

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

SECTION A - Description of project

SECTION B - Implementation of project

SECTION C - Description of monitoring system applied by the project

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SECTION F - Safeguards Reporting

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Key Project Information

GS ID (s) of Project (s)	GS 7139
Title of the project (s) covered by monitoring report	50 MW (DCR) Nalgonda Solar PV Power Project by Parampujya Solar Energy at Telangana
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	06
Version number of the monitoring report	05
Completion date of the monitoring report	19/11/2025
Date of project design certification	16/11/2020
Date of Last Annual Report	30/12/2024
Monitoring period number	02
Duration of this monitoring period	01/01/2021 to 15/11/2023 (Both Date included)
Project Representative	Parampujya Solar Energy 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
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
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7 Affordable and Clean Energy	MWh of renewable energy generated	322,764	MWh
	Trainings	138	No of Training
8 Decent Work and Economic Growth	Employees	22	No of Employees
	Income (INR)	16,474,632 ¹	INR
13 Climate Action (mandatory)	Emission Reduction	304,011 tCO ₂ e	GS VERs

Table 2 – Product Vintages

		Amount Achieved		
Start Dates	End Dates	SDG 7: Affordable and Clean Energy MWh	SDG 8: Decent Work and Economic Growth	SDG 13: Climate Action VERs
01/01/2021	31/12/2021	111,559 MWh	48 training 22 No. of employees Unskilled – 3 Skilled - 19 INR 3,130,032	105,077 GSVERs

¹ The total wage for 22 employees has been calculated as INR 16,474,632 for the period 2021 to 2023. As per the wage structure for year 2021 to 2023, Unskilled and Skilled worker details are provided in the wage calculation sheet. The calculation for the skilled worker is done on the basis of the sample salary slip provided. Thus, the figure mentioned reflect payments to employees during the current monitoring period that are above the minimum wage requirements.

Minimum wages as mentioned below:

For year 2021 [https://comply4hr.com/minimum-wages.asp?stddate=2021-04-01&ust1=TEL++&utm_source=dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana](https://comply4hr.com/minimum-wages.asp?stddate=2021-04-01&ust1=TEL++&utm_source=dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana)

- Unskilled Workers – 368 INR per day or 11034 INR per month

For year 2022-[https://dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana](https://dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana)

- Unskilled Workers – 375 INR per day or 11249 INR per month

For year 2023-https://ascent-hr.com/notification/telangana-minimum-wages-revision-0423/?utm_source=dev.simpliance.in/minimum-wages/telangana?utm_source=dev.simpliance.in/minimum-wages/telangana

- Unskilled Workers – 370 INR per day or 11101 INR per month

The minimum wage rates applicable—INR 371/day for unskilled —are higher than the estimated benchmark of INR 350/day.

01/01/2022	31/12/2022	110,442 MWh	48 training 22 No. of employees Unskilled – 3 Skilled - 19 INR 6,104,964	104,026 GSVERs
01/01/2023	15/11/2023	100,763 MWh	42 training 22 No. of employees Unskilled – 3 Skilled - 19 INR 7,239,636	94,909 GSVERs

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

The main purpose of the project activity is to generate electrical energy through sustainable means using solar power resources, The generated green electricity contributes to climate change mitigation efforts. This project activity is a large-scale solar project.

The project activity involves installation of 05 Solar PV plants of capacity 10 MWAC each, totaling to 50 MWAC solar power project under Jawaharlal Nehru National Solar Mission (JNNSM) Phase-II, Batch-II, Tranche-I, State Specific Bundling Scheme (under DCR1 Category). The projects are installed in the same project boundary at Village: Kakkireni, District: Nalgonda, State: Telangana.

The electricity generated from project activity will be sold under the Power Purchase Agreement (PPA), signed with NTPC Ltd. NTPC has been identified by the Government of India (GoI) as the Implementation Agency for setting up of Grid-connected Solar PV Power Projects under State Specific Bundling Scheme under the National Solar Mission of Government of India (GoI). and NTPC Vidyut Vyapar Nigam Limited (NVVN) on behalf of NTPC purchase Solar Power from Solar Power Developer, and sell it to Discoms. The electricity generated from the project activity will be evacuated through 132 kV sub-station located at Narketpally for consumption in the Indian Electricity Grid.

The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 89,549 tCO₂e per annum, thereon displacing 95,073 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/ fossil fuel-based power plant.

The project activity is the installation of a new grid-connected renewable power plant/unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs. The land for the project activity was private land prior to the project which is purchased in the name of PD. The sale deeds are available with the project developer.

The details of the project are mentioned in the table:

Capacity in MW	50
	Telangana
Start Date	29/10/2016
Local Stakeholder Consultation as per CDM	07/10/2016

Commissioning Date	17/11/2017
PPA	04/08/2016
Project registered under CDM	27/08/2020
Grid	NTPC Ltd.
Types of Solar PV Modules	Poly-crystalline

Project Boundary- Project boundary has ascertained using ACM0002, version 20.0. The spatial extent of the project boundary includes the project power plant/unit and all power plants/ units connected physically to the electricity system that the project power plant is connected to.

Hence the project boundary includes the solar project activity, substation, grid and all power plants connected to the grid. The project activity evacuates power to the Indian grid.

Scenario existing prior to the implementation of the project activity:

As the project activity is the installation of a new grid-connected renewable power plant/unit. The scenario existing prior to the implementation of project activity is 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, as reflected in the combined margin (CM) calculations described in the "Tool 7: Tool to calculate the emission factor for an electricity system" (Version 7.0)².

Baseline Scenario

Baseline scenario and Scenario existing prior to the implementation of the project activity are both same.

Sustainable Development

² <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forest and Climate Change (MoEF&CC), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India. The project's contribution towards sustainable development has been addressed based on the following sustainable development aspects, in line with the requirements of the NCDMA:

- **Social well being**

The project activity provides job opportunity to local people during erection, commissioning and maintenance of the solar project. Frequency of visiting to villages and nearby areas by skilled, technical and industrialist has increased due to installation /site visit/operation and maintenance work related to solar plant. This directly and indirectly positively effects the economy of villages and nearby area.

- **Environmental well being**

Solar power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus, the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

- **Economic well being**

The project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

- **Technological well being**

The project activity is step forward in harnessing the untapped solar potential and further diffusion of the solar technology in the region. The project activity leads to the promotion and demonstrates the success of solar projects in the region which further

motivate more investors to invest in solar power projects. Hence, the project activity leads to technological well-being.

A.2. Location of project

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The Project is located at Kakkireni village of Nalgonda district, in the Indian state of Telangana. The nearest commercial city remains Hyderabad, which is approximately 90km from the Project site location. Vijayawada-Hyderabad National Highway NH-65 connects the Project site to Hyderabad. Nearest major airport to the site remains Hyderabad, 90km away; while the nearest railway station is at Nalgonda, approximately 11 km away from the site.

