



**Verified Carbon
Standard**

BUNDLED SOLAR POWER PROJECT BY VECTOR GREEN SUNSHINE PRIVATE LIMITED AND POLEPALLY SOLAR PARKS PRIVATE LIMITED



India's Largest Carbon Credit Developer & Supplier

Document Prepared By EKI Energy Services Limited

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited are the promoters of the present project activity. The project is a bundled project activity which involves installation of 20 MW solar project by Vector Green Sunshine Private Limited at Mansa district, Punjab and 25 MW solar power project by Polepally Solar Parks Private Limited at Mahabubnagar district, Telangana.

Over the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 70,073 tCO_{2e} per year, thereon displacing 74,429 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel based power plant.

The details of the project and the state of installation are mentioned in the table:-

Project Proponents Name	Capacity in MW	COD	Connection with Grid	State	Usage
Vector Green Sunshine Private Limited	20	24 March 2016	Indian Grid	Punjab	Sale to Grid
Polepally Solar Parks Private Limited	25	27 June 2016	Indian Grid	Telangana	Sale to Grid

The total GHG emission reductions in this monitoring period is 144,907 tCO_{2e}.

1.2 Sectoral Scope and Project Type

Sectoral Scope : 01 - Energy industries (renewable / non-renewable sources)
Project Type : I - Renewable Energy Projects
Project Category : Grid-connected electricity generation from renewable sources
 ACM0002- Version 17.0

1.3 Project Proponent

Organization name	Vector Green Sunshine Private Limited
Contact person	Mr Lokesh Jeengar
Title	GM (Power Sales & Business)
Address	316-317, 'C' Wing, Kanakia Zillion, L.B.S. Road, BKC Annex, Kurla (W), Mumbai-400070

Telephone	+91-22-6107327
Email	lokeshjeengar@vectorgreen.in

Organization name	Polepally Solar Parks Private Limited
Contact person	Mr Lokesh Jeengar
Title	GM (Power Sales & Business)
Address	316-317, 'C' Wing, Kanakia Zillion, L.B.S. Road, BKC Annex, Kurla (W), Mumbai – 400 070
Telephone	+91-22-6107327
Email	lokeshjeengar@vectorgreen.in

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Anjali Rao
Title	Project Manager
Address	Office No. 201, EnKing Embassy, Plot No. 48, Scheme No. 78, Part II, Vijay Nagar INDORE – 452010, India.
Telephone	+91 9109120940
Email	anjali@enkingint.org

1.5 Project Start Date

Start date of the project activity is the earliest date of interconnection with the grid i.e. 24 March 2016. This is the date of commissioning of 20 MW solar PV project activity by Vector Green Sunshine Private Limited.

