developer confirms that within each monitoring report submitted to Gold Standard, that the project will not and has not issued both a CER/A6.4 unit under the Paris Agreement Crediting Mechanism and a GSVER for the same vintage. Also confirm that this declaration will be explicitly included in all future monitoring reports for GS 7154. The project developer is fully committed to avoiding double issuance and ensuring compliance with Gold Standard's principles and the corresponding safeguards under Article 6 of the Paris Agreement.

B.2. Post-Design Certification changes

Not Applicable

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

As per the approved deviation request DEVRQ-182, the validation site visit conducted on 25/02/2021 is applicable for the verification of Monitoring Period 1 (MP1: 25/02/2019 to 30/06/2019). This is in line with Gold Standard guidance that allows retroactive crediting for up to two years prior to the validation site visit date, provided the project activity was operational and met all eligibility requirements during that period.
For Monitoring Period 2 (MP2: 01/07/2019 to 25/07/2022), a separate verification site visit was conducted by the VVB on 25/07/2025, which specifically covers the post-30/06/2019 period. This ensures that both MP1 and MP2 are appropriately covered by site visits in accordance with Gold Standard requirements.

B.2.2. Corrections

There are following corrections were made to the project information during the previous monitoring period which is from 24/02/2019 to 30/06/2019: -

1. The Section A.3 of PDD salient features of project (specification/ dimensions) are corrected
2. The project activity commissioning was delayed; thus, chronology of events is mentioned in PDD along with commissioning date
3. Based on commissioning date, the start date of crediting period is revised as 26/07/2017.
4. The monitoring plan revised with mention of daily monitoring of auxiliary instead of hourly measurement
5. Section A.6 is revised as per template requirement

The above-mentioned corrections were approved on 22/02/2019 with PRC ref - PRC-10153-001[8]

B.2.3. Changes to start date of crediting period

The start date of the crediting period is changed from 01/12/2015 to 26/07/2017[9]

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Post registration changes for the project activity (PRC-10153-001) was approved on 22/02/2019[10]. The monitoring parameter EG_{aux} (MWh) – the recording frequency is changed from hourly to daily basis.

B.2.5. Changes to project design of approved project

Not Applicable

[8] https://cdm.unfccc.int/PRCContainer/DB/prcp452143904/view
[9] https://cdm.unfccc.int/Projects/DB/TUEV-SUED1431953233.8/view
[10] https://cdm.unfccc.int/PRCContainer/DB/prcp452143904/view

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

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Monitoring procedures:

Monitoring consists of metering the gross generation and auxiliary consumption of electricity in the project activity. There are three 8 hour shifts and the readings of gross generation from meters are taken on an hourly basis by the shift engineer and recorded in logbooks. For auxiliary consumption, the daily data (Gross electricity generation of TG-1, TG-2, TG-3 & Auxiliary consumption of Aux-1, Aux-2.) is recorded in logbooks. This hourly data is signed off at the end of every shift by the engineer in charge of the shift and again at the end of each day by the power plant manager. The power plant manager analyzes the data every month and report to the head office.

The electricity generated from the project will be supplied to the national grid for the complete project lifetime under a long-term PPA with the HPSLDC. The electricity generated from the project before entering the grid will be measured by digital kilowatt hour (kWh) meters at the connection point. The energy meters at the connection point are of bi-directional nature. The metering system includes the main system and back-up systems. The back-up systems will be used in case of failure of the main meter.

Data from the operating meters will be measured continuously. Additionally, monthly manual readings will be taken from the operating meters. Monthly, HPSLDC staff and staff of the operation division of the power plant will cross-check manual readings from the energy meter with the electronically recorded data and sign a joint meter reading report which indicates the amount of power fed into the grid within that month.
On a monthly basis, HPSLDC officials will take the readings of the meters and issue the JMRs to the project developer, which certifies the net electricity generated from the solar power project. HPSLDC will adjust the electricity consumed by the solar project in the monthly electricity bill.

Period of archiving:

The data is archived electronically every month and is maintained.

Calibration of equipment:

The calibration of energy meters is done once in a year by an independent accredited third party.

Internal Audit:

An internal audit is carried out every year at the power plant to ensure that the parameters are being monitored in accordance with the PDD. Periodic training of employees are ensure that there are no discrepancies in transferring of the data from logbooks to soft copy. The audit reports have been provided to the DOE undertaking

periodic verification.