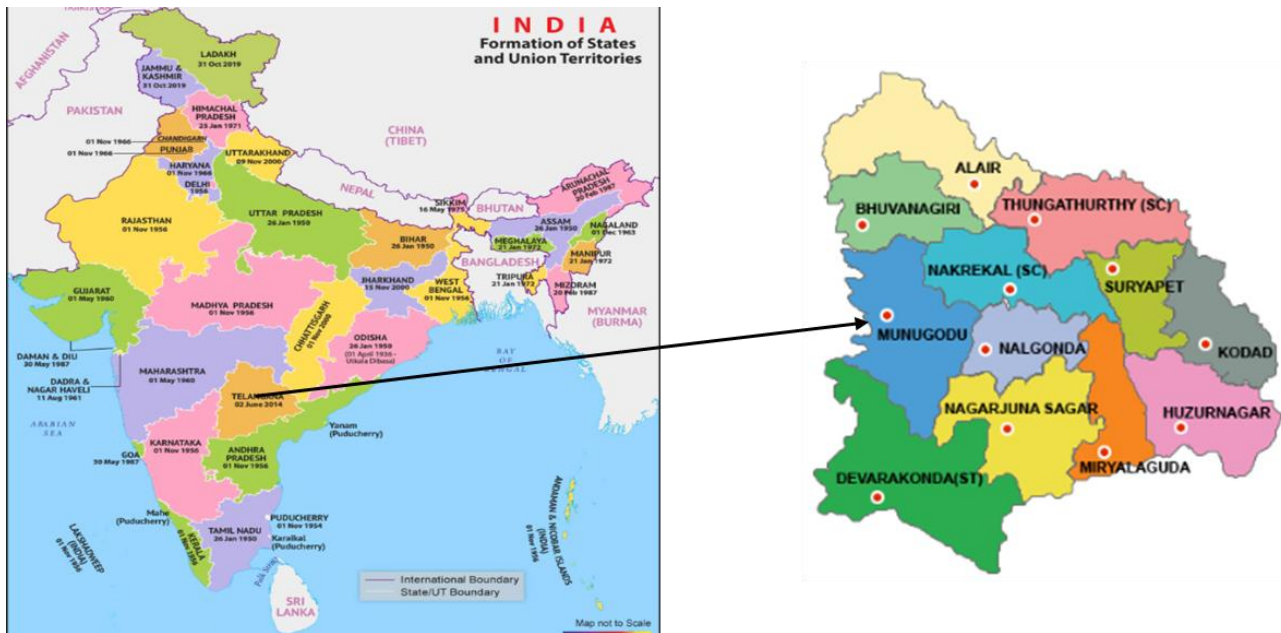
Host Party: India

State: Telangana

District: Nalgonda

Village: Kakkireni

S.N.	Name	Location	Latitude	Longitude
1	50 MW (DCR) Nalgonda Solar PV Power Project by Parampujya Solar Energy at Telangana	Kakkireni village, Nalgonda district,Telangana	17° 16'18.96"N	79°12'16.98"E



50 MW (DCR) Nalgonda Solar PV Power Project

A.3. Reference of applied methodology

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Title: Grid connected renewable electricity generation.

References: Approved Large Scale Consolidated Methodology: ACM0002 "Grid-connected electricity generation from renewable sources" (Version 20, EB 105)

<https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>

9

ACM0002 draws upon the following tools which have been used in the PDD:

- Methodological Tool: Tool to calculate the emission factor for an electricity system - Version 07.0
- Methodological Tool: Tool for the demonstration and assessment of additionality - Version 07.0.0, EB 70 Annex 8³

A.4. Crediting period of project

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Type	Renewable
CDM crediting period	27/08/2020 to 26/08/2027 ⁴
GS design certification date	16/11/2020
GS crediting period	16/11/2018 ⁵ to 15/11/2023
Length of Crediting period	7 years Which will be renewed twice (7+5+3) totaling to 15 years
Current Monitoring Period	01/01/2021 to 15/11/2023(Both Date included)

PD hereby declares that they will not move back to CDM for issuance in future and the project activity will/has not issue both a CER/other compliance unit under Paris Agreement and GS VER for the same vintage.

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

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The project activity aims to harness solar energy through installation of PV with total installed capacity of 50 MW_{AC}. The solar PV power plant have solar PV modules, inverters, transformers and other protection system and supporting components.

³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

⁴ <https://cdm.unfccc.int/Projects/DB/Appendix1597924591.34/view>

⁵ 10.2.1 of GHG Emissions Reduction & Sequestration Product Requirements v.2.1 "The start date of Crediting Period is the date of start of operation (start of planting for A/R Projects) or a maximum of two years (three years for A/R & AGR) prior to the date of Project Design Certification, whichever occurs later."

The solar PV modules have a useful life of 25 years.

A. Solar PV modules:

Module Supplier	Module Model	Capacity (Wp)	Number	Total Capacity (MWp)
Adani	Poly C-Si	315	61905	19.50
Adani	Poly C-Si	320	83871	26.84
Adani	Poly C-Si	325	57419	18.66
		Total Capacity in MWp		64.99

B. Invertor

S.No.	Make	
1.	Manufacturer	Huawei
2	Model	SUN2000-43KTL
3	Rated Capacity	43 KW, 52.5 KVA
4	No. of Inverters	1163
5	Rated Input Voltage (Max.Input Voltage)	500 V

C. Transformer

S. No	Make		
1	Manufacturer	CGL	T&R
2	Capacity	50/60 MVA	5 MVA
3	No. of Transformers	1	10
4	Voltage Ratio	33/132 KV	.500/33 KV

D. Metering Equipment Details

S.No.	Make	Sub-Station	Solar Plant End
1	Manufacturer	Secure Make	Secure Make
2	Type	ABT meters	ABT meters
3	Accuracy Level	0.2s	0.2s
4	Total no of meter	3	5*2 = 10

The solar PV modules have a useful life of 25 years.

In case of degradation/damage/destroy of any equipment in future:

At a given time in the future, the equipment of the same capacity might not be available with the supplier or in the market. So, the equipment of available capacity is installed keeping the overall output capacity of the project within the project capacity as in registered PDD.

Thus, the changes in project activity specifications information will not affect the design of the project activity, the applicability of methodology, additionally of project activity and scale of project activity. Moreover, there would be no need to revise PDD in case of equipment configuration changes as the overall output capacity of the project is within the project capacity as in registered PDD. It is to be noted that in case of future replacement, the equipment is replaced or changes made in the project will be transparently reflected in the monitoring report.

B.1.1 Forward Action Requests

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No FAR raised

B.2. Post-Design Certification changes

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

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Not Applicable

B.2.2. Corrections

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In the registered PDD, the number of modules was mentioned incorrectly. A correction has been requested during the current monitoring period. The actual number of solar modules is detailed below:

Module Supplier	Module Model	Capacity (Wp)	Number	Total Capacity (MWp)
Adani	Poly C-Si	315	61905	19.50
Adani	Poly C-Si	320	83871	26.84
Adani	Poly C-Si	325	57419	18.66
Total Capacity in MWp				64.99

The relevant changes are reflected in Section B.1 of the monitoring report.