1.6 Project Crediting Period

Crediting Period Start date: 24-March-2016

Crediting Period End date: 23-March-2026

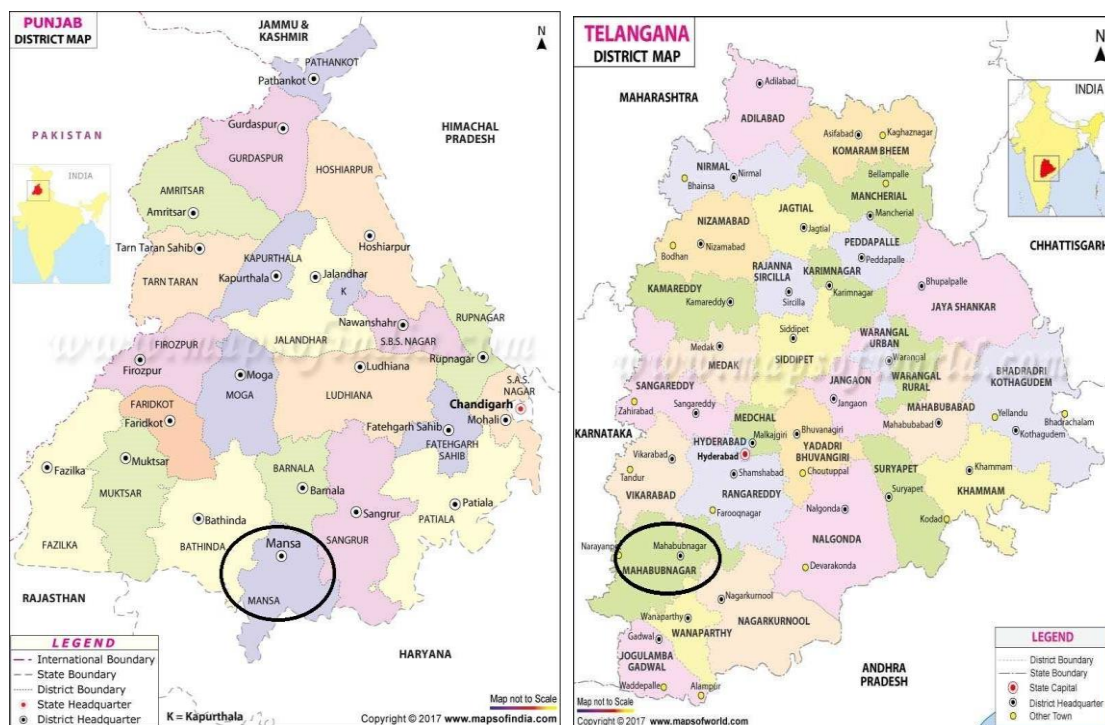
The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times.

1.7 Project Location

The details of the project locations are mentioned in the table below

Project Proponents Name	Village	Tehsil /Mandal	District	State	Latitude(N)	Longitude (E)
Vector Green Sunshine Private Limited	Gammiwala	Boha	Mansa	Punjab	29° 47' 52.47"	75° 31' 16.63"
Polepally Solar Parks Private Limited	Ippaturu	Nawabpet	Mahabubnagar	Telangana	16° 53' 20.0"	78° 04' 57.8"

The project locations have been shown in the map below



1.8 Title and Reference of 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 17.0¹

¹ <http://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

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 system² - Version 06.0 (EB 97, Annex 07)
- Methodological Tool- Tool for the demonstration and assessment of additionality³ - Version 07.0.0 (EB 70, Annex 08).

1.9 Participation under other GHG Programs

Not applicable as it has been not been registered in any other GHG mechanism.

1.10 Other Forms of Credit

Include the following information, as applicable:

- Emission Trading Programs and Other Binding Limits: The PP has not applied this project in any Emission Trading Programs and other Binding Limits.
- Other Forms of Environmental Credit: The PP has not applied this project in any other form of environmental credits.

1.11 Sustainable Development

Contribution to sustainable development:

Ministry of Environment, Forest and Climate Change, Government of India, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

Social well-being: The project would help in generating employment opportunities during the construction and operation phases. The project activity leads to development in infrastructure in the region like development of roads and also may promote business with improved power generation.

Economic well-being: The project is a clean technology investment in the region, which would not have been taken place in the absence of the VCS benefits the project activity also helps to reduce the demand supply gap in the state.

² <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v6.pdf>

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

The project activity is generating power using zero emissions Solar PV based power generation which helps to reduce GHG emissions and specific pollutants like Sox, Nox, and SPM associated with the conventional thermal power generation facilities.

Technological well-being: The successful operation of project activity would lead to promotion of Solar based power generation and would encourage other entrepreneurs to participate in similar projects

Environmental well-being: Solar being a renewable source of energy, it reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion. Due to its zero emission the Project activity also helps in avoiding significant amount of GHG emissions.

2 SAFEGUARDS

2.1 No Net Harm

The project activity does not involve any major construction activity. It primarily requires the installation of the solar PV panels, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that solar PV project activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same⁴.

Thus there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

2.2 Local Stakeholder Consultation

As a part of continual improvement process, feedback from the associated stakeholders is vital, therefore a dedicated Visitor register cum grievance register has been placed at the project site which is accessible to stakeholders to provide their feedback on the project. It is appropriate publicly accessible location at which local stakeholders can provide their feedback on the project. This location is also conducive to continuous and regular checks for stakeholder comments. For the global stakeholders, the suggestion and the grievance can be mailed to info@vector-green.com.

