

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

0 - Description of project

0 - Implementation of project

0 - Description of monitoring system applied by the project

0 - Data and parameters

0 - Calculation of SDG Impacts

0 - Safeguards Reporting

0 - Stakeholder inputs and legal disputes

KEY PROJECT INFORMATION

GS ID (s) of Project (s)	7620 ¹
Title of the project (s) covered by monitoring report	50.6 MW Wind Power Project at Umralli, Gujarat by Powerica Limited
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	04
Version number of the monitoring report	04.1
Completion date of the monitoring report	11/03/2024
Date of project design certification	23/05/2022
Date of Last Annual Report	12/12/2023
Monitoring period number	02
Duration of this monitoring period	01/09/2021 to 31/12/2022 (Inclusive of both start and end dates)
Project Representative	Powerica 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
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

¹ <https://registry.goldstandard.org/projects/details/2261>

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	198,390.36	MWh
SDG 8	Decent Work and Employment Economic Growth: Opportunities provided to 44 Promote inclusive and (2021 & 2022) people and 06 sustainable economic (2022) trainings conducted growth, employment and decent work for all		Number
SDG 13	Take urgent action to combat climate change and its impacts	185,410	GS VERs (tCO ₂ e)

Table 2 – Product Vintages

		Amount Achieved		
Start Dates	End Dates	SDG 13	SDG 8	SDG 7
01/09/2021	31/12/2021	43,540 tCO ₂ e	22 ² persons were employed and 00 ³ trainings conducted	46,589.13 MWh
01/01/2022	31/12/2022	141,870 tCO ₂ e	22 persons were employed and 06	151,801.23 MWh

² These 22 person had been employed in 2021 but these are employed between January to August 2021 which is under 1st MP. So, these 22 person continued job in 2021 i.e. from September to December 2021 which is under current MP.

³ Training were held between January to August 2021 which is under 1st MP. So, as per the PDD 1 training should be held per year and in per year is held 1st monitoring 5 were held.

			trainings were conducted	
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SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

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The purpose of the project activity is to generate power using renewable energy source (wind energy) in Rajkot district, Gujarat and sell the electricity generated to the National grid. The project activity, with Powerica Limited as the project proponent generates electricity using wind energy. The generated electricity is exported to the Indian grid system which is under the purview of the INDIAN electricity grid of India.

The total installed capacity of the project activity is 51.3⁴ MW.

Project Participant	Project Type	Total Project Capacity	Location	Usage
Powerica Limited	Wind energy-based electricity generation project	51.3 MW	Gujarat, India	Supply electricity to grid (INDIAN grid)

The project activity includes implementation and operation of 51.3 MW wind energy electricity generation from 19 GE made WTGs each with capacity 2.7 MW.

The start date of the project activity is 19/07/2019 the date that corresponds to the date of supply contract between PP and WTG supplier. After the signing of supply contract, the project activity has started commercial operation in three phases: 7 WTGs on 06/10/2020, 3 WTGs on 07/10/2020 and 9 WTGs on 06/11/2020. The project activity is connected to the INDIAN grid.

Number of WTGs	Total Capacity (MW)	Date of commissioning
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⁴ As per the PPA signed between Powerica Limited (PP) and Gujarat Urja Vikas Nigam Limited (local electricity transmission utility), the installed capacity is 50.6 MW; however, 5% variation is allowed in PPA in terms of capacity and the installed capacity 51.3 MW is within that 5% limit.

7	18.9	06/10/2020
3	8.1	07/10/2020
9	24.3	06/11/2020

The project activity is a new facility (Greenfield) and the purpose of the project activity is to generate energy electricity by the utilization of renewable wind energy and further selling the generated energy to the Indian Grid. In this process there is no consumption of any fossil fuel and hence the project does not lead to any greenhouse gas emissions. Thus, electricity is generated through sustainable means without causing any negative impact on the environment.

In the Pre- project scenario the entire 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.