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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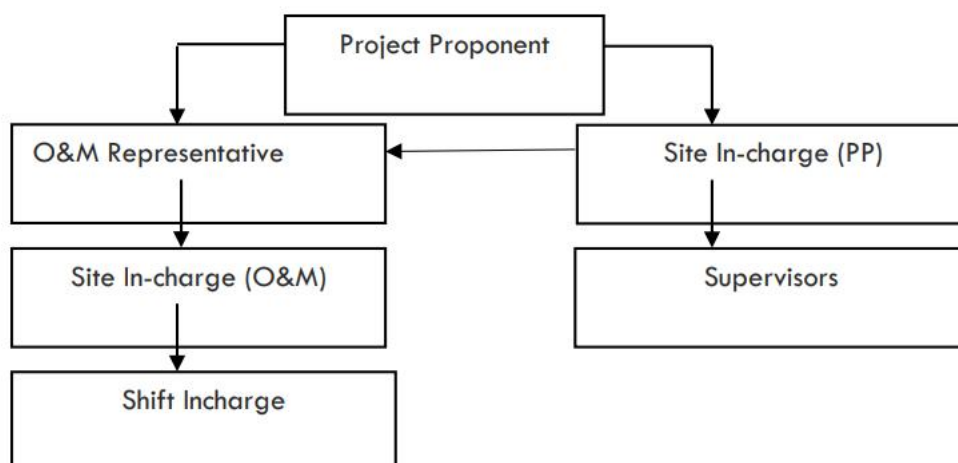
Not Applicable

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

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The monitoring plan is developed in accordance with the modalities and procedures for project activities and is proposed for grid-connected solar power project/ unit being implemented in Telangana, India. The monitoring plan, implemented by the project developer 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 developer.



Responsibilities of Site Incharge (PD): Overall functioning and maintenance of the project activity, the Site incharge is coordinate with the O&M operator as well as the site supervisors.

Responsibilities of O&M Representative: Co-ordination between Site in charge of the O&M operator as well as the project developer and further report to PD head office. The operation and maintenance of the solar plant is managed in-house.

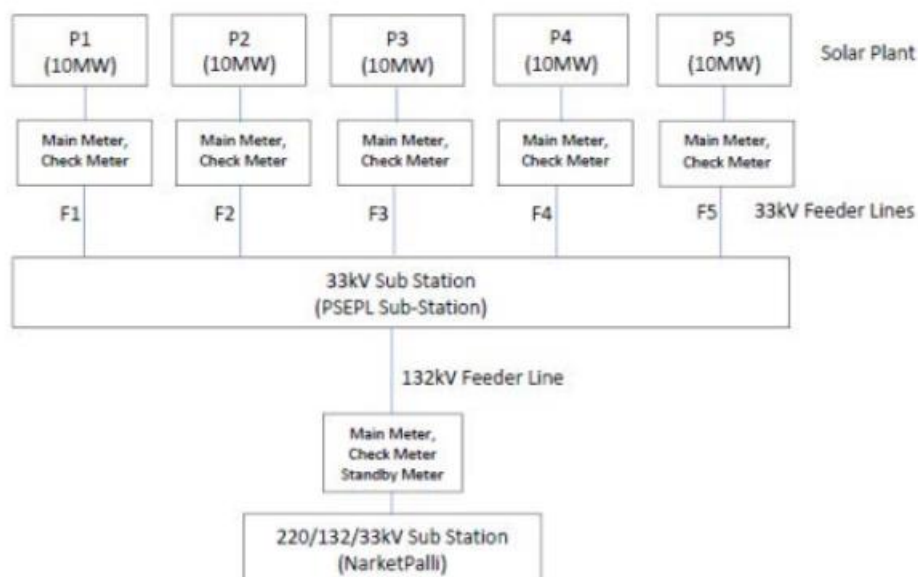
Responsibilities of Site In-charge (O&M Operator): Responsibility for maintaining the data records, ensures completeness of data, and reliability of data (calibration of equipment) as well as data recording for all the parameters.

Responsibilities of Shift In-charge: Responsibility for day-to-day data collection and maintains day to day monitored data.

Data Measurement

The project activity involves the installation of 13 Energy meters out of which 10 meters are placed in Solar plant end (2 Energy meters at each 10 MW; 1 main meter and 1 check meter) and 3 Energy meters (1 main, 1 check & 1 Standby meter) sealed

and
control



under
of

TSSPDCL used for joint metering installed at interconnection point of the Grid at project site.

The export and import energy are measured continuously using above mentioned Main & Check meters. Export & Import readings of Main & Check meters installed at the substation are taken on monthly basis by authorized officer of TSSPDCL in the presence of PD or representative of PD. The meter reading is taken jointly and signed by the representatives of the TSSPDCL and project investors. Based on the readings, invoices are raised by project investors. These invoices can be used for cross checking the meter readings taken for the project activity. It is to be noted though PD or PD representative is available during meter reading, the electricity exported and imported by the Solar Project is completely under purview of TSSPDCL officer and PD do not have any control on it. Also, accuracy class of meters and calibration frequency is under purview of TSSPDCL officer and PD do not have any control on it. PD gets the monthly JMR report from where electricity export and import values are obtained to calculate net electricity supplied to grid and used for emission reduction calculations.

Telangana Site

Data collection and archiving

Export & Import readings from the meters is collected under the supervision of the authorized representatives of PD. The net electricity supplied to grid is calculated based

on export & import readings. Export and Import data recorded and stored in electronic &/or Paper format. The records are checked periodically by the Head (Operations) and discussed thoroughly with the O&M Team. The period of storage of the monitored data is 2 years after the end of crediting period or till the last issuance of GS VERs for the project activity whichever occurs later.

Mismatch in Monitoring Period and the Billing Period

In case the dates of a particular monitoring period do not match with the dates of the billing period, the net electricity exported to the grid is calculated from:

$$D = (A/B) * C$$

Where,

D = Apportioned net electricity for the period/month

A = Difference of number of days which are not matching of billing period and monitoring period.

B = Total Number of days of the billing period/month.

C = Net Electricity supplied to the grid for that given billing period/ month.

The calculated value after apportioning is used for calculation of emission reductions during that period.

For the month of November -2023 apportioning has been carried out. The current monitoring period starts from 01/01/2021 to 15/11/2023. Therefore, following the above-mentioned apportioning procedure:

A	Difference of number of days which are not matching for November	15
B	Number of days of November	30
C	Net Electricity supplied to the grid for November	7,118 MWh

the net electricity exported to the grid is calculated from:

$$D = (A/B) * C$$

$$= (15/30) * 7118$$

$$= 3,559 \text{ MWh (Round Down)}$$

Emergency preparedness

The project activity is 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 unlikely event of failure of all Main, Check as well as Standby meter installed at Substation, where all the faulty meters are required to be repaired or replaced simultaneously, the export & import readings from Main, Check & Standby Meters installed at the inter-connection point at the project site is used for monitoring of net electricity exported to the grid.