⁴ <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

However, no any grievances received during the current monitoring period. Since no any grievances received, no any mitigation measures are required.

2.3 AFOLU-Specific Safeguards

This section is not applicable because the project activity is not AFOLU project activity.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity involves the installation of Solar PV project. The total capacity of the project is 45 MW of Solar PV plant located at Punjab and Telangana state in India. The project is promoted by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited.

The Project activity is a new facility (Greenfield) and the electricity generated by the Project is to be exported to the Indian electricity grid. The Project therefore displaces an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The Project Proponent plans to avail the VCS benefits for the Project.

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.

The project result in replacing anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 70,073 tCO₂e per year, thereon displacing 74,429 MWh/year amount of electricity from the grid over the 10 years crediting period.

Solar PV Project Technology Details –

The project activity aims to harness solar energy through installation of PV with total installed capacity of 45 MW. The technical specification of 20 MW plant interconnection with grid on 24 March 2016 by Vector Green Sunshine Private Limited are as follows:

Sl. No.	Technical details of the equipment	Comments
1.	Technology Used	Multi Crystalline
2.	Number of modules installed 67760	67760
3.	Sources(s) of the modules installed	Renesola
4.	Make & Number of Inverters	TMEIC- 23 Nos.
5.	Make & Number of Power Transformers	CG- 10 MVA, 2 Nos.
6.	Make & Number of Inverter Transformer	Esennar- 3MVA, 1.5 MVA, 750 MVA, 7 Nos.
7.	HT Panel	ABB
8.	Make & Number of UPS	EMERSON, 8 Nos.

The technical specification of 25 MW plant interconnection with grid on 27 June 2016 by Polepally Solar Parks Private Limited are as follows:

Sl. No.	Technical details of the equipment	Comments
1.	Technology Used	Multi Crystalline
2.	Number of modules installed	290430 95Wp = 29880 (FS-395-PLUS) 97.5Wp = 189180 (FS-397-PLUS) 100WP = 71370 (FS-3100-PLUS)
3.	Sources(s) of the modules installed	First Solar
4.	Make & Number of Inverters	SMA- 30 Nos
5.	Make & Number of Power Transformers	Schneider Electric- 25/30 MVA, 1No.
6.	Make & Number of Inverter Transformer	Silchar Technologies- 1.8 MVA 15 Nos.
7.	HT Panel	Technocraft- 24 Nos.
8.	LT Panel	Arrow Engineers- 16 Nos.
9.	Make & Number of UPS	Delta, 3 Nos. (10KVA, 3KVA & 3KVA)

The project is running smoothly ever since commissioning with regular scheduled maintenance.

3.2 Deviations

2.1.1 Methodology Deviations

No deviation is taken during the current monitoring period.

2.1.2 Project Description Deviations

No deviation is taken during the current monitoring period

3.3 Grouped Projects

The specified project is not a part of a grouped project.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid,OM,y}
Data unit	tCO ₂ /MWh

Description	Operating Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 12, May 2017 ⁵
Value applied	0.9843
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per “Tool to calculate the emission factor for an electricity system, version 05” as 3-year generation weighted average using data for the years 2013-14, 2014-15 & 2015-16. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 12, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	EF_{grid,BM,y}
Data unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 12, May 2017 ⁶
Value applied	0.9083
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per “Tool to calculate the emission factor for an electricity system, version 05” as per the latest data available for the most recent year 2015-16. The data is obtained from “CO ₂ Baseline Database for Indian Power Sector” version 12, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	EF_{grid,CM,y}
Data unit	tCO ₂ /MWh
Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 12, May 2017 ⁷
Value applied	0.9653
Justification of choice of data or description of	The combined margin emissions factor is calculated as follows:

⁵ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf

⁶ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf

⁷ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf

measurement methods and procedures applied	$EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ 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	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

