Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 10 MW Grid-connected Small Hydro Power Project of
M/s Mohite Industries Ltd, Maharashtra by EASPL

Version 1.0

Date 02/03/2024

First CoU Issuance Period: 10 years,0 months

Date: 01/01/2013 to 31/12/2022

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	**10 MW Grid-connected Small Hydro Power Project of M/s Mohite Industries Ltd, Maharashtra by EASPL**
UCR Project Registration Number	303
Version	1.0
Completion date of the MR	02/03/2024
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (**01/01/2013 to 31/12/2022)**
Project participants	**Project Proponent:** M/s Mohite Industries Limited R.S.No.347, Ambapwadi Phata, Off.NH-4, P.B.No.1, Vadgaon,, Dist. Kolhapur-416112 (MS) India **Aggregator:** Energy Advisory Services Pvt. Ltd. Bangalore, Karnataka. Email: manoj@easpl.co.in
Host Party	INDIA
Applied methodologies and standardized baselines	**Applied Baseline Methodology:** AMS-I. D: "Grid connected renewable electricity generation", version 18 **Standardized Methodology:** Not Applicable.
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2013: 13,259 CoUs (13,259 tCO_{2eq})
	2014: 17,778 CoUs (17,778 tCO_{2eq})
	2015: 4,173 CoUs (4,173 tCO_{2eq})
	2016: 11,010 CoUs (11,010 tCO_{2eq})
	2017: 8,579 CoUs (8,579 tCO_{2eq})
	2018: 16,600 CoUs (16,600 tCO_{2eq})
	2019: 21,258 CoUs (21,258 tCO_{2eq})
	2020: 21,016 CoUs (21,016 tCO_{2eq})
	2021: 23,111 CoUs (23,111 tCO_{2eq})
	2022: 21,264 CoUs (21,264 tCO_{2eq})
Total:	**1,57,568 CoUs (1,57,568 tCO_{2eq})**

SECTION A. Description of project activity

A.1. Purpose and general description of project activity >>

The proposed project activity is promoted by M/s Mohite Industries Limited, earlier known as R. M. Mohite Textiles Ltd. (Herein after called as project proponent 'PP'). The proposed project activity involves construction and operation of Small-Scale Hydel Power Project in the district of Kolhapur, Maharashtra, India. The project comprises 2 units of hydro Turbine and Generators (2*5 MW) with an aggregated installed capacity of 10 MW.

a) Purpose of the project activity and the measures taken for GHG emission reductions >>

The main purpose of the project activity is to generate renewable electrical energy through sustainable means without causing any negative impact on the environment, and to contribute to climate change mitigation efforts.

Apart from the generation of electrical power, the project also contributes to the following.

- Sustainable development of the region.
- Rural development, as all the projects are in rural areas.
- Generation of additional employment for the local stakeholders.

The project activity is conceived to generate clean energy utilising the kinetic energy of water falling from a height, which is converted into mechanical energy by a turbine which then drives a generator to produce electricity. The water flowing from the Radhanagri Dam Reservoir into the canal is utilised to generate electricity. It causes minimum environmental impacts and will reduce inhabitants' dependence on fossil fuels. This in turn will lead to reduction of greenhouse gas (GHG).

Hence, project activity is displacing the estimated net electricity generation i.e., 35,040 MWh per year, (An ex-ante estimate) from the Indian grid system, which otherwise would have been generated by the operation of fossil fuel-based grid-connected power plants. The estimated CO_2e emission reductions by the project activity are expected to be 31,536 tCO_2e per year (An ex-ante estimate).