Personnel training

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

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 13: Take urgent action to combat climate change and its impacts

Data/parameter	EF _{OM, y}
Unit	tCO ₂ e/MWh
Description	Operating Margin Emission Factor of INDIAN Grid
Source of data	Calculated from CEA database, Version 15, December 2019 ⁶
Value(s) applied	0.9622
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system," as 3-year generation weighted average using data for the years 2016-17, 2017-18 & 2018-19. The data are obtained from "CO ₂ Baseline Database for Indian Power Sector" version 15.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

⁶ https://www.cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver15.pdf

Data/parameter	$EF_{BM, y}$
Unit	tCO ₂ e/MWh
Description	Build Margin Emission Factor of INDIAN Grid
Source of data	Calculated from CEA database, Version 15, December 2019.
Value(s) applied	0.8811
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO ₂ Baseline Database for Indian Power Sector" version 15.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Data/parameter	$EF_{CM, y}$
Unit	tCO ₂ e/MWh
Description	Combined Margin Emission Factor of INDIAN Grid
Source of data	Calculated from CEA database, Version 15, December 2019.
Value(s) applied	0.9419
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 CO₂ emission factor in year y (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	The data is used to calculate baseline emission reductions.
Additional comment	-

D.2 Data and parameters monitored

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Relevant SDG Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

Relevant SDG Indicator 7.2.1: Renewable energy share in the total final energy consumption

Data / Parameter	$EG_{PJ,y}$
Unit	MWh
Description	Quantity of net electricity generation that is produced and fed into the grid
Measured/calculated/ default	Method: The Net electricity supplied to the grid by the project activity is calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from Monthly Meter reading reports provided by SEB as per below equation: $EG_{facility,y} = EG_{Export} - EG_{Import}$
Source of data	Generation statement provided by TSSPDCL Nalgonda every month.
Value(s) of monitoring parameter	322,764 MWh
Monitoring equipment	Projects activity comprises of installation of total 13 Energy meters out of which 10 meters are placed in

Solar plant end (2 Energy meters at each 10 MW; 1 main meter and 1 check meter) and 3 Energy meters (1 main, 1 check & 1 Standby meter) at Govt. pooling Substation for joint metering at substation interconnection point.

Make	Sub-Station	Solar Plant End
Manufacturer	Secure Make	Secure make
Type	ABT meters	ABT meters
Accuracy Level	0.2s	0.2s
Total no of meter	3	5*2 = 10
Main meter	APZ00364	APZ00369 APZ00371 APZ00373 APZ00381 APZ00171
Check meter	APZ00365	APZ00370 APZ00372 APZ00374 APZ00382 APZ00383
Standby meter	APZ00366	-
Date of calibration ⁷	07/03/2022 (for Sub-Station meters)	03/03/2022 (for plant end meters)
Due date of calibration	06/03/2027 (for Sub-Station meters)	02/03/2027 (for plant end meters)

Cross Checking:

Quantity of net electricity supplied to the grid is cross checked from the Invoices/ Monthly Bill raised by the project developer to NTPC Limited.

⁷ Date of previous calibration is 04/07/2017 which is valid till 03/07/2022 (for both Substation meters and plant end meters).

Measuring/reading/recording frequency:	Monthly
Calculation method (if applicable)	Data Type: Measured Monitoring equipment: Energy Meters of accuracy class 0.2s Recording Frequency: Continuous monitoring and Monthly recording from Energy Meters, Summarized Annually. Archiving Policy: Paper &/or Electronic Calibration frequency: Once in 5 years as per CEA guidelines⁸ Electricity exported/imported to the grid is in kWh. However, for the calculation purpose electricity exported is converted in MWh. The Net electricity supplied to the grid by the project activity will be calculated as a difference of electricity exported to the grid and electricity imported from the grid obtained from Monthly Meter reading reports provided by TSSPDCL as per below equation: $EG_{PJ,y} = EG_{Export} - EG_{Import}$ Telangana State Southern Power Distribution Company Limited (TSSPDCL) do the calculation and the PD has no say in the calculation. Based on the Monthly generation Statement issued by TSSPDCL the project shall raise the invoice. The electricity exported to the grid by the project activity connected to the sub- station is measured by electronic tri-vector meters of accuracy class 0.2s. The electricity exported will be measured continuously using Main & Check meters.
QA/QC procedures	Calibration of all the meters will be undertaken once every five year and faulty meters will be duly replaced immediately. The meters are of accuracy class 0.2s. Cross Checking:

⁸ As per CEA data base the frequency of meter calibration is once in five years.
https://cea.nic.in/old/reports/regulation/CEA_metering_regulation_amendment_2019.pdf

	Quantity of net electricity supplied to the grid will be cross checked with the Invoices/ Monthly Bill raised by the project developer to NTPC Limited and the JMR issued to PD.
Purpose of data	The Data/Parameter is required to calculate the baseline emission.
Additional comment	Data will be archived electronically for a period of 2 years beyond the end of crediting period.

Relevant SDG Target SDG 8.5: By 2030, 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.

Relevant SDG Indicator 8.5: Average hourly earnings of employees, by sex, age, occupation and persons with disabilities

Data / Parameter	• Quality of employment • Income generation
Unit	• Number (Trainings) • INR (salary)
Description	• Number of Trainings provided to employees & O&M staff • Salary given to the employees of the project. The income to all the unskilled workers is made on day-to-day basis with the minimum wage requirement.
Measured/calculated/default	Measured
Source of data	Training Records (HSE & HR) & Employee feedback forms Salary Slip of the project employees.

Value(s) of monitoring parameter	Some of the trainings & workshops that are given to the respective O&M staffs. • HSE Training Record • Regular Drill Record • Handling of Equipment Training • Soft Skill Training The training programmes help in making the workforce efficient and skilled at their job. This not only helps the company but adds to growth of individual employees. Thus, the project has a positive impact on the parameter. Number of training vintage-wise: <table border="1"> <thead> <tr> <th>Year</th><th>Number of Training</th></tr> </thead> <tbody> <tr> <td>2021</td><td>48</td></tr> <tr> <td>2021</td><td>48</td></tr> <tr> <td>2023</td><td>42</td></tr> </tbody> </table> The detailed training record for this monitoring period is provided in the Appendix 2. Annual records of income paid to all the employees would be available. The total wage for 22 employees has been calculated as INR 16,474,632 for the period 2021 to 2023. As per the wage structure for year 2021 to 2023, skilled, Unskilled worker details are provided in the wage calculation sheet. The calculation for the skilled worker is done on the basis of the sample salary slip provided. All the workers are been paid as per Minimum Wages Act, 1948⁹ and as per government regulations which is applicable for the project location. The figures shown below reflect payments to employees during the current monitoring period that are above the minimum wage requirements. Vintage-wise salary in INR: <table border="1"> <thead> <tr> <th>Year</th><th>INR</th></tr> </thead> <tbody> </tbody> </table>	Year	Number of Training	2021	48	2021	48	2023	42	Year	INR
Year	Number of Training										
2021	48										
2021	48										
2023	42										
Year	INR										