During the current monitoring period 01/09/2021 to 31/12/2022 (Inclusive of both the dates) the project resulted in emission reductions of 185,410 tCO_{2e} and underwent continued operation other than scheduled maintenance and breakdowns.

Vintage wise emission reduction during the entire Monitoring Period are as follows:

Period	Amount
01/09/2021 to 31/12/2021	43,540
01/01/2022 to 31/12/2022	141,870

A.2. Location of project

Host country: India
State: Gujarat
District: Rajkot

Location of each WTG included in the project is given below:

S.No.	Location No.	Village Name	Taluka	Geo Co-ordinates
1	TKD-01	Trakuda	Gondal	21°58'34.9"N 70°38'49.7"E
2	TKD-02	Trakuda	Gondal	21°58'07.7"N 70°38'38.2"E
3	TKD-04	Trakuda	Gondal	21°57'56.6"N 70°37'03.8"E
4	AMB-01	Ambaliyala	Kotda Sangani	22°02'02.5"N 70°37'06.0"E

5	AMB-03	Ambaliyala	Kotda Sangani	22°02'33.2"N 70°37'02.4"E
6	AMB-05	Ambaliyala	Kotda Sangani	22°02'46.7"N 70°36'43.4"E
7	AMB-07	Ambaliyala	Kotda Sangani	22°02'52.3"N 70°37'42.6"E
8	AMB-06	Ambaliyala	Kotda Sangani	22°02'50.5"N 70°37'12.3"E
9	AMB-08	Ambaliyala	Kotda Sangani	22°03'28.2"N 70°37'47.2"E
10	BTV-02	Betavad	Gondal	22°00'41.2"N 70°37'16.9"E
11	BTV-06	Betavad	Gondal	22°01'38.2"N 70°36'43.8"E
12	BTV-05	Betavad	Gondal	22°01'38.8"N 70°37'11.9"E
13	CPD-01	Champabeda	Kotda Sangani	22°05'42.4"N 70°35'50.5"E
14	CPD-03	Champabeda	Kotda Sangani	22°06'20.7"N 70°35'59.1"E
15	NGH-01	Noghanchora	Kotda Sangani	22°05'22.5"N 70°34'31.6"E
16	NGH-02	Noghanchora	Kotda Sangani	22°05'29.0"N 70°34'12.1"E
17	TDI-01	Thordi	Kotda Sangani	22°06'16.3"N 70°38'30.1"E
18	TDI-02	Thordi	Kotda Sangani	22°06'16.2"N 70°38'00.2"E
19	TDI-04	Thordi	Kotda Sangani	22°04'43.5"N 70°38'24.0"E

The location (Rajkot district in Gujarat) of the project activity has been highlighted in the map shown below:



A.3. Reference of applied methodology

Title	: Grid-connected electricity generation from renewable sources
Reference	: The project activity meets the eligibility criteria of large-scale project as it is more than 15 MW
Methodology	: ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0
Type I	: Energy industries (renewable / non-renewable sources)
Category	: Approved Consolidated Methodology (ACM0002)

Tools referred with above methodology and applicable for project activity are:

- Tool to calculate the emission factor for an electricity system⁵ - Version 07.0 (EB 100, Annex 04)
- Tool for the demonstration and assessment of additionality⁶- Version 07.0 (EB 70, Annex 08)
- Methodological Tool- Investment analysis - Version 09.0.0⁷ and 10.0⁸ (EB 101, Annex 11 and EB 105 Annex 11)

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/approved>

⁶ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

⁷ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v10.0.pdf>

A.4. Crediting period of project

Start date	19/07/2019
Crediting Period	06/10/2020 to 05/10/2025
Duration	5 years
Type	Renewable

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

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The total installed capacity of the project is 51.3 MW, which comprises of total 19 number of Wind Turbine Generator (WTG) in Gujarat. The WTGs used in the project activity are of GE 2.7-132-50 model. 7 WTGs commissioned on 06/10/2020, 3 WTGs on 07/10/2020 and 9 WTGs on 06/11/2020.