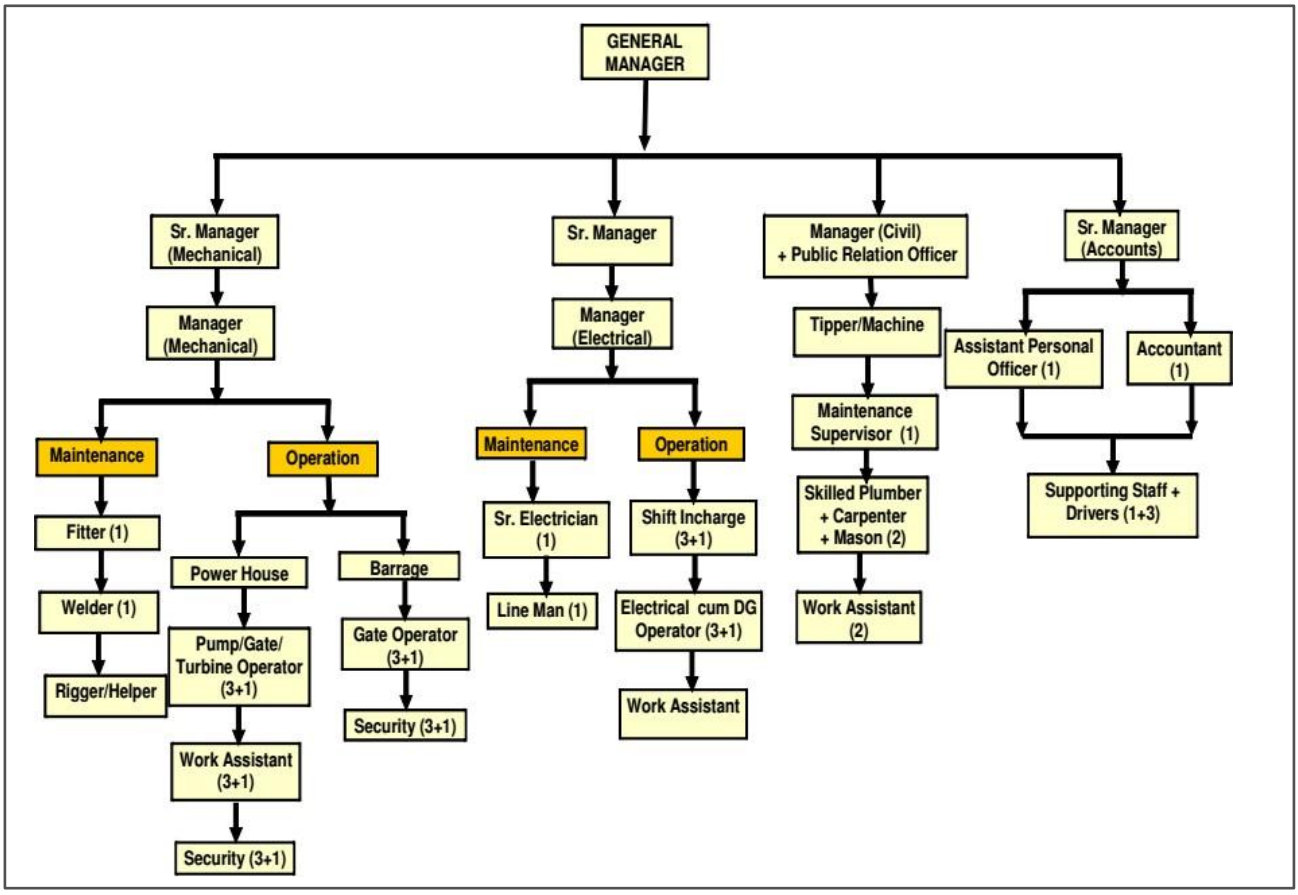
Training requirements:

The suppliers of the equipment have trained the staff in- charge during erection, to operate and maintain the equipment efficiently. Apart from this, the equipment supplier has provided complete manuals and documentation providing details for the maintenance schedule and the required activities associated with it.

Emergency Preparedness:

The project has employed highly skilled workers and periodic training of employees ensures that they are well equipped to handle emergency situations.

The following organization structure is used to monitor the project activity as per



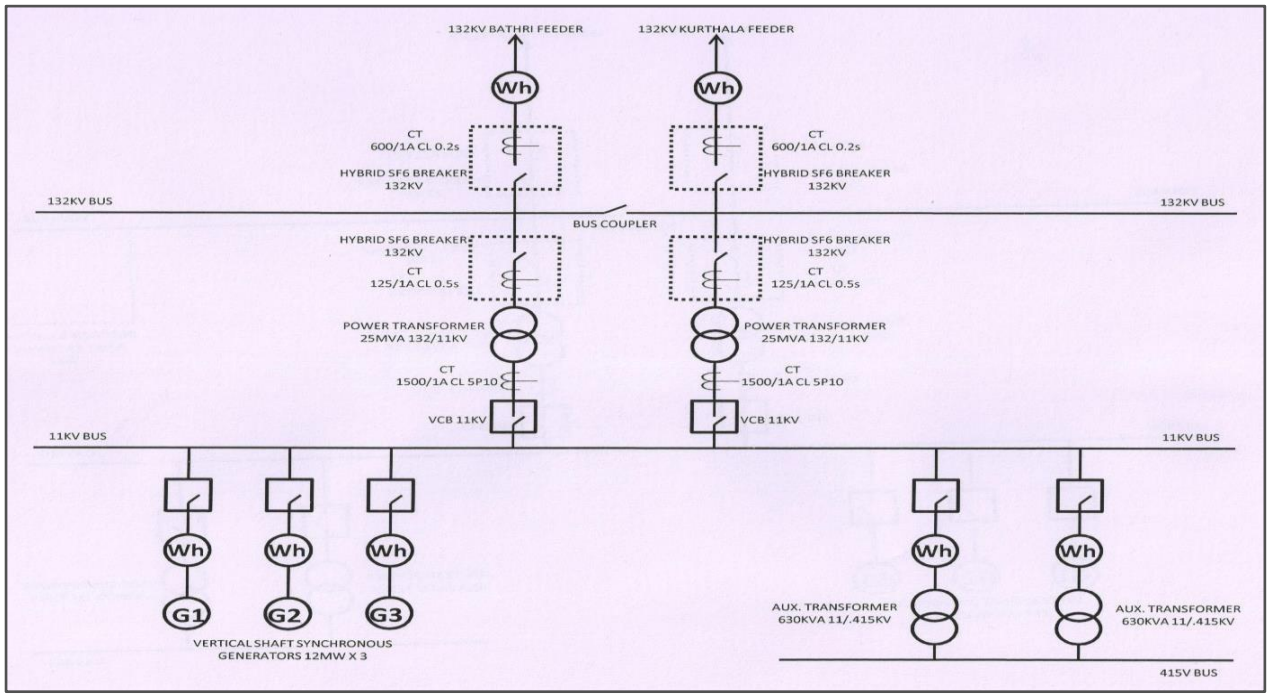
procedures:

The monitored data is being reported on a monthly basis for the calculation and estimation of emission reductions. This data is checked against initial estimates and a summary report is provided quarterly. If the project is not performing as expected or if there are any negative impacts on the volume of emission reductions obtained, on the basis of the monthly data being monitored, a report is prepared outlining where the project is deviating in its generation of emission reductions and the immediate measures which need to be undertaken to maintain the expected generation of emission reductions from the operation of this project. If there is significant changes to the set-up or operation of the plant, these is notified and amendments to the PDD has requested through a DOE.