⁹ <https://clc.gov.in/clc/sites/default/files/MinimumWagesact.pdf>

	2021 ¹⁰	3,130,032
	2022 ¹¹	6,104,964
	2023 ¹²	7,239,636
	Minimum wages as mentioned below:	
	For year 2021 -	
	- Unskilled Workers – 368 INR per day or 11034 INR per month - Skilled Workers – 400 INR per day or 11986 INR per month	
	For year 2022-	
	- Unskilled Workers – 375 INR per day or 11249 INR per month - Skilled Workers – 833 INR per day or 25000 INR per month	
	For year 2023-	
	- Unskilled Workers – 370 INR per day or 11101 INR per month - Skilled Workers – 1000 INR per day or 30000 INR per month	
Monitoring equipment	- Training Attendance sheets and records. - Salary slips of the employees	
Measuring/reading/recording frequency:	Annually	
Calculation method (if applicable)	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register. Salary slip can be checked for earnings of female and male	

¹⁰ For Telangana year 2021: https://comply4hr.com/minimum-wages.asp?stddate=2021-04-01&ust1=TEL++&utm_source

¹¹ For Telangana year 2022: https://dev.simpliance.in/minimum-wages/telangana?utm_source

¹² For Telangana year 2023: https://ascent-hr.com/notification/telangana-minimum-wages-revision-0423/?utm_source

	employees
QA/QC procedures	Salary slip can be checked for earnings of employees. The trainings held can be crosschecked with the training documents maintained at site.
Purpose of data	Continuation of regular trainings/workshops for employees and O&M staffs
Additional comment	The daily wages for the semi-skilled workers are provided to the VVB in the wage calculation sheet. For the skilled workers, the salary slip is taken as reference and it is on a monthly basis.

Data / Parameter	Quantitative employment																		
Unit	Number of O&M staffs involved in the project																		
Description	Total employment generated due to the implementation of project activity																		
Measured/calculated/default	Plant employment records																		
Source of data	Training Records (HSE & HR) & Employee feedback forms Salary Slip of the project employees.																		
Value(s) of monitoring parameter	The O&M cost for this monitoring period is 16,474,632 INR. The total number of O&M staffs employed - <table><tr><td>Project Capacity</td><td>Monitoring report</td><td>No. of Employees</td></tr><tr><td>50MW</td><td>01/01/2020 to 31/12/2020</td><td>22</td></tr><tr><td>50MW</td><td>01/01/2021 to 31/12/2021</td><td>22</td></tr><tr><td>50MW</td><td>01/01/2023 to 15/11/2023</td><td>22</td></tr></table> <table><tr><td>Un-skilled</td><td>Skilled</td></tr><tr><td>3</td><td>19</td></tr></table>			Project Capacity	Monitoring report	No. of Employees	50MW	01/01/2020 to 31/12/2020	22	50MW	01/01/2021 to 31/12/2021	22	50MW	01/01/2023 to 15/11/2023	22	Un-skilled	Skilled	3	19
Project Capacity	Monitoring report	No. of Employees																	
50MW	01/01/2020 to 31/12/2020	22																	
50MW	01/01/2021 to 31/12/2021	22																	
50MW	01/01/2023 to 15/11/2023	22																	
Un-skilled	Skilled																		
3	19																		

Monitoring equipment	Not Applicable, as it is a calculated parameter
Measuring/reading/recording frequency:	Annually
Calculation method (if applicable)	Employment Records
QA/QC procedures	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register.
Purpose of data	To monitor the contribution to SDG 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)
Additional comment	-

Relevant SDG Target 13.2: Integrate climate change measures into national policies, strategies and planning

Relevant SDG Indicator 13.2.1: Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change

Data / Parameter	Air Quality
Unit	tCO ₂ e
Description	Reduction in CO ₂ emission reduction due to implementation of project activity
Measured/calculated/default	Calculated
Source of data	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO ₂ Baseline Database for Indian

	Power Sector" version 15.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Value(s) of monitored parameter	304,011 tCO ₂ e
Monitoring equipment	Not Applicable, as it is a calculated parameter
Measuring/reading / recording frequency:	Calibration and Testing of Meters will be done by the accredited agency as per norms. Once in 5 years as per CEA guidelines.
Calculation method (if applicable)	Calculated from "CO ₂ Baseline Database for Indian Power Sector" and Energy Generation
QA/QC procedures	A check meter is also installed near to the export meter to cross check the electricity exported to the grid. The check meter reading would also be used in case of failure of export meter.
Purpose of data	Calculation of baseline emissions
Additional comment	The data will be archived for crediting period+2 years

Safeguarding principal 4.3.5: Hazardous and non-hazardous waste

Data / Parameter	Hazardous and Non-hazardous Waste
Unit	-
Description	The manufacture, trade, release, and use of hazardous and non-hazardous chemicals and/or materials.
Measured/calculated/default	Manual

Source of data	Plant Records
Value(s) of monitored parameter	0
Monitoring equipment	Weigh Bridge
Measuring/reading / recording frequency:	Once in a Monitoring period
Calculation method (if applicable)	NA
QA/QC procedures	The waste is disposed to the waste handlers and the firm will comply with all the local laws for monitoring and disposal.
Purpose of data	Analysis of safeguarding principle
Additional comment	-

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

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

As per monitoring template guidelines, this section is not applicable for non-Community Service Activities, hence not applicable.

D.4. Implementation of sampling plan

>>

Sampling is not required for the given project activity.

SECTION E. CALCULATION OF SDG IMPACTS

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

>>

SDG 7

The monitoring parameter for the SDG 7 is Quantity of net electricity supplied to the grid during the year y. Since baseline and pre-project scenario are same, in the baseline condition no renewable electricity will be supplied to grid from the project location. Hence, the baseline value is zero.

Vintage	Baseline Value
	Quantity of net electricity supplied to the grid (MWh)
01/01/2021 to 31/12/2021	0
01/01/2022 to 31/12/2022	0
01/01/2023 to 15/11/2023	0

SDG 8: -

The monitoring parameter for the SDG 8 are Number of trainings provided to employees & O&M staff, Income generation & Number of O&M staffs involved in the project. Since baseline and pre-project scenario are same, in the baseline condition these values are zero.