All the WTGs are connected by 33/66 kV grid line to Umralli site substation (33/66 kV. 53 MVA) at Umralli. The Umralli site substation is connected to GETCO's 33/66 kV Rabarika substation

The technical specification of the GE 2.7-132-50 model of WTGs are as follows:

Particulars	Details
WTG Make	GE
Model no.	2.7-132-50 Hz
Operational Data	
Rated Power	2,700 KW
Cut-in-wind speed	3.0 m/s
Cut-out wind speed	20.0 m/s
Rotor	
Rotor Diameter	132 m
Swept Area	13,684 m ²
Electrical	
Generator Type	Doubly-fed induction type
Gear Box	
Type	Multi-stage planetary/helical gear design
Tower	
Hub Height	130 m

Technology Transfer

No technology transfer from other countries is involved in the project.

B.1.1 Forward Action Requests

Not Applicable

B.2. Post-Design Certification changes

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

Not Applicable

B.2.2. Corrections

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Not Applicable

B.2.3. Changes to start date of crediting period

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Not Applicable

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

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Not Applicable

B.2.5. Changes to project design of approved project

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Not Applicable

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

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Aim of monitoring:

The monitoring methodology specified in the methodology requires that the project-monitoring plan to consist of monitoring of quantity of net electricity supplied to the grid in the year y. In order to monitor the mitigation of GHG due to the project activity, the total energy exported needs to be measured. The net energy supplied to grid by the project activity multiplied by emission factor for Indian grid, would form the baseline for the project activity.

Since the baseline emission factor is based on an ex-ante determination, monitoring of this parameter is not required. The sole parameter for monitoring is the net electricity exported to the grid.

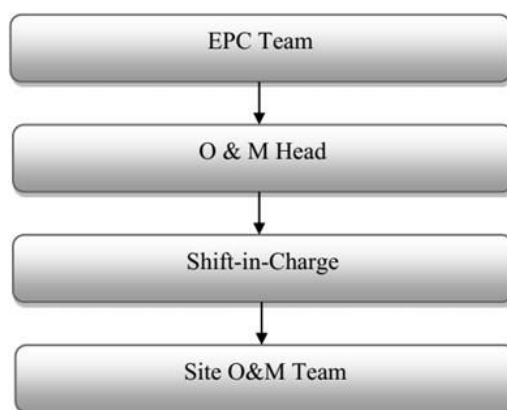
Monitoring roles and responsibilities

The operational and management structure implemented for data monitoring is as follows:

The monitoring plan is developed in accordance with the modalities and procedures for project activities and is proposed for grid-connected wind power project being implemented within India territory. The monitoring plan, which has been implemented by the project proponent describes about the monitoring organization, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for monitoring, measurement, reporting and reviewing of the data rests with the project proponent. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipment for this project activity.

The team comprises of the following members:



Responsibilities of O & M Head: Overall functioning and maintenance of the project activity and overall responsibility of compliance with the Monitoring Plan.

Responsibilities of Plant In-charge: Responsibility for Maintains the data records, ensures completeness of data, and reliability of data. Regularly verifying the monthly energy generation date with installed meters reading for identification of any discrepancies in data collection and taking suitable action to rectify them.

Responsibilities of Shift In-charge: Responsibility for day-to-day data collection and maintains day to day log book for monitored data. Responsibility for monthly and annual report generation. Quality assurance of the data/reports and preliminary check of data for any discrepancies.

QA/QC procedures:

The energy meters are owned by WRLDC. Neither the project proponent nor the site personnel have any control over it. The records has been cross-checked through online. The meters are calibrated by WRLDC at-least once in five years.

Data Measurement:

The export and import energy is measured continuously using above mentioned Main & Check meters. Export & Import readings of Main & Check meters is monitored through online system and the electricity data can be viewed through online. PP got the data of net electricity supplied to grid and same is used for emission reduction calculations.