The net generated electricity from the project activity is used for captive consumption and 2016 excess energy is sold to the state electricity board under the Power Purchase Agreement (PPA) signed between the PP and respective parties. In pre-project scenario, electricity delivered to the grid by the project activity would have otherwise been generated by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel-based generation sources in the grid. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases into the atmosphere by displacing an equivalent amount of power at grid.

b) Brief description of the installed technology and equipment>>

Total cumulative installed capacity of the project would be 10 MW with an annual gross energy generation of 35,040 MWh. It involves 2 Vertical Francis hydro turbines of 5 MW each, with aggregated installed capacity of 10 MW. In this hydro project energy produced is used for captive consumption by the PP, later an Open Access Contract Demand agreement was signed with MSEDCL to sell the excess produced energy to the MSEDCL through a power purchase agreement. The Radhanagari dam on Bhogawati River, is based on an existing irrigation scheme. The hydroelectric project uses the irrigation discharges & spillage (only in the monsoon season) for power generation.

As the nature of the hydro project, no fossil fuel is involved for power generation in the project activity, the electricity produced by the project is directly contributing to climate change mitigation by reducing

the anthropogenic emissions of greenhouse gases into the atmosphere by displacing an equivalent amount of power at the grid, which would otherwise have been generated from fossil fuel-based power plants which are connected to the Indian grid system.

Table 1-The salient features of the technology of the hydro-turbines:

Sr. No.	Parameter	Value	Quantity
1	Make of Turbine	Nanjng Generating equipment China	
	Type	Vertical Francis type	2 Nos
	Rated Capacity	5210 kW	
	Turbine Efficiency	93.8%	
	Year of Manufacturing	2011	
	Rated Head	28 m	
	Rated Speed	250 rpm	
2	Hydro Generator	Vertical shaft 5555 kVA	2 Nos

c) Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)>>

UCR Project ID or Date of Authorization:	303
Start Date of Crediting Period:	01/01/2013
Project Commissioned:	08/03/2011

d) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	01/01/2013
Carbon credits claimed up to	31/12/2022
Total ERs generated (tCO_{2eq})	1,57,568 tCO_{2eq}
Leakage	Nil

e) Baseline Scenario>>

The baseline scenario identified at the PCN stage of the project activity is:

As per the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: **"The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise, been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid".**

Schematic diagram showing the baseline scenario is given below:

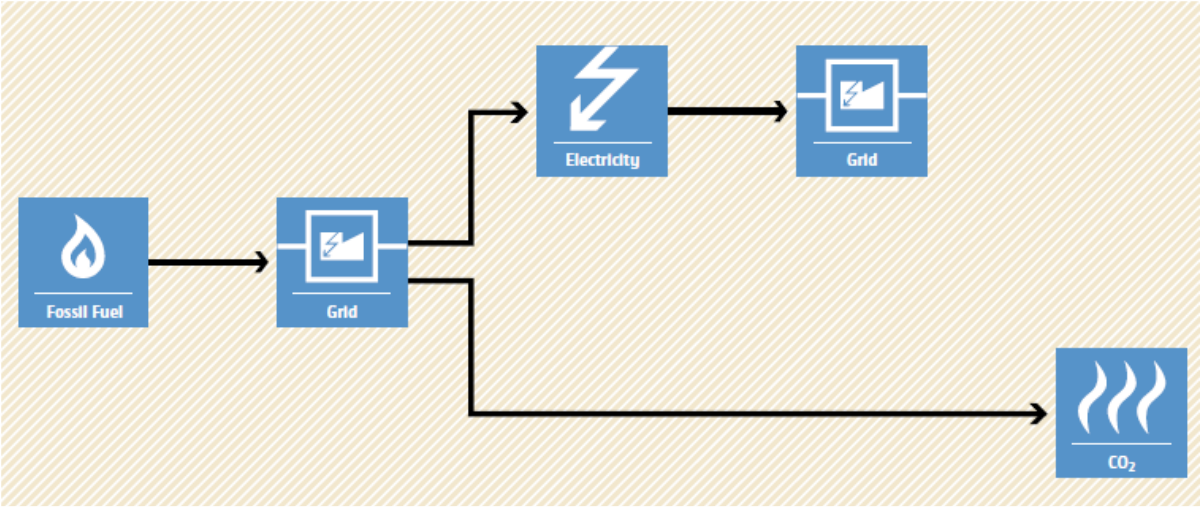

Figure -1Baseline and project scenario

A.2. Location of project activity>>

Country:	INDIA
Village:	PHEJIWADE
Tehsil:	RADHANAGARI
District:	KOLHAPUR
State:	MAHARASHTRA
Pincode	416212
Coordinates	$16^0$24’26”N
	$73^0$57’41”E