Vintage	Baseline Value		
	Number of trainings (Nos)	Income generation (Lakh INR)	Number of employees (Nos)
01/01/2021 to 31/12/2021	0	0	0
01/01/2022 to 31/12/2022	0	0	0
01/01/2023 to 15/11/2023	0	0	0

SDG 13: Climate Action

In the baseline, there were no Social Development activities taking place; whereas baseline Emissions for electricity supplied by project activity, BEy is calculated as:

30

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

Where,

BE_y	Baseline emissions in year y (tCO ₂ /yr)
$EG_{PJ,y}$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr).
$EF_{grid,CM,y}$	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO ₂ /MWh).

$$EG_{PJ,y} = 322,764 \text{ MWh}$$

$$EF_{CO_2, grid, y} = EF_{grid, CM, y, y} = 0.9419 \text{ tCO}_2\text{e/MWh}$$

Hence,

$$BE_y = 322,764 \text{ MWh} * 0.9419 \text{ tCO}_2\text{e/MWh}$$

$$= 304,011 \text{ tCO}_2\text{e (Round down values)}$$

Monitoring period	Net generation (MWh)	Project Value	
		Grid Emission Factor (tCO ₂ /MWh)	Emission Reduction (tCO ₂)
01/01/2021 to 31/12/2021	111,559	0.9419	105,077
01/01/2022 to 31/12/2022	110,442	0.9419	104,026
01/01/2023 to 15/11/2023	100,763	0.9419	94,909
Total	322,764		304,011

The calculation has been shown in ER calculation sheet "ER sheet-7139"

Thus, the estimated baseline situation of each SDG outcome are summarized as follows;

Item	Baseline value
SDG 7: Affordable and Clean Energy	No Activities in the baseline

SDG 8: Decent Work and Economic Growth	No Activities in the baseline
SDG 13: Climate Action	Emission of 304,011 tCO ₂ e

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

>>

SDG 7:

The monitoring parameter for the SDG 7 is Quantity of net electricity supplied to the grid during the year y. In the project situation, the project supplied 322,764 MWh electricity during the monitoring period. This can be crosschecked from JMR & Invoices.

During Monitoring period - 01/01/2021 to 15/11/2023

Quantity of net electricity supplied to the grid (MWh) = 322,764 MWh

Monitoring period	Project Value
	Quantity of net electricity supplied to the grid (MWh)
01/01/2021 to 31/12/2021	111,559
01/01/2022 to 31/12/2022	110,442
01/01/2023 to 15/11/2023	100,763
Total	322,764

SDG 8:

The monitoring parameter for the SDG 8 are Number of trainings provided to employees & O&M staff, Cost spent for O&M & Number of O&M staffs involved in the project. During the project scenario, the following is achieved:

During Monitoring period - 01/01/2021 to 15/11/2023

Quality of Employment – 138 trainings

Quantitative employment and income generation - 22 employees & INR 16,474,632

These can be crosschecked from the training records & employment records.

Monitoring period	Project Value		
	Number of trainings (Nos)	Income generation (INR)	Number of employees (Nos)
01/01/2021 to 31/12/2021	48	INR 3,130,032	22
01/01/2022 to 21/12/2022	48	INR 6,104,964	22
01/01/2023 to 15/11/2023	42	INR 7,239,636	22
Total	138	INR 16,474,632	22

SDG 13:

As per the approved consolidated Methodology ACM0002 (Version 20.0):

"For most renewable energy power generation project activities, $PE_y = 0$. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

PE_y - Project emissions in year y (t CO₂e/yr)

$PE_{FF,y}$ - Project emissions from fossil fuel consumption in year y (t CO₂/yr)

$PE_{GP,y}$ - Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (t CO₂e/yr)

$PE_{HP,y}$ - Project emissions from water reservoirs of hydro power plants in year y (t CO₂e/yr)

As the project activity is the installation of a new grid-connected Solar power plant/unit and does not involve any project emissions from fossil fuel, operation of dry, flash steam or binary geothermal power plants, and from water reservoirs of hydro power plants. Therefore $PE_{FF,y}$, $PE_{GP,y}$, $PE_{HP,y}$ is equal to zero and thus, $PE_y = 0$.

Monitoring period	Project Emission (tCO ₂ e)
-------------------	---------------------------------------

01/01/2021 to 15/11/2023
(Inclusive of both the dates)

0

E.3. Calculation of leakage

>>

No leakage emissions are applicable.

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

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
13	Emission Reduction	304,011 tCO ₂ e	0 tCO ₂ e	304,011 tCO ₂ e
8	SDG 8: Decent Work and Economic Growth	0	138 Trainings 22 Employees Unskilled – 3 Skilled – 19 16,474,632 INR	138 Trainings 22 Employees Unskilled – 3 Skilled – 19 16,474,632 INR
7	MWh of renewable energy generated	0 MWh	322,764 MWh	322,764 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 ¹³ achieved during this monitoring period
13	89,549 tCO ₂ e/year (365 days) 257,361 tCO ₂ e for the	304,011 tCO ₂ e

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.

monitoring period (1,049 days)

7	95,073 MWh/Year (365 days) 273,237 MWh for the Monitoring period (1,049 days)	322,764 MWh
8	1 training/year 20 employees Minimum wage Rs 350/Day	138 Training 22 Employees Minimum wage INR 371/Day 16,474,632 ¹⁴¹⁵ INR

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

>>

SDG -13

It is to be noted here that as per the PDD the estimated emission reduction to be achieved from the project activity for the current monitoring period is

$$= 89,549 * 1049 \text{ (days)} / 365$$

$$= 257,361 \text{ tCO}_2\text{e}$$

¹⁴ <https://clc.gov.in/clc/sites/default/files/MinimumWagesact.pdf>

The total wage for 22 employees from 2021 to 2023 amounts to INR 16,474,632. Wage details for unskilled and skilled workers have been taken from the wage calculation sheet, while skilled-worker wages were calculated using the sample salary slip provided. The minimum wage rates applicable—INR 371/day for unskilled—are higher than the estimated benchmark of INR 350/day. Accordingly, all employees have been paid above the minimum wage requirements.

Minimum wages as mentioned below:

For year 2021 https://comply4hr.com/minimum-wages.asp?stdate=2021-04-01&ust1=TEL++&utm_

- Unskilled Workers – 368 INR per day or 11034 INR per month

For year 2022-https://dev.simpliance.in/minimum-wages/telangana?utm_source

- Unskilled Workers – 375 INR per day or 11249 INR per month

For year 2023-https://ascent-hr.com/notification/telangana-minimum-wages-revision-0423/?utm_

- Unskilled Workers – 370 INR per day or 11101 INR per month

The minimum wage rates applicable—INR 371/day for unskilled—are higher than the estimated benchmark of INR 350/day.

¹⁵ Total amount of wages paid to employees during current monitoring period.

Whereas actual emission reductions achieved during this monitoring period is 304,011 tCO₂e, which is approximately 18.13% higher than the estimated emission reductions. The PLF achieved during current monitoring period is 25.64% and is within the +10% of sensitivity range which does not breach the PLF Value as mentioned in the registered PDD.

SDG -07

It is to be noted here that as per the PDD the estimated electricity generation to be achieved from the project activity for the current monitoring period is

$$= 95,073 * 1049 \text{ (days)} / 365$$

$$= 273,237 \text{ MWh}$$

The actual electricity generation for the current monitoring period achieved is 322,764 MWh which is approximately 18.13% higher than the estimated value. The achieved PLF during current monitoring period is 25.64%

Breakdown details for current monitoring period are provided in Appendix 1: Breakdown Details which have no major impact on actual net electricity generation.