Data Archiving:

Monthly/weekly data has been archived electronically and in paper form and stored for the entire crediting period and two years thereafter.

Emergency preparedness:

The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

In the event that the main meter, which is used to record the net electricity exported by the project, is found to be faulty it has been repaired or replaced and the data from the check meter has been used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced.

Training and maintenance requirements:

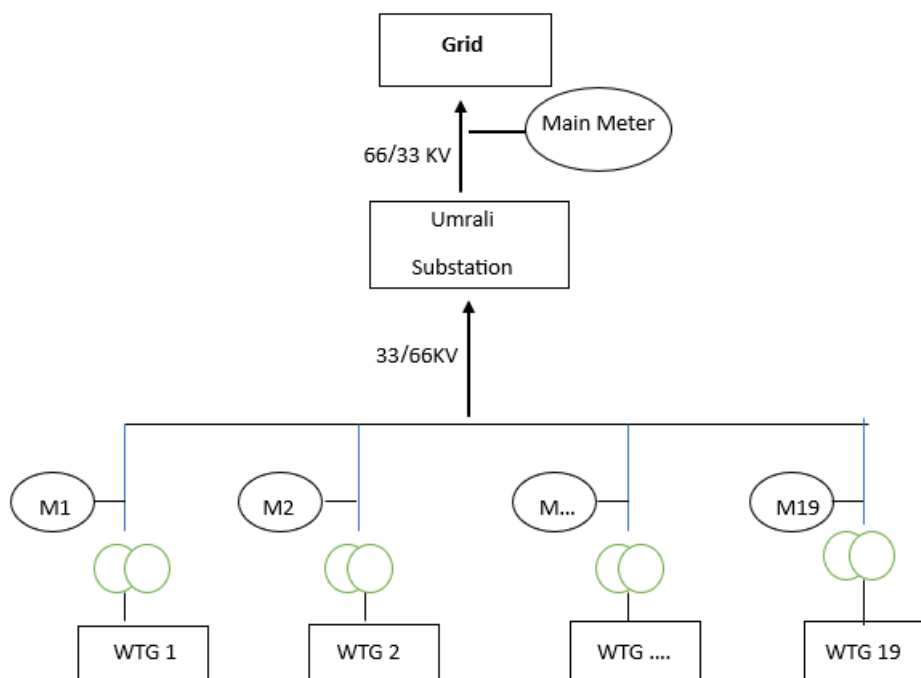
Each and every site personnel is provided with proper training to meet the requirements of the Operations and maintenance. This ultimately leads to creativity in problem solving.

Personnel training:

In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff has been trained. The plant helpers has been trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

Apportioning:

In case of mismatch of date between the start date of the billing cycle and the start date of monitoring period the data has been apportioned in line to the daily generation values for the said mismatch period.



Single line Diagram

This wind farm is connected by 33/66 kV grid line to Umralli site substation (33/66 kV. 53 MVA) at Umralli that is further is connected to GETCO's 66/33 kV Rabarika substation.

SECTION D. DATA AND PARAMETERS

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

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Relevant SDG Indicator	SDG 13 (Indicators 13.2.1)
Data/parameter	$EF_{grid,OM,y}$
Unit	tCO ₂ /MWh
Description	Operating Margin CO ₂ e emission factor in year y
Source of data	Calculated from CEA database, Version 16, March 2021
Value(s) applied	0.9567
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor foran 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, ⁹ published by the Central Electricity Authority, Ministry of Power, and Government of India.
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Relevant SDG Indicator	SDG 13 (Indicators 13.2.1)
Data/parameter	$EF_{grid, BM, y}$
Unit	tCO ₂ /MWh
Description	Build Margin CO _{2e} 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 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, and Government of India.
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Relevant SDG Indicator	SDG 13 (Indicators 13.2.1)
Data/parameter	$EF_{grid, CM, y}$
Unit	tCO ₂ /MWh
Description	Combined Margin CO _{2e} emission factor in year y
Source of data	Calculated from CEA database, Version 16, March 2021
Value(s) applied	0.9346
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: $EF_{grid, BM, y} = \text{Build margin CO}_2 \text{ emission factor in year y}$