For each verification period I. A. Energy is prepare a monitoring report that is submitted to a DOE for verification. I. A. Energy ensures that the procedures and monitoring plan are followed. All data is kept for a minimum of 2 years following issuance of certified

emission reductions or the end of the crediting period, whichever is later, and the storage of this data is the responsibility of the project developers.

The single line diagram for the monitoring points is given below,



SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Relevant SDG Indicator	SDG 13: Climate Action (Indicators 13.2.1)
Data/parameter	$\mathbf{EF_{grid,OM,y}}$
Unit	tCO_2e/MWh
Description	Operating Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 16, March 2021[5]
Value(s) applied	0.9568
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as per the latest data available for the most three recent years 2017-18, 2018-19 and 2019-20. The data is obtained from "CO_2 Baseline Database for Indian Power Sector" version 16, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	For the calculation of the Baseline Emission

3 https://cea.nic.in/wp-content/uploads/baseline/2021/06/2019_20_CO2_database.zip

Additional comment	This data will be archived for 2 years beyond the crediting period.

Relevant SDG Indicator	SDG 13: Climate Action (Indicators 13.2.1)
Data/parameter	$EF_{grid,BM,y}$
Unit	tCO_2e/MWh
Description	Build Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 16, March 2021
Value(s) applied	0.8682
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as per the latest data available for the most recent year 2019-20. The data is obtained from "CO_2 Baseline Database for Indian Power Sector" version 16, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This data will be archived for 2 years beyond the crediting period.

Relevant SDG Indicator	SDG 13: Climate Action (Indicators 13.2.1)
Data/parameter	$EF_{grid,CM,y}$
Unit	tCO_2e/MWh
Description	Combined Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 16, March 2021
Value(s) applied	0.9124
Choice of data or Measurement methods and procedures	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 CO_2 emission factor in year *y* (tCO_2e/MWh) $EF_{grid,OM,y}$= Operating margin CO_2 emission factor in year *y* (tCO_2e/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 50% W_{BM}= Weighting of build margin emissions factor (%) = 50%
Purpose of data	For the calculation of the Baseline Emission

Additional comment	This data will be archived for 2 years beyond the crediting period.

D.2 Data and parameters monitored

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Relevant SDG Indicator	SDG 7 (Indicators 7.2.1)
Data / Parameter	**$EG_{facility,y}$ or $EG_{PJ,y}$**
Unit	MWh
Description	Net Quantity of Electricity supplied to grid
Source of data	Calculated from difference of Gross electricity generation and Auxiliary consumption by the project activity
Value(s) applied	457,980.36
Measurement methods and procedures	Net electricity generated is calculated from the readings of Gross electricity generation and Auxiliary consumption by the project activity.
Monitoring frequency	Continuous measurement and at least monthly recording
QA/QC procedures	This is cross-checked against the import/export meter installed by state electricity board. The generation and auxiliary energy meter is calibrated annually by an independent accredited third party. The meter details are provided in the appendix section of this report.
Purpose of data	The Data/Parameter is required to calculate the baseline emission
Additional comment	The data is kept for two years after the end of the crediting period or the last issuance of VERs for this project activity, whichever occurs later.

Year	SDG 7 (MWh)
2019	88,401.00
2020	165,939.00
2021	136,906.456
2022	66,733.907

Relevant SDG Indicator	SDG 7 (Indicators 7.2.1)
Data / Parameter	**EG_{Gross}**
Unit	MWh
Description	Gross electricity generation by the project activity
Source of data	Energy meter readings from plant records
Value(s) applied	463,885.14

Year	EG_{Gross} (MWh)
2019	89,388.34
2020	167,934.79
2021	138,806.23
2022	67,755.78

Measurement methods and procedures	The data is measured/metered continuously and a logbook is maintained on site to record hourly readings from the energy meter. The readings is taken by the shift Engineer. This hourly data is signed off at the end of every 8-hour shift by the engineer in charge of the shift and again at the end of each day by the power plant manager.
Monitoring frequency	Continuous measurement and Monthly recording
QA/QC procedures	The generation energy meter is calibrated annually by an independent accredited third party. The calibration and meter details are incorporated in the appendix section of this report.
Purpose of data	The Data/Parameter is required to calculate the baseline emission
Additional comment	The data is kept for two years after the end of the crediting period or the last issuance of VERs for this project activity, whichever occurs later.

Relevant SDG Indicator	SDG 7 (Indicators 7.2.1)
Data / Parameter	$\mathbf{EG_{yAux}}$
Unit	MWh
Description	Auxiliary consumption by the project activity
Source of data	Energy meter readings from Plant records
Value(s) applied	1,526.67

Year	$\mathbf{EG_{yAux}}$ (MWh)
2019	251.81
2020	470.27
2021	515.59
2022	289.00

Measurement methods and procedures	The data is measured/metered continuously and a logbook is maintained on site to record on daily basis from the auxiliary meter. The readings is taken by the shift Engineer. This daily data is signed off by the engineer in charge of the shift and by the power plant manager.
Monitoring frequency	Continuous measurement and Monthly recording
QA/QC procedures	The auxiliary meter is calibrated annually by an independent accredited third party. The calibration and meter details are incorporated in the appendix section of this report.
Purpose of data	The Data/Parameter is required to calculate the baseline emission
Additional comment	The data is kept for two years after the end of the crediting period or the last issuance of VERs for this project activity, whichever occurs later.