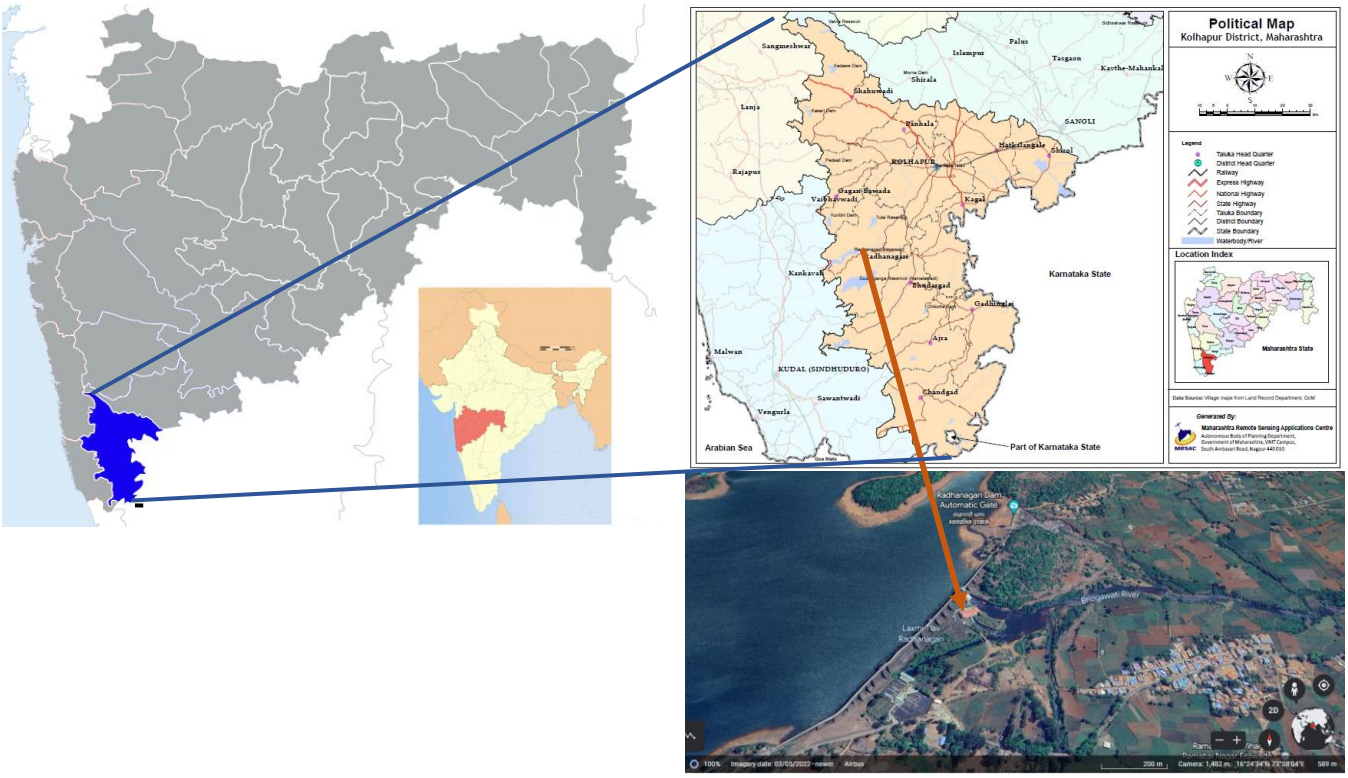

Figure 2-10 MW Hydroelectric project location

A.3. Parties and project participants >>

Party (Host)	Participants
INDIA	**Project Proponent:** M/s Mohite Industries Limited R.S.No.347, Ambapwadi Phata, Off.NH-4, P.B.No.1, Vadgaon,, Dist. Kolhapur-416112 (MS) India **Aggregator:** Energy Advisory Services Pvt. Ltd. Bangalore, Karnataka. Email: manoj@easpl.co.in

A.4. References to methodologies and standardized baselines >>

SECTORAL SCOPE	01, Energy industries (Renewable/Non-renewable sources)
TYPE	I – Renewable Energy Projects
CATEGORY	AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18)

A.5. Crediting period of project activity >>

Start date of the crediting period: 01/01/2013
Length of the crediting period corresponding to this monitoring period: 10 years 0 months
01/01/2013 to 31/12/2022 (Both dates are inclusive)

A.6. Contact information of responsible persons/entities >>

Name	: Nikhil Vedprakash
Contact No	: +91 7303201778
E-Mail	: nikhil@easpl.co.in

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity >>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The project consists of a two hydro turbine having an installed capacity of 10 MW (2*5000 kW) which was commissioned on 08/03/2011. The project is located at Phejiwade Village, Radhanagari Taluk, Kolhapur District, Maharashtra – 416212 (India). M/s Mohite Industries Limited is the owner of this project. The project generates clean energy by utilizing the kinetic energy of flowing water from Bhogawati River.

b) For the description of the installed technology(ies), technical process and equipment, include diagrams, where appropriate>>

The project activity involves a two Vertical Francis Turbine (2*5000 kW) alongwith Electrical generator, transformers, main inlet valve and related civil works. The generated electricity is evacuated through electrical transmission lines connecting the project activity with a local 110 kV electrical grid. The generators generate power at 6.6 kV, which is further stepped up to 33 kV. The project activity operates at a frequency of 50 Hz and a voltage of 3.3 kV ±10%. The average life of the generator is around 35 to 40 years as per the equipment supplier specification. The other salient features of the technology are:

The other salient features of the technology are:

Particular	Technical details	Value