⁹ https://cea.nic.in/wp-content/uploads/baseline/2021/06/User_Guide_ver_16_2021-1.pdf

	(tCO₂/MWh) EF_{grid,OM,y} = Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM} = Weighting of build margin emissions factor (%) = 25%
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

D.2 Data and parameters monitored

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SDG 7 (Indicators 7.2.1)

Data / Parameter	EG _{PP, y}		
Unit	MWh		
Description	Quantity of net electricity generation supplied by the project plant/unit in year y in MWh		
Source of data	Monthly joint meter reading reports		
Value(s) applied	Monitoring Duration	Values	
	01/09/2021 to 31/12/2021	46,589.13	
	01/01/2022 to 31/12/2022	151,801.23	
	Total	198,390.36	
Measurement methods and procedures	Net Electricity exported by the project is mentioned in the share certificate issued by GETCO on monthly basis.		
Monitoring frequency	Continuous monitoring and monthly recording		
QA/QC procedures	The meters are approved, tested & sealed by the State Electricity Board (SEB). The meters are in their custody. The frequency of calibration is once in 5 years. The net electricity generation data is obtained from the monthly share certificates published by GETCO. In the absence or delay in the meter calibration, appropriate guidelines have been applied appropriately to confirm the conservativeness of metering. The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and PP do not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered for the billing purpose.		

	For detailed schedule of calibration during present monitoring period, please refer annexure- 1
Purpose of data	To Monitor the SDG 7 Indicator
Additional comment	Data has been archived in paper & electronic form for two years after the end of crediting period or of the last issuance of VERs for this project activity, whichever occurs later.

SDG 13 (Indicators 13.2.1)

Data / Parameter	ER _y		
Unit	tCO _{2e}		
Description	Emission reductions achieved per year		
Source of data	As per the Actual ER sheet.		
Value(s) applied	Monitoring Period	Values	
	01/09/2021 to 31/12/2021	43,540	
	01/01/2022 to 31/12/2022	141,870	
	Total	185,410	
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 and project emissions & leakage emissions are subtracted from baseline emissions; project emissions and leakage emissions being zero in this project activity, here Baseline Emissions = Emissions Reductions.		
Monitoring frequency	As per monitoring period		
QA/QC procedures	Not Applicable		
Purpose of data	To Monitor the SDG 13 Indicator		
Additional comment	Data has been archived in paper & electronic form for two years after the end of crediting period or of the last issuance of VERs for this project activity, whichever occurs later.		

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	Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ DOE interview with employees, local stakeholders etc

Value(s) applied	Total employment generation for present monitoring period is presented (vintage-wise) below: 2021: 22 2022: 22 Further below is the detailed breakup of employment generated during the monitoring period.		
	Years	Skilled	Unskilled
	2021	13	9
	2022	15	7
	The vintage-wise details of employment generation are for that particular year i.e. 22 ¹⁰ persons were employed in 2021 and additional 22 persons were employed in 2022.		
Measurement methods and procedures	The total number of persons working in the plant would be calculated based on the daily log available at site. This parameter also monitors number of men/women employedby the project activity. The project activity ensures that "equalpay for work of equal value" for both men and women and there is no any discrimination against women. "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 will 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 recording and annual compilation		
QA/QC procedures	The number of persons employed would be mentioned in the plant register, which can be crossed checked with attendance register. Average hourly earnings of the employees/workers can be checked and calculated from the salary slips		
Purpose of data	To monitor SDG 8 indicator		
Additional comment	Data has been archived in paper & electronic form for two years after the end of crediting period or of the last issuance of GS-VERs for this project activity, whichever occurs later.		