Relevant SDG Indicator	SDG 13 (Indicators 13.2.1)
Data / Parameter	**ER_y**
Unit	tCO_2e
Description	Emission reductions achieved per year
Source of data	As per Estimated ER sheet. During the verification, the results are obtained from the Actual ER sheet.
Value(s) applied	417,782
Measurement methods and procedures	The baseline emissions are the product of electrical energy baseline $EG_{PJ,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.
Monitoring frequency	As per monitoring period
QA/QC procedures	Not Applicable
Purpose of data	To Monitor the SDG 13 Indicator
Additional comment	Data is archived in paper & electronic form for two years after the end of crediting period or of the last issuance of GS credits for this project activity, whichever occurs later

Year	Er_y (tCO_2e)
2019	80,644
2020	151,375
2021	121,889
2022	60,874

Relevant SDG Indicator	SDG 8 (Indicators 8.5.1)
Data / Parameter	Number of employment generation
Unit	Number
Description	Number of people employed directly due to the project activity
Source of data	Joining Letter for employment generation, Staff Register and Salary Slip
Value(s) applied	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0)

year	Number of employments
2019	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0)
2020	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0)
2021	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0)
2022	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0)

Measurement methods and procedures	The total number of persons working in the plant is calculated based on the daily log available at site. This parameter also monitors number of men/women employed by the project activity. The project activity ensures that "equal pay for work of equal value" for both men and women and there is no any discrimination against women. This parameter also monitors the income generation of the staff and company policy benefits like health insurance/social security etc. "The employment covers number of men and number of women employed by the project activity. The job is of type temporary/permanent or skilled/unskilled, etc. Also, it is ensued that peoples get equal payment for equal work. The payment is based on work and no any gender inequality for payment for work of equal value.
Monitoring frequency	Monthly monitoring and annual compilation
QA/QC procedures	The number of persons employed is mentioned in the plant register, which is crossed checked with attendance register. The information required for this parameter is checked by VVB during site visit through interview with people or through relevant supporting documents.
Purpose of data	To Monitor the SDG 8 Indicator
Additional comment	-

Relevant SDG Indicator	SDG 8 (Indicators 8.6.1)
Data / Parameter	Quality of employment
Unit	Number
Description	Training of Staff
Source of data	The training records for all the employees
Value(s) applied	06
Measurement methods and procedures	Together with the technology supplier, the Project Owner organize training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Monitoring frequency	Annual
QA/QC procedures	The training records for all the employees
Purpose of data	To Monitor the SDG 8 Indicator
Additional comment	-

Year	Number of trainings
2019	1
2020	2
2021	2
2022	1

D.3. Comparison of monitored parameters with last monitoring period

>>

Not Appliable (as this is non-Community Service Activities)

D.4. Implementation of sampling plan

>>

Not Applicable

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

>>

SDG 13 Climate Action

The baseline emissions are the product of electrical energy baseline $EG_{facility,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.

As per para 44 of methodology, being Greenfield project,

$$\mathbf{EG_{PJ,y} = EG_{facility,y}}$$

$$\mathbf{BE_y = EG_{facility,y} * EF_{grid,CM,y}}$$

Where,

$EG_{facility,y}$ = Total quantity of net electricity delivered to the grid

$\mathbf{EF_{grid,CM,y}}$ = Baseline emission factor

= 0.9124 tCO_2/MWh

$\mathbf{BE_y}$ = 457,980.36 * 0.9124

= 417,782 tCO_{2e}

As per Section B.4 of Registered PDD: $PE_y = 0$

Thus

$ER_y = BE_y - PE_y$[12]

$ER_y = BE_y - 0$

[12] As per the consolidated methodology ACM0002 v20, no project emission through the renewable project electricity generation. (The reservoir area created by the diversion barrage is 0.017 km^2 i.e. 17,000 m2 which gives a power density of 2,117.6W/ m2. Since this is greater than 10 W/ m^2 the project emissions are zero)

$ER_y = BE_y$

Therefore

$ER_y = BE_y = 417{,}782\ tCO_{2e}$

SDG 7: Affordable and Clean Energy

The project leads to generation of affordable and clean energy which would not have been possible in the baseline scenario. So, baseline value for Affordable and Clean Energy is zero.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. Also, no training was given if the project activity was not done. So, baseline value for employment opportunities and training is zero.

E.2. Calculation of project value or estimation of project situation of each SDG Impact

>>

SDG 7: Affordable and Clean Energy

During the current monitoring period, the project activity generates 462,358.47 MWh of affordable and clean energy.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. Currently 04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0) people are employed at the site. Project activity improves the quality of employment by giving training to employees. 06 trainings conducted during the current monitoring period.

SDG 13: Climate Action

SDG 13 is zero as no emission from the project activity in the project situation.

E.3. Calculation of leakage

>>

As per the consolidated methodology, no leakage emission through the renewable project electricity generation.