4.2 Data and Parameters Monitored

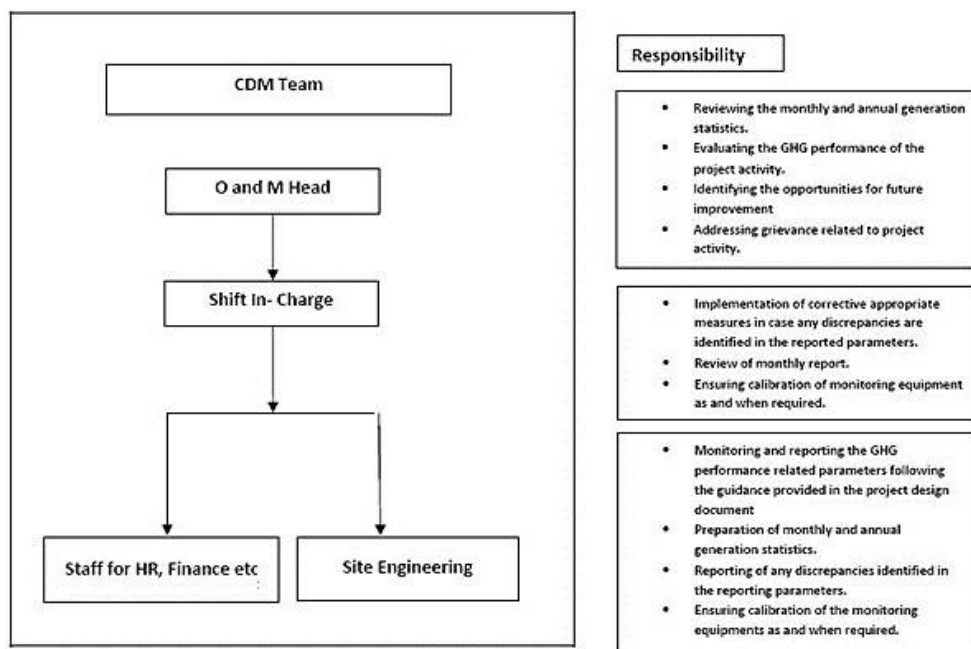
Data / Parameter	$EG_{PJ,y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh
Source of data	Monthly joint meter reading reports of respective state
Description of measurement methods and procedures to be applied	The difference of final value of export and import is used for monthly values of net electricity supplied to the grid by the project activity and same value is considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	150,116.75
Monitoring equipment	The electricity exported / supplied by the plant to pooling substation and further to substation. This meter also measures electricity imported by the plant from the grid.
QA/QC procedures to be applied	The meters are approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years. The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines are 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 the monitoring parameter. The billing is raised based on substation meters. For detailed schedule of calibration please refer Appendix- 1. The Net electricity exported to the grid is cross checked against the invoice raised by the PP towards the DISCOM.

Purpose of the data	Calculation of baseline emissions
Calculation method	Thus, Net electricity supplied to the grid by the project plant in a given month = Export, kWh – Import, kWh
Comments	Data will be 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.

4.3 Monitoring Plan

The monitoring plan is developed in accordance with the modalities and procedures for CDM project activities and is present for grid-connected solar power project being implemented. The monitoring plan, which is implemented by the project participant describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project participant. PP present the following structure for data monitoring, collection, data archiving and calibration of equipments for this project activity. The team comprises of the following members:



Data Measurement

The export and import energy are measured continuously using above mentioned Main and Check meters located at the substations. Readings of meters are taken on monthly basis by authorized officer of SEB in the presence of PP or representative of PP. Based on the Meter

Reading Statement to PP, invoices are raised. These invoices can be used for cross checking the meter readings taken for the respective project activity.

Data Apportioning

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

The PP keeps complete and accurate records of operating log at the Power Plant. The data is archived electronically as well as in log books at the power plant and will be kept for two years after the end of the crediting period or the last issuance of VCU for this project activity, whichever occurs later. In case the dates of a particular monitoring period do not match with the dates of the billing cycle, the net electricity exported to the grid would be calculated apportioning the net electricity exported to grid, as recorded in the JMR, based on the number of days in the monitoring period and the number of days for which JMR was prepared.