SDG 8 (Indicators 8.6.1)

¹⁰ These 22 person had been employed in 2021 but these are employed between January to August 2021 which is under 1st MP. So, these 22 person continued job in 2021 i.e. from September to December 2021 which is under current MP.

Data / Parameter	Quality of Employment				
Unit	Number				
Description	Training of Staff				
Source of data	Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ VVB interview with employees, local stakeholders etc.				
Value(s) applied	06 Training conducted during the current monitoring period.				
	S.No.	Training Date	Topic	No. of attendees	Venue of training
	1.	07/01/2022	LOTO	12	33/66KV Umralli SS, Powerica
	2.	23/02/2022	Work at height	10	33/66KV Umralli SS, Powerica
	3.	23/03/2022	Basic of substation	10	33/66KV Umralli SS, Powerica
	4.	13/06/2022	Work at height	07	33/66KV Umralli SS, Powerica
	5.	20/09/2022	Basic of substation	10	33/66KV Umralli SS, Powerica
	6.	14/12/2022	Fire Safety	07	33/66KV Umralli SS, Powerica
Measurement methods and procedures	Together with the technology supplier, the Project Participant also organizes training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures at regular intervals.				
Monitoring frequency	Annual				
QA/QC procedures	The training records for all the employees				
Purpose of data	To Monitor the SDG 8 Indicator				
Additional comment	Data are archived in paper & electronic form for two years after the end of crediting period or of the last issuance of GS-VERs for this project activity, whichever occurs later.				

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

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
NA	NA	NA

This section is Not Applicable since no community service activities are involved in this project activity.

D.4. Implementation of sampling plan

Sampling is not required.

SECTION E. CALCULATION OF SDG IMPACTS

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

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SDG 7: Affordable and Clean Energy

The baseline estimate for SDG 7 is zero as in the absence of project activity no power would be generated.

SDG 8: Decent Work and Economic Growth

The baseline estimate for SDG 8 is zero as in the absence of project activity no employment would be generated and no training would be conducted.

SDG 13: Climate Action

For the current monitoring period, the emission reductions contributed by the project activity (ER_y) is calculated as follows:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

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

$EF_{grid,CM,y}$ = Baseline emission factor = 0.9346 tCO₂/MWh

$$\begin{aligned} BE_y &= 198390.36 * 0.9346 \\ &= 185,410 \text{ tCO}_{2e} \text{ (Round down value)} \end{aligned}$$

Since $ER_y = BE_y$

Therefore, $ER_y = 185,410 \text{ tCO}_{2e}$ (Round down value)

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

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SDG 7: Affordable and Clean Energy

For the current monitoring period, the clean energy generation contributed by the project activity is 198,390.36 MWh/year

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. During the current monitoring period, the project activity provided employment to 44 persons.

Also, project activity improves the quality of employment by giving training to employee. During the current monitoring period, total 06 no. of trainings has been conducted.

SDG 13: Climate Action

SDG 13 project estimate is zero as this is a renewable project activity.

E.3. Calculation of leakage

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As per the consolidated methodology ACM0002 version 20.0, 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
13	Climate Action	185,410 tCO _{2e}	-	185,410 tCO _{2e}
8	Decent work and Economic Growth	-	No. of Employment opportunities created: 44 No. of trainings conducted: 06	No. of Employment opportunities created: 44 No. of trainings conducted: 06
7	Affordable and Clean energy	-	198,390.36 MWh	198,390.36 MWh

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 ¹¹ achieved during this monitoring period
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¹¹ Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