E.4. Calculation of net benefits or direct calculation for each SDG Impact

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
7	Affordable and Clean Energy	0 MWh	457,980.36 MWh	457,980.36 MWh
8	Decent Work and Economic Growth	0	04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0) people employed and 06 trainings Provided	04 (Skilled: 04, Un-skilled: 0, Semi-Skilled: 0) people employed, and 06 trainings Provided
13	Climate Action	417,782 tCO_2e	0 tCO_2e	417,782 tCO_2e

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values[13] achieved during this monitoring period
13	437,902 tCO_2e	417,782 tCO_2e
7	479,945.20 MWh	457,980.36 MWh
8	05 people employment and 1 training	Total 04 (Skilled: 04, Un-Skilled: 0, Semi-Skilled: 0) people employed and 06 trainings Provided

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

>>

SDG 13 Climate Action

[13] Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

As per GS PD, 142,582 tCO_2e is the amount of GS VER generated annually. Therefore, following unitary method, the amount of estimated ex ante for this monitoring period is identified. The total number of days in this monitoring period is 1121.
= (142,582/365) * 1121
= 437,902 tCO_2e

SDG 7: Affordable and Clean Energy

As per the SDG 13 calculation above, Annual (365 Days) Estimated value of electricity generation as per PDD is 156,272 MWh. Correspond to that 457,980.36 MWh is estimated for the current monitoring period.
= 437,902 (tCO_2e) /0.9124 (MWh/tCO_2e)
= 479,945.20 MWh

SDG 8 : Decent Work and Economic Growth

Annual estimate has been considered for SDG i.e. 05 persons employment and minimum 1 training per year.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

>>

SDG 7 & 13, During the current monitoring period, a total of 4.59% lower emission reduction was achieved. This decreases due to seasonal fluctuations in water availability and unwanted breakdowns can affect power generation, leading to deviations from projected reductions. The project is a grid-connected run-of-river hydropower project.

SECTION F. SAFEGUARDS REPORTING

>>

As per the safeguarding Principal Assessment in Appendix-1 of the Registered PDD, there are no safeguarding principles which are to be included in the monitoring plan or hold any relevance to the project activity. Also, there are no any impact (positive/negative/slightly) for any mitigation measures, being applicable to any of the safeguarding principles. Hence, this section is not relevant.

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

>>

As a part of continuous feedback from stakeholders, the grievances register is placed at the site and is being continuously monitored and addressed through the grievances cell on regular basis and maintained in a register at the site office. A copy of the grievance Register has been provided separately. No grievances received during the current monitoring period.

G.2. Report on any stakeholder mitigations that were agreed to be monitored.

>>

Not Applicable as there were no negative feedback logged during the monitoring period.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

Not Applicable as there were no negative feedback logged during the monitoring period. Also The Project Developer hereby declares that there are no ongoing or pending legal contests, disputes, or claims related to the ownership, operation, or crediting of the monitored parameters for the current Monitoring Period.

Appendix 1: Training Details

Sr. No.	Topic	Date	Number of Participant	Duration
1.	Electrical work safety	30/12/2019	14	1 hour
2.	LOTO system	20/05/2020	13	1 hour
3.	First aid and safety	16/11/2020	14	1 hour
4.	Health & Safety	25/03/2021	13	1 hour
5.	Operation of turbines and Generators	15/09/2021	13	1 hour
6.	House Keeping	10/02/2022	13	1 hour
7.	O&M of electrical equipment	30/08/2022	12	1 hour
8.	Fire Fighting	23/01/2023	14	1 hour

Appendix 2: Calibration details Calibration Details:

The calibration details of meters involved in the project activity is as below: METER CHANGE HISTORY RECORD

S. NO.	METER (TRANSMITTER/ GAUGE)	OLD METER DETAILS						Meter Replaced on	NEW METER DETAILS					
		OLD ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Closing Meter Reading		NEW ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Initial Meter Reading
					FROM	TO						FROM	TO	
1	TG-1	34140731734	SCHNEIDER	1	17-May-19	16-May-20	65576.88	29-May-20	540180078685	SCHNEIDER	1	14-May-20	13-May-21	0.055
2	TG-2	34140731733	SCHNEIDER	1	17-May-19	16-May-20	48659.04	29-May-20	540180079101	SCHNEIDER	1	14-May-20	13-May-21	0.050
3	TG-3	34140731738	SCHNEIDER	1	17-May-19	16-May-20	50337.98	29-May-20	540180078676	SCHNEIDER	1	13-May-20	12-May-21	0.000

S. NO.	METER (TRANSMITTER/ GAUGE)	OLD METER DETAILS						Meter Replaced on	NEW METER DETAILS					
		OLD ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Closing Meter Reading		NEW ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Initial Meter Reading
					FROM	TO						FROM	TO	
1	TG-1	540180078685	SCHNEIDER	1	14-May-20	13-May-21	43545.15	11-May-21	34140731734	SCHNEIDER	1	15-Apr-21	14-Apr-22	0.000
2	TG-2	540180079101	SCHNEIDER	1	14-May-20	13-May-21	36707.34	11-May-21	34140731733	SCHNEIDER	1	15-Apr-21	14-Apr-22	0.000
3	TG-3	540180078676	SCHNEIDER	1	13-May-20	12-May-21	53733.95	11-May-21	34140731738	SCHNEIDER	1	16-Apr-21	15-Apr-22	0.000

S. NO.	METER (TRANSMITTER/ GAUGE)	OLD METER DETAILS						Meter Replaced on	NEW METER DETAILS					
		OLD ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Closing Meter Reading		NEW ENERGY METER NO.	MAKE OF METER	ACCURAC Y CLASS	CALIBRATION VALIDITY (FROM/TO)		Initial Meter Reading
					FROM	TO						FROM	TO	
1	TG-1	34140731734	SCHNEIDER	1	15-Apr-21	15-Apr-22	69337.13	02-Jun-22	540180078685	SCHNEIDER	1	04-Apr-22	04-Apr-23	0.000
2	TG-2	34140731733	SCHNEIDER	1	15-Apr-21	15-Apr-22	38597.76	02-Jun-22	540180079101	SCHNEIDER	1	04-Apr-22	04-Apr-23	0.000
3	TG-3	34140731738	SCHNEIDER	1	16-Apr-21	15-Apr-22	47984.70	02-Jun-22	540180078676	SCHNEIDER	1	04-Apr-22	04-Apr-23	0.000
1	TG-1	540180078685	SCHNEIDER	1	04-Apr-22	04-Apr-23	54778.33	02-May-23	34140731734	SCHNEIDER	1	28-Mar-23	28-Mar-24	0.00
2	TG-2	540180079101	SCHNEIDER	1	04-Apr-22	04-Apr-23	35782.63	02-May-23	34140731733	SCHNEIDER	1	28-Mar-23	28-Mar-24	0.00
3	TG-3	540180078676	SCHNEIDER	1	04-Apr-22	04-Apr-23	41456.74	02-May-23	34140731738	SCHNEIDER	1	28-Mar-23	28-Mar-24	0.00