SDG -08

As per the registered PDD 1 training per year and at least 20 employees should be employed. For this monitoring period there were 10 trainings and 22 employees.

The below comparison of SDG 7, SDG 8 and SDG 13 for the monitoring period of 01/01/2021 to 15/11/2023 is as per follows:

SDG	Parameter	Annual Average Estimation as per PDD	Estimation for the monitoring period as per PDD	Actual Achieved during the monitoring period	Difference
7	Renewable electricity generation (MWh)	95,073 MWh	273,237 MWh	322,764 MWh	18.13%
8	Number of Trainings Conducted	1	NA	138	NA

	Income generation (INR)	INR 350/day	NA	16,474,632 ¹⁶ INR	NA
	Number of Employment	20	22	22	10%
13	Emission Reduction (tCO ₂ e)	89,549 tCO ₂ e	257,361 tCO ₂ e	304,011 tCO ₂ e	18.13%

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

>>

The emission reduction was 18% higher than estimated due to higher radiation, more efficient equipment, and frequent module cleaning. As per the ASSESSMENT APPROACH FOR REPORTING HIGHER EX-POST EMISSION REDUCTIONS (para 2.1.4), emission reduction change is due to a higher Plant Load Factor (PLF), among other factors. Due to its material impact, i.e., more than 20% of total project revenue, PLF was included in sensitivity analysis for investment analysis purpose. The sensitivity analysis indicates that a +10% variation in PLF corresponds to a value of 28.04%, whereas the actual achieved PLF is recorded at 25.64%, reflecting a conservative estimate. Furthermore, referencing the registered CDM (PDD) version 03, an increase of 21.93% in PLF would surpass the additionality benchmark, thus confirming that the current achieved PLF remains within acceptable limits.

SDG -13

¹⁶ Minimum wages as mentioned below:

For year 2021 https://comply4hr.com/minimum-wages.asp?stdat=2021-04-01&ust1=TEL++&utm_source=linkedin&utm_medium=social

- Unskilled Workers – 368 INR per day or 11034 INR per month

For year 2022-https://dev.simpliance.in/minimum-wages/telangana?utm_source=linkedin&utm_medium=social

- Unskilled Workers – 375 INR per day or 11249 INR per month

For year 2023-https://ascent-hr.com/notification/telangana-minimum-wages-revision-0423/?utm_source=linkedin&utm_medium=social

- Unskilled Workers – 370 INR per day or 11101 INR per month

The minimum wage rates applicable—INR 371/day for unskilled—are higher than the estimated benchmark of INR 350/day.

It is to be noted here that as per the PDD the estimated emission reduction to be achieved from the project activity for the current monitoring period is

$$= 89,549 * 1049 \text{ (days)}/365$$

$$= 257,361 \text{ tCO}_2\text{e}$$

Whereas actual emission reductions achieved during this monitoring period is 304,011 tCO₂e, which is approximately 18.13% higher than the estimated emission reductions. The PLF achieved during current monitoring period is 25.64% and is within the +10% of sensitivity range which does not breach the PLF Value as mentioned in the registered PDD.

SDG -07

It is to be noted here that as per the PDD the estimated electricity generation to be achieved from the project activity for the current monitoring period is

$$= 95,073 * 1049 \text{ (days)}/365$$

$$= 273,237 \text{ MWh}$$

The actual electricity generation for the current monitoring period achieved is 322,764 MWh which is approximately 18.13% higher than the estimated value. The achieved PLF during current monitoring period is 25.64%

Breakdown details for current monitoring period are provided in Appendix 1: Breakdown Details which have no major impact on actual net electricity generation.

SDG -08

As per the registered PDD 1 training per year and at least 20 employees should be employed. For this monitoring period there were 10 trainings and 22 employees.

SECTION F. SAFEGUARDS REPORTING

>>

No safeguarding principles were added to the monitoring plan in the registered PDD.

Therefore, the relative success and failures, or improvements to proposed mitigation measures is not applicable.

The project does not lead to release of any hazardous substances that pose threat to the environment.

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.

>>

For ongoing communication, the PD has also placed a grievance register onsite where in the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately.

During the monitoring period, minor grievances were raised—such as the removal of scrap material from agricultural land effecting the local villagers, farmers experiencing dust related problems due to vehicles which were resolved using water tankers, etc.

These concerns have all been addressed and resolved. The copies have been provided to the VVB.

However, there is no major negative feedback has been reported within this monitoring period .

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

>>

There is no input/grievance to follow up action.

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

>>

Not legal contest or dispute that has arisen with the project during the monitoring period.

Appendix 1: Plant Breakdown Details

Date	Error Description	Action Taken	Duration (Hrs.)
May-2021	Inverter tripped on LIR, Abnormal Dc circuit, High DC input voltage	String cable rectification done, Inverter replaced with new one, Fault rectified	13:51
June-2021	Inverter tripped on Abnormal DC Circuit, Inverter tripped on internal issue, ACCB Isolator internal failure	Talked with Huawei team and replaced the inverter, Replaced with the another ACCB, Found 150 Sq mm Cable fault and replaced with new cable	29:22
July-2021	String cable grounded, DC compartment burnt, Abnormal DC circuit, Incomer-5 Tripped on HT Cable ground Fault,	Removed the ground string and rectification done, 300SQ.mm cable Fault identified and Joint done, Talked with huawei team and replaced the inverter	140:38
Aug-2021	String Open due MC4 Connector loose condition, Inverter tripped due to DC Cable damage, DC Cable damage due to rodent attack, Inverter tripped on Internal Fault, Abnormal DC Circuit	Replaced DC Cable, String Rectified, Cable replaced, DC Cable damage has been rectified, Talked with huawei team and replaced the inverter	211:13
Sept-2021	Inverter Tripped on Low Insulation Resistance, MC4 melted, Cable cut by the Rodent bite, MC4 Loosen, Cable grounded	Replaced connector, MC4 Connector replaced, Recrimping done, Informed to Huawei team. No Spares Available inv at site	413:35
Oct-2021	Lug loose connection, Cable cut due to rodent attack, Y connector melted, String open due to Dc Cable damage, MC4 damaged	Mc4 connector replaced with new, Cable replaced, DC Cable replaced with new Cable	290:29
Nov-2021	String Cable grounded, ACCB OFF Due to internal problem of ACCB, String open due to DC Cable damaged condition, Crimping done	Cleared the fault and ON the Inv, Replaced with new cable and String connected properly, Replaced the connector, Cleared the fault and ON the Inv	54:95