13	201,735 tCO _{2e}	185,410 tCO _{2e}						
8	1 Training per year employment to 10 people	No. of Employment opportunities created:						
		<table><tr><th>Year</th><th>Total</th></tr><tr><td>2021</td><td>22¹²</td></tr><tr><td>2022</td><td>22</td></tr></table>	Year	Total	2021	22 ¹²	2022	22
		Year	Total					
		2021	22 ¹²					
2022	22							
No. of trainings conducted:								
<table><tr><th>Year</th><th>Total</th></tr><tr><td>2021</td><td>00¹³</td></tr><tr><td>2022</td><td>06</td></tr></table>	Year	Total	2021	00 ¹³	2022	06		
Year	Total							
2021	00 ¹³							
2022	06							
7	215,853.1 MWh	198,390.36 MWh						

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

SDG 7: Affordable and Clean Energy

The annual estimated power generation for the project activity is 161,779 MWh, thus considering number of days covered during present monitoring period to be 487, the estimated power generation is 215,853.1 MWh.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project will provide employment to at least 10 persons, thus considering number of days covered during present monitoring period to be 487, the estimated employment is 10 persons.

¹² These 22 person had been employed in 2021 but these are employed between January to August 2021 which is under 1st MP. So, these 22 person continued job in 2021 i.e. from September to December 2021 which is under current MP.

¹³ Training were held between January to August 2021 which is under 1st MP. So, as per the PDD 1 training should be held per year and in per year is held 1st monitoring 5 were held.

Also, project activity improves the quality of employment by giving training to employee. Thus, minimum 1 training per year has been conducted by the project activity, thus considering number of days covered during present monitoring period to be 487, the estimated training are 01 trainings.

SDG 13: Climate Action

The annual estimated emission reduction for the project activity is 151,198 tCO_{2e}, thus considering number of days covered during present monitoring period to be 487, the estimated emission reduction contributing towards SDG 13 is 201,735 tCO_{2e}.

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

SDG 7 and SDG 13:

A total of 8.09% lower generation and emissions reductions achieved with respect to estimated values due to factors less wind speed, grid availability etc. which are beyond the control of PP. Lower emission reduction is conservative.

SDG 8:

Number of trainings and employments created values are higher than estimated values - which is conservative.

SECTION F. SAFEGUARDS REPORTING

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	<u>Method:</u> The Net electricity supplied to the grid by the project activity has been calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from Monthly Meter Reading reports provided by GETCO as per below equation: $EG_{\text{facility}, y} = EG_{\text{Export}} - EG_{\text{Import}}$ <u>Frequency:</u> Monthly <u>QA/QC procedures:</u> Quantity of net electricity supplied to the grid has been cross checked from the Invoices/ Monthly Bill raised by the Project Participant. <u>Purpose:</u> To measure the electricity produced and supplied to the grid.
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<u>Method:</u> Ongoing data collection and storage under HR Records. <u>Frequency:</u> Annual <u>QA/QC procedures:</u> Transparent data collection, analysis and reporting. <u>Purpose:</u> To identify and record the no. of trainings provided to the employees as well as employment generated due to project activity. Quantitative employment, income generation and trainings provided to employees & O&M staff for this monitoring period.

SDG 13: Take urgent action to combat climate change and its impacts	<u>Method:</u> Using processes and equations provided under "Tool to calculate the emission factor for an electricity system", 7 and referencing data from CEA database v16. <u>Frequency:</u> Every monitoring period <u>QA/QC procedures:</u> Transparent data collection, analysis, calculation and reporting. <u>Purpose:</u> To calculate emissions avoided due to the project activity
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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 being placed at site and is being continuously monitored and addressed through the grievances cell on regular basis and maintained in a register at site office.

During the monitoring period no grievances have been received, the comments received are satisfactory and appreciating in nature. The scan copies have been provided to the VVB.

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.

Annex-1 METER DETAILS

Serial No & Type	Make	Accuracy Class	Calibration Date	Validity
GJ4600A (Main meter)	Secure	0.2 s	15/07/2020	14/07/2025
GJ4601A (check meter)	Secure	0.2 s	15/07/2020	14/07/2025

Considering the dates of calibration of meters, it can be concluded that there has been no delay in calibration of meters.

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