Turbine	Vertical shaft Francis type	Rated output – 5000 kW Design head – 28 m
Generator	Vertical shaft alternator	Rated capacity @0.9 pf – 5555 kVA
Potential Transformer	Draw out type	2 core 6.6 kV, 110-V, 3-phases
Main transformer	YNd1 type	7 MVA 6.6 kV/33 kV

B.2. Do no harm or Impact of the project activity >>

There was no harm identified form the project and hence no mitigations measures are applicable.

Rational: as per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), it has been declared that hydro project activity falls under the "White category". White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for hydro Projects.

The Government of India has stipulated the following indicators for sustainable development in the interim approval guidelines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environmental, and technological well-being as the four indicators of sustainable development. It has been envisaged that

the project shall contribute to sustainable development using the following ways:

Social well-being: The project would help in generating direct and indirect employment benefits accruing out of ancillary units for project equipment's and hydro turbines and for maintenance during the operation of the project activity. It will lead to the development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.

Economic well-being: The project is a clean technology investment decision based on carbon revenue support, which signifies the flow of clean energy investments into the host country. The project activity requires temporary and permanent, skilled and semi-skilled manpower at the project location; this will create additional employment opportunities in the region. The generated electricity will be displacing an equivalent amount of electricity that otherwise would have been generated by fossil fuel sources, thereby reducing grid emission. In addition, improvement in infrastructure will provide new opportunities for industries and economic activities to be set up in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The project activity employs state of art technology hydro turbines which has high power generation potential. The successful operation of project activity would lead to the promotion of this technology and would further push R&D efforts by technology providers to develop more efficient and better machinery in the future. Hence, the project leads to technological well-being. P

Environmental well-being: The project activity will generate power using zero emissions hydro-based power generation facility which helps to reduce GHG emissions and specific pollutants like SO_x, NO_x, and SPM associated with the conventional thermal power generation facilities. The project utilizes the kinetic energy of flowing water for generating electricity which is a clean source of energy. The project activity will not generate any air pollution, water pollution, or solid waste to the environment which otherwise would have been generated through fossil fuels. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

The project activity contributes to the following SDGs;

Table 1: Contribution to the SDGs

	• The project activity has generated 1,75,083 MWh of clean energy from January 2013 to December 2022, which with increased share will increase the affordability of energy at a cheaper rate to the end user. • The project activity utilizes wind energy (renewal resource) to generate power. The project activity will increase the share of renewable resource-based electricity in global mix of energy consumption.
	• The project activity generates additional employment for skilled and unskilled workers. The project is situated in a remote area and it will provide employment opportunities to unskilled people from nearby villages. • Training on various aspects including safety, operational issues, and developing skill sets will also be provided to employees. • This project will achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

13 CLIMATE ACTION	• This wind power project meets the SDG 13 goal by saving fossil fuel and producing clean energy. • This project has avoided 1,57,568 tons of CO2 from January 2013 to December 2022 during this monitoring period. • In a greenfield project, electricity delivered to the grid by the project would reduce the dependence on fossil fuel-based generation units and as there are no associated emissions with this project it contributes to the reduction of greenhouse gases (GHG) emissions.

B.3. Baseline Emissions>>

The baseline scenario identified at the PCN stage of the project activity is:

- Grid connected renewable energy generation (mini hydro power project)

In the absence of the project activity, the equivalent amount of electricity would have been imported from the grid (which is connected to the unified Indian Grid system), which is carbon intensive due to being predominantly sourced from fossil fuel-based power plants. Hence, the baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.

Schematic diagram showing the baseline and project scenario are given below:

Baseline Scenario: Electricity would be produced by more GHG intensive means like coal, oil and gas.

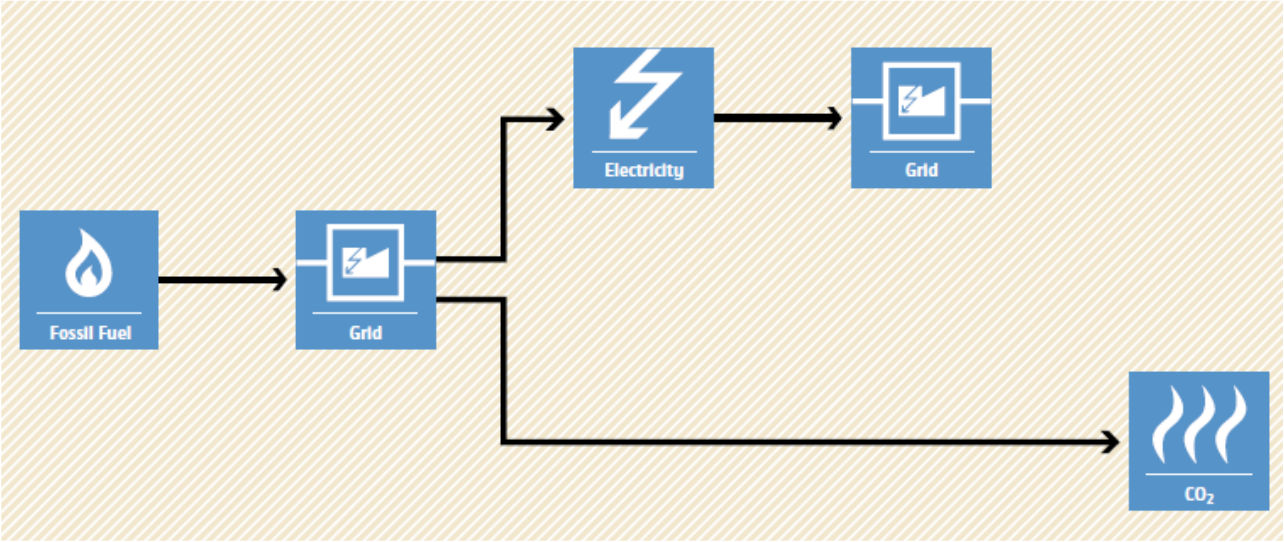

Figure 3-Baseline scenario

Project Scenario: Use of renewable energy technologies for electricity generation, displacing the non-renewable sources

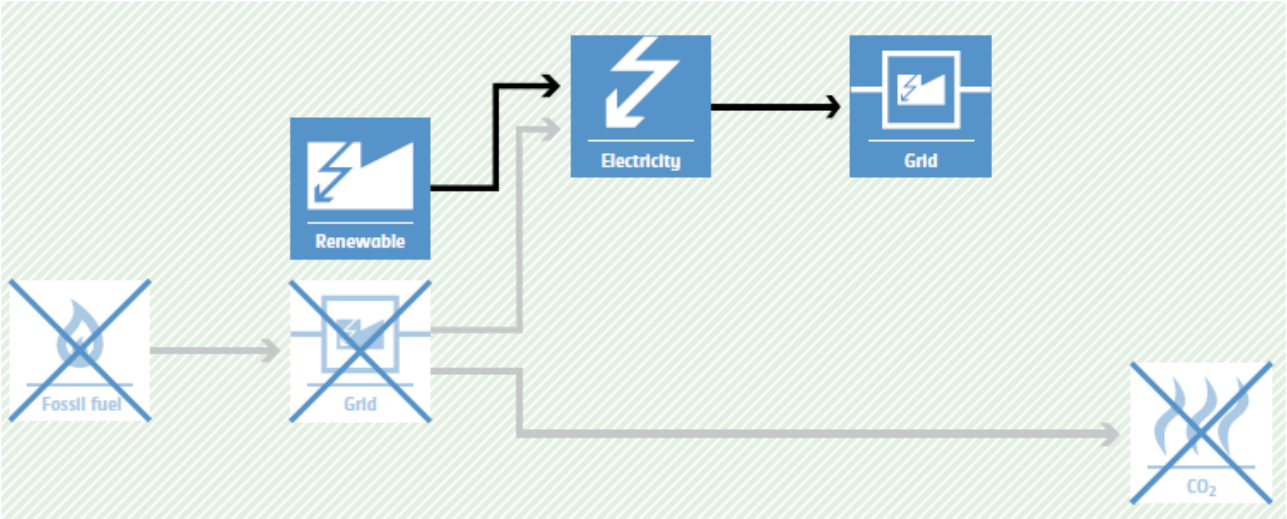

Figure 4-Project scenario

Thus, this project activity was a voluntary investment which replaced equivalent amount of electricity from grid connected power plants. The project proponent was not bound to incur this investment as it was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace thermal energy from non-renewable fuel (coal/oil/gas) and fight the impacts of climate change. The Project Proponent hopes that carbon revenues from 2019-2022 accumulated because of carbon credits generated will help repay the loans and in the continued maintenance of this project activity

B.4. De-bundling>>

This project activity is not a de-bundled component of a larger project activity.

SECTION C. Application of methodologies and standardized baselines

C.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE	01, Energy industries (Renewable/Non-renewable sources)
TYPE	I – Renewable Energy Projects
CATEGORY	AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18)

C.2. Applicability of methodologies and standardized baselines >>

The project activity involves generation of grid connected electricity from the construction and operation of a new hydro power-based power project. The project activity has installed capacity of 10 MW which will qualify for a small-scale project activity under Type-I of the Small-Scale methodology. The project status is corresponding to the methodology AMS-I.D., version 18 and applicability of methodology is discussed below:

Applicability Criterion	Project Case
1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity is a Renewable Energy Project i.e. micro hydro power. The project activity is a Renewable Energy Project. Produced energy is used for captive consumption and excess energy is sold to MSEDCL through a PPA. Hence it fulfils both the sub-points of criterion 1. Hence the project activity meets the given applicability criterion.
2. This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	The option (a) of applicability criteria 2 is applicable as project is a Greenfield plant /Unit. Hence the project activity meets the given applicability criterion.
3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or (b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) is increased and the power	This Small-Scale Hydro Project is implemented on an irrigation channel of an existing reservoir with no change in the volume of the reservoir. Thus, criteria 3(a) is applicable.

density as per definitions given in the project emissions section, is greater than 4 W/m2. (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4W/m2.	
4. If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The proposed project is 2*5MW Micro Hydro Power Project, i.e., only component is renewable power project below 15MW, thus this criterion is not applicable to this project activity.
5. Combined heat and power (co-generation) systems are not eligible under this category.	The project is Micro Hydro Power Project and thus, this criterion is not applicable to this project activity.
6. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	The proposed project is a greenfield 2*5MW Micro-Hydro Power Project, and it does not involve capacity addition to an existing power plant. Thus, this criterion is not applicable to this project activity.
7. In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The proposed project is a greenfield 2*5MW Micro Hydro Power Project, i.e., no retrofit, rehabilitation or replacement was done to any existing power plant. Thus, this criterion is not applicable to this project activity.
8. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS- I.C.: Thermal energy production with or without electricity" shall be explored.	The proposed project is a greenfield 2*5MW hydro power project hence, this criterion is not applicable to this project activity.

9. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	No biomass is involved, the project is only a Micro Hydro Power Project and thus this criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions >>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs), due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has a dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the consumption point for the project developer.

C.4. Project boundary, sources and greenhouse gases (GHGs)>>

As per applicable methodology AMS-I.D. Version 18, "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to."

Thus, the project boundary includes the hydropower plant and the transmission line including metering up to the substation.

	Source	*GHG*	*Included?*	*Justification/Explanation*
Baseline	*Emissions from grid connected power plants using non-renewable energy sources as fuel*	*CO_2*	*Included*	*Major source of emission*
		CH_4	*Excluded*	*Negligible source of emission*
		NO_2	*Excluded*	*Minor source of emissions*
		Others	*Excluded*	*No other GHG emissions were emitted from the project*
Project Activity	*Emissions from on-site electricity use*	*CO_2*	*Excluded*	*Project activity does not emit CO2*
		CH_4	*Excluded*	*Project activity does not emit CH4*
		NO_2	*Excluded*	*Project activity does not emit NO2*
		Others	*Excluded*	*Project activity does not emit any other GHG gases*

C.5. Establishment and description of baseline scenario (UCR Protocol) >>

As per the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid".

The project activity involves setting up a new hydropower plant to harness the kinetic energy of flowing water. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel-fired plants. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) that will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2013 - 2020 years as a conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021-2022, the combined margin emission factor calculated from the CEA database in India results in higher emissions than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under a conservative approach.

C.5.1 Net GHG Emission Reductions and Removals >>

Thus, $ERy = BEy - PEy - LEy$

Where: ERy = Emission reductions in year y (tCO_2/y)
BEy = Baseline Emissions in year y (t CO_2/y)
PEy = Project emissions in year y (tCO_2/y)
LEy = Leakage emissions in year y (tCO_2/y)

• Baseline Emissions

Baseline emissions include only CO_2 emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.

The baseline emissions are to be calculated as follows:

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

BEy = Baseline emissions in year y (t CO_2)

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

EF_{grid},y = UCR recommended emission factor of 0.9 tCO_2/MWh has been considered. (Reference: General Project Eligibility Criteria and Guidance, UCR Standard, page 4)

• Baseline Emissions Calculation

Sr No	Year	EG_{PJ},y (MWh)	EF_{grid},y	BEy
1	2013	14,733	0.9	13,259
2	2014	19,221	0.9	17,278
3	2015	4,638	0.9	4,173
4	2016	12,234	0.9	11,010

5	2017	9,533	0.9	8,579
6	2018	18,445	0.9	16,600
7	2019	23,621	0.9	21,258
8	2020	23,352	0.9	21,016
9	2021	25,680	0.9	23,111
10	2022	23,627	0.9	21,264
	tCO2 for the period January 2013 to December 2022			**1,57,568**

• Project Emissions Calculation

As per Paragraph 39 of AMS-I.D. version-18, only emissions associated with fossil fuel combustion, emissions from the operation of geothermal power plants due to the release of non-condensable gases, and emissions from a water reservoir of hydro should be accounted for the project emission. Since the project activity is a hydroelectric power project, project emission for renewable energy plants is nil.

Thus, PE = 0

• Leakage Emission Calculation

As per paragraph 42 of AMS-I.D. version-18, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy generating equipment and therefore the leakage from the project activity is considered zero.

Hence, LE = 0

• Net Emission

The actual emission reduction achieved during the first CoU period shall be submitted as a part of the first monitoring and verification. However, for the purpose of an ex-ante estimation, the following calculation has been submitted:

Hence,

Net GHG emission reduction, = **1,57,568**-0-0 = **1,57,568** tCO_2 (i.e., 1,57,568 CoUs) (from January 2013 to December 2022)

C.6. Prior History>>

The project was applied under CDM registry under title "2x5 MW Radhanagari Hydro Electric Project" with CDM ID 0400. But the project was rejected.
For more information visit https://cdm.unfccc.int/Projects/DB/DNV-CUK1146209056.17/view
As no carbon credits were issued under this project, therefore there will be no issue of double carbon counting.

C.7. Monitoring period number and duration>>

First Issuance Period: 10 years, 0 months – 01/01/2013 to 31/12/2022

C.8. Changes to start date of crediting period >>

There is no change in start date of crediting period.
The crediting period under UCR has been considered from January 2013.

C.9. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

Not applicable.

C.10. Monitoring plan>>

Data and Parameters available (ex-post values):

Parameter	$EG_{PJ,y}$
Data unit	MWh
Description	Quantity of net electricity generation that is produced and fed into the grid because of the implementation of this project activity in year y.
Source of data Value(s) applied	Monthly Electricity Logbook maintained at each Power Plant
Procedures	The Net electricity generation by the hydro power plant is recorded at the sub-station. At the end of every month Electricity generation report is generated based on the total monthly electricity exported to the grid or consumed by the nearby local community.
Monitoring frequency	Monthly
Purpose of data	To calculate the baseline emission

Parameter	$EF_{grid,y}$
Data and Parameters available at validation (ex-ante values)	**UCR recommended emission factor**
Data unit	tCO_2 /MWh
Description	A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2013 - 2021 years as a conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data	https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission__2021_22.pdf and **UCR Document**

Value applied	0.9
Measurement methods and procedures	-
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of Emission Factor of the grid
Additional Comment	The combined margin emission factor as per CEA database (current version 18, Year 2022) results into higher emission factor. Hence for 2022 vintage UCR default emission factor remains conservative.

Data/Parameter	**Date of commissioning of the units**
Data unit	Date
Description	Actual date of commissioning of the project unit
Source of data Value(s) applied	Commissioning report issued by State grid transmission corporation or State electricity board
Measurement methods and procedures	The construction processes are maintained from its initiation to completion dates for the biogas unit. Thus, the start date of each of the unit installed is recorded in the monitoring report.
Monitoring frequency	As and when commissioned and fixed and recorded in the monitoring report
Purpose of data	To estimate baseline emissions