Auxiliary Meters:-

S. NO.	Auxiliary ENERGY METER NO.	OLD METER DETAILS						Meter Replaced on	NEW METER DETAILS					
		OLD ENERGY METER NO.	MAKE OF METER	ACCURACY CLASS	CALIBRATION VALIDITY (FROM/TO)		Closing Meter Reading		NEW ENERGY METER NO.	MAKE OF METER	ACCURAC Y CLASS	CALIBRATION VALIDITY (FROM/TO)		Initial Meter Reading
					FROM	TO						FROM	TO	
1	AUX. T/F 1	34153341596	SCHNEIDER	0.5	17-May-19	16-May-20	219.6074	30-May-20	540180087883	SCHNEIDER	0.5	13-May-20	12-May-21	54.32
2	AUX. T/F 2	34153341597	SCHNEIDER	0.5	17-May-19	16-May-20	258.42696	30-May-20	540180087890	SCHNEIDER	0.5	14-May-20	13-May-21	54.68
3	AUX. T/F 1	540180087883	SCHNEIDER	0.5	13-May-20	12-May-21	182300.31	11-May-21	34153341596	SCHNEIDER	0.5	16-Apr-21	15-Apr-22	0
4	AUX. T/F 2	540180087890	SCHNEIDER	0.5	14-May-20	13-May-21	231444.11	11-May-21	34153341597	SCHNEIDER	0.5	15-Apr-21	14-Apr-22	0
5	AUX. T/F 1	34153341596	SCHNEIDER	0.5	16-Apr-21	15-Apr-22	31763.36	25-Jun-21	**Q0333445**	SECURE	0.2	Installed and Sealed by HPSLDC		
6	AUX. T/F 2	34153341597	SCHNEIDER	0.5	15-Apr-21	14-Apr-22	32516.96	25-Jun-21	**Q0333450**	SECURE	0.2	Installed and Sealed by HPSLDC		

Auxiliary ENERGY METER NO.	MAKE OF METER	ACCURAC Y CLASS	CALIBRATION VALIDITY (FROM/TO)	
			FROM	TO
Q033445- Aux 1- main	Secure	0.2s	24/11/2020	23/11/2021
Q033450- Aux 2- main	Secure	0.2s	24/11/2020	23/11/2021
Q033445- Aux 1- main	Secure	0.2s	20/11/2021	19/11/2022
Q033450- Aux 2- main	Secure	0.2s	20/11/2021	19/11/2022
Q033445- Aux 1- main	Secure	0.2s	18/11/2023	17/11/2024
Q033450- Aux 2- main	Secure	0.2s	18/11/2023	17/11/2024
Q033445- Aux 1- main	Secure	0.2s	17/11/2024	16/11/2025
Q033450- Aux 2- main	Secure	0.2s	17/11/2024	16/11/2025

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	**validity**
main1	HPU06240	Secure, 0.2s	03-10-2018	02-10-2019	19-06-2019	HPU06250	18-06-2020
check1	HPU06109	Secure, 0.2s	03-10-2018	02-10-2019	19-06-2019	HPU06251	18-06-2020
main2	HPU06107	Secure, 0.2s	03-10-2018	02-10-2019	meters not changed, only calibrated in this duration		
check2	HPU06108	Secure, 0.2s	03-10-2018	02-10-2019			

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity
main1	HPU06250	Secure, 0.2s	15-05-2019	14-05-2020	30-01-2020	HPU06240	29-01-2021
check1	HPU06251	Secure, 0.2s	15-05-2019	14-05-2020	30-01-2020	HPU06109	29-01-2021
main2	HPU06107	Secure, 0.2s	15-05-2019	14-05-2020	30-01-2020	HPU06239	29-01-2021
check2	HPU06108	Secure, 0.2s	15-05-2019	14-05-2020	30-01-2020	HPU06110	29-01-2021

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity

main1	HPU06240	Secure, 0.2s	meters are changed only in this duration	03-03-2021[6]	HPU06107	02-03-2022
check1	HPU06109	Secure, 0.2s		03-03-2021	HPU06108	02-03-2022
main2	HPU06239	Secure, 0.2s		03-03-2021	HPU06250	02-03-2022
check2	HPU06110	Secure, 0.2s		03-03-2021	HPU06251	02-03-2022

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity
main1	HPU06107	Secure, 0.2s	meters are changed only in this duration		25-06-2021	Q0333420	24-06-2022
check1	HPU06108	Secure, 0.2s			25-06-2021	Q0333442	24-06-2022
main2	HPU06250	Secure, 0.2s			25-06-2021	Q0333350	24-06-2022
check2	HPU06251	Secure, 0.2s			25-06-2021	Q0333438	24-06-2022

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity
main1	Q0333420	Secure, 0.2s	20-06-2023	19-06-2024	meters not changed, only calibrated in this duration		
check1	Q0333442	Secure, 0.2s	20-06-2023	19-06-2024			
main2	Q0333350	Secure, 0.2s	20-06-2023	19-06-2024			
check2	Q0333438	Secure, 0.2s	20-06-2023	19-06-2024			