Dec-2021	Connector Damaged, Mc4 connector damaged, Lug Disconnected, Cable cut by rodent attack, DC Cable grounded	Mc4 replaced, Lugging done, Connector replaced, LIR Cleared, Crimpping done	70:96
Jan-2022	Lug melted, MC4 Damaged	Relugging done, MC4 Replaced	1:63
Feb-2022	MC4 Damaged, Cable Cut Due to Rodent Attack, Connector Damaged, String open due to Y-Connector Loose condition	MC4 Replaced, Cable Replaced, Cable identified & Rectified, Y-String connected properly after crimping	31:29
March-2022	Y connector Damaged, String Open due to Cable grounded, Grid failure from TSTRANSCO	Y Connector replaced, String connected properly after placing new cable, Cable replaced	12:97
Apr-2022	LIR, 50 SQ mm cable fault, DC Cable cut, Cable ground fault	Ground fault cleared.And turned ON inverter, MC4 melted replaced new, Cable replaced	11:55
May-2022	one string ground fault, Lug loosen, Y CONNECTOR MELTED, High Dc input voltage	Dc cable replaced, Recrimpping done, Replaced Y connector, inverter replaced after confirming HUAWEI TEAM	06:07
June-2022	Abnormal Inverter Circuit, String cable damaged, Inverter Internal Failure	Spoken with Huawie team and replaced, String cable damaged	13:03
July-2022	Inverter Abnormal DC Circuit, Internal Fault, High dc input voltage	Spoken with Huawei Team And replaced The Inverter	62:47
Aug-2022	Inverter tripped on low Insulation Resistance, MC4 connector melted, DC cable damaged, Cable fault, Y-connector melted, Grid Curtilamate	Spoken with huawie team and replaced with new one, new MC4 connector replaced, New DC cable replaced, Grid Restored	27:67
Sept-2022	132KV Line shutdown, Inverter tripped on Internal Fault, Inverter tripped on Abnormal DC Circuit,	Spoken with huwaie team, WIP, Inspection done and found CT Damaged and same replaced	484:17
Oct-2022	Inverter tripped on Internal Fault, DC Cable fault, PTR-01 Tripped on	Spoken with huwaie team and replaced the same, Visual Inspection and Cable	82:06

	REF LV & Differential Protection, Incomer-05 tripped on OC/EF	IR Values Checked Found Y-Phase Grounded, Faulty cable jointing work completed	
Nov-2022	DC Cable ground fault, Y-connector melted, Inverter tripped on Low Insulation resistance, Y-connector melted	new cable replaced, New y-connector replaced done, Spoken with huwaie team and replaced the same	30:75
Dec-2022	DC Cable fault, Inverter tripped on internal fault	New cable replaced, Logs sent to Huwaie team	06:25
Jan-2023	Connecetor damaged, Inverter Tripped on Abnormal Grid voltage, Due to relay malfunction, String Cable Damaged	Connector replaced, Invereter Replaced, Relay NO , NC Contacts checked and restored the feeders, new cable replaced	06:12
Feb-2023	Inverter internal failure, MC4 Loose connection, Grid side shutdown taken due to ABT Meter calibration and CT,PT Testing work purpose	Spoken with Huawei team. And mail sent, Recrimpping done, Once conform the grid side restoration	13:02
March-2023	Y-connector damage	replaced new	03:07
Apr-2023	y connector damage	replaced new	02:50

Appendix 2: Training Records¹⁷

Sr. No.	Topic	Duration (years)
1	Awareness of Incident Reporting & Investigation	2021 to 2023
2	First Aid Awareness (Basic) & Awareness on Animal/Insect Bite Safety	2021 to 2023

¹⁷ The training details mentioned are the records details; however, a total of 138 trainings were conducted during this verification period.

3	Electrical Safety - Awareness	2021 to 2023
4	Fire Safety Training-Awareness	2021 to 2023
5	Awareness on Personal Protective Equipment - PPE	2021 to 2023
6	Hot work (Welding & Grinding Operation) Safety - Awareness	2021 to 2023
7	Awareness on Chemical Safety	2021 to 2023
8	Material Handling (Manual & Mechanical) - Awareness	2021 to 2023
9	Awareness on Hand and Power Tools Safety	2021 to 2023
10	Job Safety Analysis (JSA)/RA - Awareness	2021 to 2023
11	Lockout / Tagout - Awareness	2021 to 2023
12	Machine Guarding - Awareness	2021 to 2023
13	Permit to Work - PTW - Awareness	2021 to 2023
14	Defensive driving/Traffic Safety (Including vehicle inspection) and LSSR Training Awareness	2021 to 2023
15	Gensuite - Concern Reporting, Safety Interaction (Surksa Samvaad- SI), I&I, Event Escalation	2021 to 2023
16	Working at Height, Scaffold and Ladder use & Inspection - Awareness	2021 to 2023
17	Emergency Response-Awareness	2021 to 2023
18	Awareness on SAFETY Interaction/ Samwad	2021 to 2023

19	Contractor SAFETY Management (CSM)	2021 to 2023
20	SRFA (Safety Field Risk Audit) Awareness and VSR Awareness Training	2021 to 2023
21	Awareness on IMS standard of Occupational Health & Safety/ Environment	2021 to 2023
22	RVDTS - Awareness	2021 to 2023
23	CMP - Awareness	2021 to 2023
24	Confined Sapce Safety Awareness	2021 to 2023
Sr. No.	Topic	Duration (years)
1	Awareness of Incident Reporting & Investigation	2021 to 2023
2	First Aid Awareness (Basic) & Awareness on Animal/Insect Bite Safety	2021 to 2023
3	Electrical Safety - Awareness	2021 to 2023
4	Fire Safety Training-Awareness	2021 to 2023
5	Awareness on Personal Protective Equipment - PPE	2021 to 2023
6	Hot work (Welding & Grinding Operation) Safety - Awareness	2021 to 2023
7	Awareness on Chemical Safety	2021 to 2023
8	Material Handling (Manual & Mechanical) - Awareness	2021 to 2023
9	Awareness on Hand and Power Tools Safety	2021 to 2023

10	Job Safety Analysis (JSA)/RA - Awareness	2021 to 2023
11	Lockout / Tagout - Awareness	2021 to 2023
12	Machine Guarding - Awareness	2021 to 2023
13	Permit to Work - PTW - Awareness	2021 to 2023
14	Defensive driving/Traffic Safety (Including vehicle inspection) and LSSR Training Awareness	2021 to 2023
15	Gensuite - Concern Reporting, Safety Interaction (Surksa Samvaad- SI), I&I, Event Escalation	2021 to 2023
16	Working at Height, Scaffold and Ladder use & Inspection - Awareness	2021 to 2023
17	Emergency Response-Awareness	2021 to 2023
18	Awareness on SAFETY Interaction/ Samwad	2021 to 2023
19	Contractor SAFETY Management (CSM)	2021 to 2023
20	SRFA (Safety Field Risk Audit) Awareness and VSR Awareness Training	2021 to 2023
21	Awareness on IMS standard of Occupational Health & Safety/ Environment	2021 to 2023
22	RVDTS - Awareness	2021 to 2023
23	CMP - Awareness	2021 to 2023
24	Confined Sapce Safety Awareness	2021 to 2023

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