Data collection and archiving

Readings from meters are collected in the presence of the plant in-charge. Export and Import data are recorded and stored in logs as well as in electronic form on a daily basis. The records are checked periodically by the Plant Manager and discussed thoroughly with the plant supervisor. The period of storage of the monitored data will be 2 years after the end of crediting period or till the last issuance of VERs for the project activity whichever occurs later.

Emergency preparedness

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

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the approved consolidated Methodology ACM0002 (Version 17.0, EB 89, Annex 1) para 44

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid connected power plants and the addition of new grid- connected power plants. The baseline emissions are to be calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y} = 150116.75 \text{ MWh} \times 0.9653 = 144,907 \text{ tCO}_2e$$

Where:

BE_y = Baseline emissions in year y (t CO₂/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 CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin CO₂ 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” (t CO₂/MWh)

Therefore,

$$\begin{aligned} BE_y &= EG_{PJ,y} \times EF_{grid,CM,y} \\ &= 150116.75 \text{ MWh} \times 0.9653 \\ &= 144,907 \text{ tCO}_2e \text{ (rounddown values)} \end{aligned}$$

5.2 Project Emissions

Not Applicable, since emissions from the project activity is zero as per ACM0002 methodology. Hence, $PE_y = 0$.

5.3 Leakage

Not Applicable, since leakage emissions from the project activity is zero as per ACM0002 methodology. Hence, $LE_y = 0$.

5.4 Net GHG Emission Reductions and Removals

$$ER_y = BE_y - PE_y$$

BE_y = Baseline Emissions

PE_y = Project emissions

Therefore, Net GHG Emission Reductions and Removals are calculated as follows:

$$\begin{aligned} ER_y &= 144,907 - 0 \\ &= 144,907 \text{ tCO}_2e \end{aligned}$$

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2018	67,952	0	0	67,952
2019	72,422	0	0	72,422

2020	4,533	0	0	4,533
Total	144,907	0	0	144,907

It is to be noted here that as per the estimated emission reduction to be achieved from the project activity for the current monitoring period is 138,419 tCO₂e, whereas actual emission reductions achieved are 144,907 tCO₂e, which is approximately 4.48% higher than the estimated emission reductions. The generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant. The higher generation during the current verification period is due to certain natural conditions. It is to be noted that due to the higher generation during the current monitoring period, there is no impact on the additionality and the IRR is still below the benchmark value. Hence, it is acceptable.

APPENDIX 1: METER CALIBRATION DETAILS

Meter Calibration details of 25 MW solar project by Polepally Solar Parks Private Limited

Meter Details	Main Meter	Check Meter	Standby Meter
Sl. No.	XC510829	XC510830	APX00481
Make	Secure	Secure	Secure
Accuracy Class	0.2 s	0.2 s	0.2 s
Date of Meter Calibration	16 December 2015	16 December 2015	16 December 2015
Due date of Meter Calibration	15 December 2020	15 December 2020	15 December 2020
Date of Meter Calibration	30 August 2019	30 August 2019	30 August 2019
Due date of Meter Calibration	29 August 2024	29 August 2024	29 August 2024

Meter Calibration details of 20 MW solar project by Vector Green Sunshine Private Limited

Meter Details	Main Meter	Check Meter
Sl. No.	15191785	15191778
Make	Secure	Secure
Accuracy Class	0.2 s	0.2 s
Date of Meter Calibration	25 January 2016	25 January 2016
Date of Subsequent Meter Calibration	08- January 2019	08- January 2019
Due date of Meter Calibration	07- January 2024	07- January 2024

APPENDIX 2: BREAKDOWN DETAILS

Sr. No	Date	From	To	Duration	Details of BD
1	24-May-18	12:31	12:58	0.4	Tranformer trip due to grid voltage fluctuation
2	24-May-18	10:24	10:44	0.3	Tranformer trip due to grid voltage fluctuation
3	24-May-18	12:31	12:58	0.4	Tranformer trip due to grid voltage fluctuation
4	24-May-18	10:24	10:44	0.3	Tranformer trip due to grid voltage fluctuation
5	25-May-18	12:28	12:58	0.5	Power Tranformer -2 , trip due to grid voltage fluctuation
6	26-May-18	11:55	12:06	0.2	Power Tranformer -2 , trip due to grid voltage fluctuation
7	21-Jun-18	15:17	15:26	0.2	Power trafo-2 is tripped due to under voltage.
8	23-Jul-18	15:25	16:55	1.5	Block -6,Inv-3 Tripped due to ground fault
9	23-Jul-18	11:00	12:00	1.0	Block -3,Inv-3 Tripped due to ground fault
10	09-Aug-18	5:42	12:00	6.3	Block-6,Tracker no-1,2,4,6,13,14,15,21,22,&23 not running due to Battery problem
11	10-Aug-18	5:38	19:48	14.2	Block-6,Tracker no-3,7,9,&23 not running due to Battery problem
12	11-Aug-18	5:30	12:00	6.5	Block-6,Tracker no-1,6,11,22 & 23 not running due to Battery problem
13	06-Sep-18	11:00	17:30	6.5	Block-4,Inv-1 Tripped due to fault Code UF818,External tripped
14	21-Sep-18	13:26	14:15	0.8	Block-2,3&4 Manually tripped due to Load Sheding at Jhunir GSS.
15	21-Sep-18	15:06	15:40	0.6	Block-2,3&4 Manually tripped due to Load Sheding at Jhunir GSS.
16	06-Mar-19	13:47	16:22	2.6	Block-1&3 ,Inv tripped for load shedding
17	22-Mar-19	10:39	11:30	0.9	Block-2,3 &4 Inv tripped manually for load shedding
18	29-Apr-19	14:00	15:30	1.5	Block-6, Inv-2 tripped due to Intake Air Over temperature.
19	15-May-19	5:50	19:10	13.3	Block no 06 Invverter 03 Tripped due to IGBT failure.
20	16-May-19	5:25	19:10	13.8	Block no 06 Invverter 03 Tripped due to IGBT failure.
21	18-Jun-19	14:57	19:35	4.6	Tracker Breakdown due to VFD Ground fault Tr no. 27 to 35
22	19-Jun-19	5:10	19:25	14.3	Tracker no. 29,31,34 &35 stopped due to VFD faulty
23	20-Jun-19	5:10	19:30	14.3	Tracker no. 29,31,34 &35 stopped due to VFD faulty
24	21-Jun-19	5:15	19:25	14.2	Tracker no. 29,31,34 &35 stopped due to VFD faulty
25	22-Jun-19	5:10	19:25	14.3	Tracker no. 29,31,34 &35 stopped due to VFD faulty
26	23-Jun-19	5:15	19:25	14.2	Tracker no. 29,31,34 &35 stopped due to VFD faulty

27	26-Jun-19	5:15	19:20	14.1	Tracker no. 29,31,34 &35 stopped due to VFD faulty
28	29-Jun-19	5:05	19:25	14.3	Tracker no. 29,31,34 &35 stopped due to VFD faulty
29	02-Jul-19	5:15	19:25	14.2	Tracker no. 29,31,34 &35 stopped due to VFD faulty
30	16-Jul-19	13:44	15:24	1.7	Block-3, Inv-1 tripped due to ground fault
31	27-Jul-19	12:47	13:19	0.5	Boha to jhunir transmission line disk failure
32	27-Jul-19	12:47	13:19	0.5	Boha to jhunir transmission line disk failure
33	27-Jul-19	12:33	12:39	0.1	Boha to jhunir transmission line disk failure
34	27-Jul-19	11:59	12:09	0.2	Boha to jhunir transmission line disk failure
35	03-Aug-19	9:37	9:48	0.2	Fault in R Phase Jhunir to Boha Ckt-1
36	05-Aug-19	8:42	8:52	0.2	Fault in R Phase Jhunir to Boha Ckt-1
37	02-Oct-19	7:50	8:45	0.9	Power Trafo-2 Trip due to Relay Problem