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity
main1	Q0333420	Secure, 0.2s	15-06-2024	14-06-2025	meters not changed, only calibrated in this duration		
check1	Q0333442	Secure, 0.2s	15-06-2024	14-06-2025			
main2	Q0333350	Secure, 0.2s	15-06-2024	14-06-2025			
check2	Q0333438	Secure, 0.2s	15-06-2024	14-06-2025			

Sr.No.	**old meter Serial no.**	make and class	date of testing	validity	date of change	**replaced meter Serial no.**	validity
main1	Q0333420	Secure, 0.2s	04-04-2025	03-04-2026	meters not changed, only calibrated in this		

[6] Due to delay in calibration test , test delayed in duration (29/01/2021 to 03/03/2021), Error factor has been applied in calculation of emission reduction.

check1	Q0333442	Secure, 0.2s	04-04-2025	03-04-2026	duration
main2	Q0333350	Secure, 0.2s	04-04-2025	03-04-2026	
check2	Q0333438	Secure, 0.2s	04-04-2025	03-04-2026	

Appendix 3: Major Breakdown Details

IA HYDRO ENERGY PRIVATE LIMITED
CHANJU-I HEP (36 MW)
SUMMARY OF SHUTDOWN REGISTER
PERIOD - 01 July- 2019 TO 25 July-2022

MONTH	Operating Days			Shut Down Days			Date of Shut Down	Reason for Shut Down
	TG - 1	TG - 2	TG - 3	TG - 1	TG - 2	TG - 3		
Jul/19	31	31	31	0	0	0		
Aug/19	31	31	31	0	0	0		
Sep/19	30	30	14	0	0	16	TG-3: 14-18 & 20-30 Sept 2019	Less Inflow
Oct/19	24	21	1	7	10	30	TG-1: 15-18 & 23-25 Oct 2019 TG-2: 11-13, 20-21 & 27-31 Oct 2019 TG-3: 01-03 & 5-31 Oct 2019	Less Inflow & Annual Maintenance
Nov/19	30	4	0	0	26	30	TG-2: 01-04 & 9-30 Nov 2019 TG-3: 01-30 Nov 2019	Less Inflow & Annual Maintenance
Dec/19	8	2	23	23	29	8	TG-1: 03-21, 23-25 & 31 Dec 2019 TG-2: 1-29 Dec 2019 TG-3: 6-13 Dec 2019	Less Inflow & Annual Maintenance
Jan/20	0	29	31	31	2	0	TG-1: 01-31 Jan 2020 TG-2: 29-30 Jan 2020	Less Inflow & Annual Maintenance
Feb/20	9	24	29	20	5	0	TG-1: 01-20 Feb 2020 TG-2: 22-24 & 28-29 Feb 2020	Less Inflow & Annual Maintenance
Mar/20	31	29	31	0	2	0	TG-2: 01-02 Mar 2020	Less Inflow
Apr/20	30	29	30	0	1	0	TG-2: 09 Apr 2020	Less Inflow
May/20	31	31	31	0	0	0		
Jun/20	30	30	30	0	0	0		
Jul/20	31	31	31	0	0	0		
Aug/20	31	31	31	0	0	0		
Sep/20	30	12	30	0	18	0	TG-2: 11-21, 23-25 & 27-30 Sept 2020	
Oct/20	29	0	31	2	31	0	TG-1: 10 & 22 Oct 2020 TG-2: 01-31 Oct 2020	Less Inflow & Annual Maintenance
Nov/20	2	10	30	28	20	0	TG-1: 03-30 Nov 2020 TG-2: 01-11, 13-15 & 17-20 Nov 2020	Less Inflow & Annual Maintenance
Dec/20	0	22	22	31	9	9	TG-1: 01-31 Dec 2020 TG-2: 17-25 Dec 2020 TG-3: 17-25 Dec 2020	Less Inflow & Annual Maintenance
Jan/21	20	31	12	11	0	19	TG-1: 01-11 Jan 2021 TG-3: 13-31 Jan 2021	Less Inflow & Annual Maintenance
Feb/21	28	28	4	0	0	24	TG-3: 01-16, 19-22 & 25-28 Feb 2021	Less Inflow & Annual Maintenance
Mar/21	31	31	25	0	0	6	TG-3: 01-06 Mar 2021	Less Inflow
Apr/21	30	30	30	0	0	0		
May/21	31	31	31	0	0	0		
Jun/21	30	30	30	0	0	0		
Jul/21	31	31	31	0	0	0		
Aug/21	31	31	31	0	0	0		
Sep/21	30	19	30	0	11	0	TG-2: 01-07 & 27-30 Sept 2021	Less Inflow
Oct/21	31	0	31	0	31	0	TG-2: 01-31 Oct 2021	Less Inflow & Annual Maintenance
Nov/21	30	21	10	0	9	20	TG-2: 01-09 Nov 2021 TG-3: 11-30 Nov 2021	Less Inflow & Annual Maintenance
Dec/21	17	19	10	14	12	21	TG-1: 07-16 & 28-31 Dec 2021 TG-2: 07-16 & 24-25 Dec 2021 TG-3: 01-21 Dec 2021	Less Inflow & Annual Maintenance
Jan/22	0	30	25	31	1	6	TG-1: 01-31 Jan 2022 TG-2: 11 Jan 2022 TG-3: 04-09 Jan 2022	Less Inflow & Annual Maintenance
Feb/22	26	28	6	2	0	22	TG-1: 01-02 Feb 2022 TG-3: 04, 06-07 & 10-28 Feb 2022	Less Inflow
Mar/22	31	31	7	0	0	24	TG-3: 01-06, 08, 13 & 16-31 Mar 2022	Less Inflow
Apr/22	30	27	8	0	3	22	TG-2: 08-09 & 30 Apr 2022 TG-3: 01-06, 11 & 13-27 Apr 2022	Less Inflow
May/22	31	21	31	0	10	0	TG-2: 01-10 May 2022	Less Inflow
Jun/22	30	30	30	0	0	0		
July-22 (Upto 25.07.2022)	25	25	25	0	0	0		
TOTAL	921	891	864	200	230	257		

IA HYDRO ENERGY PRIVATE LIMITED
CHANJU-I HEP (36 MW)
SUMMARY OF SHUTDOWN REGISTER
PERIOD - 26 July 2022 TO 31 Mar 2025

MONTH	Operating Days			Shut Down Days			Date of Shut Down	Reason for Shut Down
	TG - 1	TG - 2	TG - 3	TG - 1	TG - 2	TG - 3		
July-22 (26.07.22 to 31.07.22)	6	6	6	0	0	0		
Aug/2022	31	31	31	0	0	0		
Sep/2022	30	30	30	0	0	0		
Oct/2022	31	31	2	0	0	29	TG-3: 03-31 Oct 2022	Less Inflow & Annual Maintenance
Nov/2022	30	30	0	0	0	30	TG-3: 01-30 Nov 2022	Less Inflow & Annual Maintenance
Dec/2022	5	19	15	26	12	16	TG-1: 06-31 Dec 2022 TG-2: 07-18 Dec 2022 TG-3: 01-04 & 07-18 Dec 2022	Less Inflow & Annual Maintenance
Jan/2023	20	12	31	11	19	0	TG-1: 01-11 Jan 2023 TG-2: 13-31 Jan 2023	Less Inflow & Annual Maintenance
Feb/2023	17	14	28	11	14	0	TG-1: 16-20 & 22-27 Feb 2023 TG-2: 01-14 Feb 2023	Less Inflow & Annual Maintenance
Mar/2023	29	31	21	2	0	10	TG-1: 12-13 Mar 2023 TG-3: 01-10 Mar 2023	Less Inflow
Apr/2023	30	30	30	0	0	0		
May/2023	31	31	31	0	0	0		
Jun/2023	30	30	30	0	0	0		
Jul/2023	29	29	29	2	2	2	TG-1: 10-11 Jul 2023 TG-2: 10-11 Jul 2023 TG-3: 10-11 Jul 2023	Flash Flood / High Silt Content
Aug/2023	29	29	28	2	2	3	TG-1: 23-24 Aug 2023 TG-2: 24-25 Aug 2023 TG-3: 29-31 Aug 2023	PLC Faulty
Sep/2023	24	30	10	6	0	20	TG-1: 17 & 26-30 Sept 2023 TG-3: 01-15 & 20-24 Sept 2023	Less Inflow
Oct/2023	1	19	16	30	12	15	TG-1: 01-30 Oct 2023 TG-2: 09-10 & 22-31 Oct 2023 TG-3: 01-02, 04-07 & 12-20 Oct 2023	Less Inflow & Annual Maintenance
Nov/2023	30	0	1	0	30	29	TG-2: 01-30 Nov 2023 TG-3: 01-09 & 11-30 Nov 2023	Less Inflow & Annual Maintenance
Dec/2023	7	18	0	24	13	31	TG-1: 08-31 Dec 2023 TG-2: 01-06 & 13-19 Dec 2023 TG-3: 01-31 Dec 2023	Less Inflow & Annual Maintenance
Jan/2024	2	7	24	29	24	7	TG-1: 01-29 Jan 2024 TG-2: 08-31 Jan 2024 TG-3: 01-06 & 31 Jan 2024	Less Inflow & Annual Maintenance
Feb/2024	25	0	6	4	29	23	TG-1: 18-21 Feb 2024 TG-2: 01-29 Feb 2024 TG-3: 01-16 & 23-29 Feb 2024	Less Inflow
Mar/2024	21	22	30	10	9	1	TG-1: 03-12 Mar 2024 TG-2: 01 & 05-12 Mar 2024 TG-3: 01 Mar 2024	Less Inflow
Apr/2024	30	30	30	0	0	0		
May/2024	31	31	31	0	0	0		
Jun/2024	28	30	23	2	0	7	TG-1: 20-21 Jun 2024 TG-3: 09-15 Jun 2024	Less Inflow
Jul/2024	30	31	31	1	0	0	TG-1: 15 Jul 2024	Less Inflow
Aug/2024	31	31	31	0	0	0		
Sep/2024	30	30	15	0	0	15	TG-3: 13, 15-17, 19-26 & 28-30 Sept 2024	Less Inflow
Oct/2024	31	7	0	0	24	31	TG-2: 07-18 & 20-31 Oct 2024 TG-3: 01-31 Oct 2024	Less Inflow & Annual Maintenance
Nov/2024	5	5	26	25	25	4	TG-1: 06-30 Nov 2024 TG-2: 01-25 Nov 2024 TG-3: 01-04 Nov 2024	Less Inflow & Annual Maintenance
Dec/2024	27	3	6	4	28	25	TG-1: 01-02 & 04-05 Dec 2024 TG-2: 04-31 Dec 2024 TG-3: 07-31 Dec 2024	Less Inflow & Annual Maintenance
Jan/2025	7	27	4	24	4	27	TG-1: 06-14 & 17-31 Jan 2025 TG-2: 01-04 Jan 2025 TG-3: 01-14 & 19-31 Jan 2025	Less Inflow & Annual Maintenance
Feb/2025	3	6	24	25	22	4	TG-1: 01-15 & 18-27 Feb 2025 TG-2: 06-27 Feb 2025 TG-3: 01-04 Feb 2025	Less Inflow
Mar/2025	28	4	28	3	27	3	TG-1: 02-03 & 08 Mar 2025 TG-2: 05-31 Mar 2025 TG-3: 04-06 Mar 2025	Less Inflow
TOTAL	739	684	648	241	296	332		

Revision History

Version	Date	Remarks
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption