



**Verified Carbon  
Standard**

## SOLAR GROUPED PROJECT BY ACME GROUP (EKIESL-VCS-AUG-16-01)



Leading Through Innovation

Document Prepared by EKI Energy Services Limited



STEERING THE PLANET TO NET ZERO

|                          |                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title</b>     | Solar Grouped project by ACME Group (EKIESL-VCS-Aug-16-01)                                                                                                                                                                                                                                                                                                             |
| <b>Version</b>           | 02                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Report ID</b>         | VCS1580                                                                                                                                                                                                                                                                                                                                                                |
| <b>Date of Issue</b>     | 28-September-2022                                                                                                                                                                                                                                                                                                                                                      |
| <b>Project ID</b>        | 1580                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Monitoring Period</b> | 01-September-2021 to 30-April-2022 (Inclusive of both days)                                                                                                                                                                                                                                                                                                            |
| <b>Prepared By</b>       | EKI Energy Services Limited                                                                                                                                                                                                                                                                                                                                            |
| <b>Contact</b>           | Email ID : <a href="mailto:registry@enkingint.org">registry@enkingint.org</a> , <a href="mailto:bhavini.pandey@enkingint.org">bhavini.pandey@enkingint.org</a><br>Address: Office no. 201, Plot 48, Scheme 78 part 2<br>Vijay Nagar, Near Brilliant Convention Centre<br>Indore - 452010 (M.P, India) Website <a href="http://www.enkingint.org">www.enkingint.org</a> |

## CONTENTS

|          |                                                                       |           |
|----------|-----------------------------------------------------------------------|-----------|
| <b>1</b> | <b>PROJECT DETAILS .....</b>                                          | <b>3</b>  |
| 1.1      | Summary Description of the Implementation Status of the Project ..... | 3         |
| 1.2      | Sectoral Scope and Project Type .....                                 | 4         |
| 1.3      | Project Proponent .....                                               | 4         |
| 1.4      | Other Entities Involved in the Project .....                          | 7         |
| 1.5      | Project Start Date .....                                              | 8         |
| 1.6      | Project Crediting Period .....                                        | 8         |
| 1.7      | Project Location .....                                                | 8         |
| 1.8      | Title and Reference of Methodology .....                              | 10        |
| 1.9      | Participation under other GHG Programs.....                           | 10        |
| 1.10     | Other Forms of Credit .....                                           | 11        |
| 1.11     | Sustainable Development Contributions.....                            | 11        |
| <b>2</b> | <b>SAFEGUARDS .....</b>                                               | <b>13</b> |
| 2.1      | No Net Harm.....                                                      | 13        |
| 2.2      | Local Stakeholder Consultation .....                                  | 13        |
| 2.3      | AFOLU-Specific Safeguards .....                                       | 14        |
| <b>3</b> | <b>IMPLEMENTATION STATUS .....</b>                                    | <b>14</b> |
| 3.1      | Implementation Status of the Project Activity .....                   | 15        |
| 3.2      | Deviations .....                                                      | 22        |
| <b>4</b> | <b>DATA AND PARAMETERS.....</b>                                       | <b>22</b> |
| 4.1      | Data and Parameters Available at Validation .....                     | 22        |
| 4.2      | Data and Parameters Monitored.....                                    | 24        |
| 4.3      | Monitoring Plan .....                                                 | 26        |
| <b>5</b> | <b>QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS .....</b>   | <b>33</b> |
| 5.1      | Baseline Emissions .....                                              | 33        |
| 5.2      | Project Emissions.....                                                | 34        |
| 5.3      | Leakage .....                                                         | 34        |
| 5.4      | Net GHG Emission Reductions and Removals.....                         | 34        |
|          | <b>APPENDIX 1: CALIBRATION RECORDS .....</b>                          | <b>36</b> |
|          | <b>APPENDIX 2: TRAINING DETAILS.....</b>                              | <b>37</b> |

# 1 PROJECT DETAILS

## 1.1 Summary Description of the Implementation Status of the Project

The grouped project activity is a step towards supporting the implementation and installation of grid connected renewable energy power plants in India. The implementation of grouped project activity ensures energy security, diversification of the grid generation mix and sustainable growth of the electricity generation sector in India.

The grouped project activity is a voluntary action and each SPV is the Project Proponent for their project activity Instance. ACME Group as a parent company formed different SPV (Special Purpose Vehicles) for solar projects and projects are developed by name of SPVs. There are no mandatory laws or regulations existing in India requiring PP or any other party to develop a programme for renewable generation plants. The project activity instance is running very smoothly with scheduled maintenance activity since commissioning.

The details of 11 project activity instances involved in current monitoring period are as below

| Project Activity Instance | PP (SPV) Name                        | Commercial Operation Date                                       | MW           |
|---------------------------|--------------------------------------|-----------------------------------------------------------------|--------------|
| 1                         | Mihit Solar Power Private Ltd. 25 MW | 21-March-2016                                                   | 74           |
|                           | Mihit Solar Power Private Ltd. 25 MW | 21-March-2016                                                   |              |
|                           | Mihit Solar Power Private Ltd. 24 MW | 28-February-2016 ( for 11.5 MW)<br>30-March-2016 ( for 12.5 MW) |              |
| 2                         | ACME Jaisalmer Solar Power Pvt. Ltd. | 12-May-2016                                                     | 20           |
| 3                         | Aarohi Solar Pvt. Ltd.               | 29-March-2016                                                   | 50           |
| 4                         | Dayanidhi Solar Power Pvt. Ltd.      | 01-April-2016                                                   | 40           |
| 5                         | Niranjana Solar Energy Pvt. Ltd.     | 31-March-2016                                                   | 20           |
| 6                         | Vishwatma Solar Energy Pvt Ltd.      | 02-April-2016 (for 10 MW)<br>30-April-2016 (for 20 MW)          | 30           |
| 7                         | Acme Raipur Solar Power Pvt. Ltd.    | 09-January-2016 (for 23 MW)<br>15-March-2016 ( for 7 MW)        | 30           |
| 8                         | Dayakara Solar Power Pvt Ltd         | 21-June-2016                                                    | 30           |
| 9                         | Grahati Solar Energy Pvt Ltd         | 20-July-2016 (for 20 MW)<br>03-August-2016 (for 30 MW)          | 50           |
| 10                        | Acme Odisha Solar Power Pvt Ltd      | 22-June-2015                                                    | 25           |
| 11                        | Eminent Solar Power Pvt Ltd.         | 09-February-2017                                                | 12.5         |
| Total Capacity            |                                      |                                                                 | <b>381.5</b> |

The total GHG Emission reductions generated in current monitoring period of 01-September-2021 to 30-April-2022 are 422,632 tCO<sub>2</sub>e. No More project activity instance is included in the grouped project activity during current monitoring period.

## 1.2 Sectoral Scope and Project Type

The project activity falls under consideration of the grouped project activity. The project activity instances as part of the grouped project will have the following parameters

Sectoral Scope : 01 - Energy industries (renewable / non-renewable sources)

Project Type : I - Renewable Energy Projects

Project Category: For each project activity instances will apply only solar technology. However each project activity instances will be either small scale or large scale and not the combination of two.

**For large scale project activities, below large scale methodology is applied**

Methodology : ACM0002: Grid-connected electricity generation from renewable sources - Version 17.0<sup>1</sup>

**For small scale project activities, below small scale methodology is applied**

AMS-I.D." Grid Connected renewable electricity generation – Version 18.0<sup>2</sup>

The project activity under consideration is a grouped project activity.

## 1.3 Project Proponent

|                   |                                                            |
|-------------------|------------------------------------------------------------|
| Organization name | Eminent Solar Power Pvt Ltd                                |
| Contact person    | Gursharan Jassal                                           |
| Title             | Director                                                   |
| Address           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| Telephone         | +91-124-7117001                                            |
| Email             | info@acme.in                                               |

<sup>1</sup> <https://cdm.unfccc.int/UserManagement/FileStorage/D5YFS9I3VKBT18MQNGX0LPZ6U7AWCO>

<sup>2</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/2P7FS6ZQAR84LG3NMKYUH50WI9ODBC>

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Mihit Solar Power Private Ltd.                             |
| <b>Contact person</b>    | Gursharan Jassal                                           |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | ACME Jaisalmer Solar Power Pvt. Ltd.                       |
| <b>Contact person</b>    | Gursharan Jassal                                           |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Aarohi Solar Pvt. Ltd                                      |
| <b>Contact person</b>    | Jyoti Arora                                                |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Dayanidhi Solar Power Pvt. Ltd.                            |
| <b>Contact person</b>    | Manish Karna                                               |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |

|              |              |
|--------------|--------------|
| <b>Email</b> | info@acme.in |
|--------------|--------------|

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Niranjana Solar Energy Pvt. Ltd.                           |
| <b>Contact person</b>    | Yudhvir Singh Gulia                                        |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Vishwatma Solar Energy Pvt Ltd.                            |
| <b>Contact person</b>    | Ashish K. Saxena                                           |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Acme Raipur Solar Power Pvt. Ltd.                          |
| <b>Contact person</b>    | Rajesh Sodhi                                               |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                              |
|--------------------------|------------------------------|
| <b>Organization name</b> | Dayakara Solar Power Pvt Ltd |
| <b>Contact person</b>    | Rajesh Sodhi                 |
| <b>Title</b>             | Director                     |

|                  |                                                            |
|------------------|------------------------------------------------------------|
| <b>Address</b>   | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b> | +91-124-7117001                                            |
| <b>Email</b>     | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Grahati Solar Energy Pvt Ltd                               |
| <b>Contact person</b>    | Jyoti Arora                                                |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| <b>Organization name</b> | Acme Odisha Solar Power Pvt Ltd                            |
| <b>Contact person</b>    | Gursharan Jassal                                           |
| <b>Title</b>             | Director                                                   |
| <b>Address</b>           | Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India |
| <b>Telephone</b>         | +91-124-7117001                                            |
| <b>Email</b>             | info@acme.in                                               |

ACME Cleantech Solutions Private Limited as a parent company of all project activity instances formed as different SPV (Special Purpose Vehicles) for solar projects and projects are developed by name of SPVs.

## 1.4 Other Entities Involved in the Project

|                            |                             |
|----------------------------|-----------------------------|
| <b>Organization name</b>   | EKI Energy Services Limited |
| <b>Role in the Project</b> | Project Consultant          |
| <b>Contact person</b>      | Ms. Bhavini Pandey          |

|                  |                                                                                 |
|------------------|---------------------------------------------------------------------------------|
| <b>Title</b>     | Project Manager                                                                 |
| <b>Address</b>   | Office No 201, Plot No 48, Scheme 78, Vijay Nagar Part-II, Indore 452010, India |
| <b>Telephone</b> | +91-9532180246                                                                  |
| <b>Email</b>     | <a href="mailto:regsitry@enkingint.org">regsitry@enkingint.org</a>              |

## 1.5 Project Start Date

The first project activity instance of the grouped project under consideration was commissioned and power generation started on 22-June-2015. This project activity instance is SPV- Acme Odisha Solar Power Pvt Ltd under ACME group having installed capacity of 25 MW. Hence the project start date is defined as follows:

Project start date: 22-June-2015

## 1.6 Project Crediting Period

Project crediting period for grouped project activity is taken as 10 years renewable twice. Accordingly, the start date of the first crediting period is 22-June-2015 and end date will be 21-June-2025.  
First crediting period is from 22-June-2015 to 21-June-2025.

## 1.7 Project Location

All the project activity instances in the grouped project activity would be located within geographical boundaries of Republic of India. Thus geographical area of grouped project is India.

The geographical boundary is delineated in the form of extreme geographic coordinates as follows<sup>3</sup>:

Latitude - 8° 4' to 37° 6' N

Longitude - 68° 7' to 97° 25' E

Each SPV location is being mentioned over section 3.1.

The map of India is as indicated in the following figure:

---

<sup>3</sup> Precise latitude and longitude details of each project instances are provided in section 3.1 of this monitoring report. Please refer below web link for the range of co-ordinates [https://en.wikipedia.org/wiki/Geography\\_of\\_India](https://en.wikipedia.org/wiki/Geography_of_India)



The location details of each instances of the project activity is mentioned in the table below:-

| SPV Name                             | MW | State          | Project Location /Sub Station | Village                       | Tehsil            | District     |
|--------------------------------------|----|----------------|-------------------------------|-------------------------------|-------------------|--------------|
| Mihit Solar Power Private Ltd.       | 25 | Punjab         | Kherakhurd                    | Khaira Khurd                  | Sardulgarh        | Mansa        |
| Mihit Solar Power Private Ltd.       | 25 | Punjab         | Mankhera                      | Mankhera                      | Sardulgarh        | Mansa        |
| Mihit Solar Power Private Ltd.       | 24 | Punjab         | Jandekalan                    | Jhande Kalan                  | Sardulgarh        | Mansa        |
| ACME Jaisalmer Solar Power Pvt. Ltd. | 20 | Andhra Pradesh | Rayachotti                    | Pothukurupalli                | Ramapura m Mandal | Kadapa       |
| Aarohi Solar Pvt. Ltd.               | 50 | Andhra Pradesh | Hindupur                      | Kalipi                        | Roddam Mandal     | Anathapur    |
| Dayanidhi Solar Power Pvt. Ltd.      | 40 | Andhra Pradesh | Santipuram                    | Gunjarlapalle & Morasanapalle | Santipuram Mandal | Chittoor     |
| Niranjana Solar Energy Pvt. Ltd.     | 20 | Andhra Pradesh | Pattikonda                    | Puchakayalama nda             | Pattikonda Mandal | Kurnool      |
| Vishwatma Solar Energy Pvt Ltd.      | 30 | Andhra Pradesh | Yemmiganur                    | Kadivella                     | Yemmigan ur       | Kurnool      |
| Acme Raipur Solar Power Pvt. Ltd.    | 30 | Chhattisgarh   | Bagbahara                     | Bhikapali                     | Bagbahara         | Mahasamu nd  |
| Dayakara Solar Power Pvt Ltd         | 30 | Telanga na     | Maddur                        | Damkanpur                     | Maddur            | Mehbubnag ar |

|                                 |              |             |                   |                  |           |                   |
|---------------------------------|--------------|-------------|-------------------|------------------|-----------|-------------------|
| Grahati Solar Energy Pvt Ltd    | 50           | Telangana   | Balanagar         | Narellapalli     | Balanagar | Mehbubnagar       |
| Acme Odisha Solar Power Pvt Ltd | 25           | Odisha      | Bolangir          | Mursing & Sikuan | Deogaon   | Bolangir          |
| Eminent Solar Power Pvt Ltd.    | 12.5         | Uttarakhand | Udham Singh Nagar | Ratanpur Bazpur  | Bajpur    | Udham Singh Nagar |
| <b>Total (MW)</b>               | <b>381.5</b> |             |                   |                  |           |                   |

## 1.8 Title and Reference of Methodology

The methodology for the project activity is approved methodology for large-scale CDM project activities. The details of the methodology are as follows:

Methodology: ACM0002

Project Type : Type-I: Renewable Energy Projects

Title : Grid-connected electricity generation from renewable sources

Version No. : Version 17.0;

Reference : CDM Methodology<sup>4</sup>

The methodology refers to following CDM Tools:

- Tool for the demonstration and assessment of additionality<sup>5</sup> (Version 07.0.0, EB 70, Annex 8)
- Tool to calculate emission factor for an electricity system<sup>6</sup> (Version 05.0)

The methodology for small scale project activity instances will be the approved methodology for small-scale CDM project activities. The details of the methodology are as follows:

Methodology : AMS I.D

Project Type : Type-I: Renewable Energy Projects

Title : Grid connected renewable electricity generation

Version No. : Version 18;

Reference : CDM Methodology<sup>7</sup>

The methodology refers to following CDM Tools:

- Tool to calculate emission factor for an electricity system<sup>8</sup> (Version 05.0)

## 1.9 Participation under other GHG Programs

Not Applicable, as the project activity is not registered with any other program.

<sup>4</sup> <https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

<sup>5</sup> <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

<sup>6</sup> <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v5.0.pdf>

<sup>7</sup> <https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOQQH4SBK>

<sup>8</sup> <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v5.0.pdf>

The undertaking from PP has been submitted for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS.

### 1.10 Other Forms of Credit

The project activity is not availing any REC/IREC benefits and the same can be confirmed from publically available link of REC generators.

Web-link: [https://www.recregistryindia.nic.in/index.php/general/publics/registered\\_regens](https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens) and <https://evident.services/device-register> PP has also submitted undertaking for not availing other forms of environmental credit for the same crediting period under consideration .

### 1.11 Sustainable Development Contributions

The project activity has beneficial effect on the local environment and employment in the nearby region. Clean Electricity generation through Solar PV result in avoidance of consumption of fossil fuels which results in contribution to SDG 7. The emission avoidance through these activities results in contribution to SDG 13. All the workers at site are trained which results in increase of skills, which contributes to SDG 4. Detailed indicators are mentioned in table 1. This is a voluntary project activity doesn't contribute to achieving any nationally stated sustainable development priorities. There is no compliance for monitoring and reporting the emission reduction and SDG contribution from the project activity.

Table 1: Sustainable Development Contributions

| Row number | SDG Target | SDG Indicator                                                                                                      | Net Impact on SDG Indicator        | Current Project Contributions                                                                                                                                                                                                    | Contributions Over Project Lifetime                                                                                                                                                                                                                         |
|------------|------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1          | 7.2        | 7.2.1: Renewable energy share in the total final energy consumption                                                | Implemented activities to increase | About 432,268 MWh renewable electricity has been supplied to Indian grid during the reported period that helps to increase the renewable energy share in the energy mix.                                                         | Overall 432,268 MWh renewable electricity has been supplied to Indian grid that helps to increase the renewable energy share in the energy mix. As no SDG reporting has been done previously, therefore current and overall project contributions are same. |
| 2          | 4.4        | 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill | Implemented activities to increase | Together with the technology supplier, the Project organize 178 training during current monitoring period. Training related to soft and technical skills. The training documents can be referred in APPENDIX 2: TRAINING DETAILS | Overall, 178 trainings are provided. Since the SDG 4 indicator introduced in the current MR, the current project contributions and over project contributions are same.                                                                                     |
| 3          | 13.0       | Total greenhouse gas emissions avoided or removed.                                                                 | Implemented activities to increase | By supplying 432,268 MWh clean electricity (generated through Solar PV) to Indian grid, the project avoided release of 422,632 tCO <sub>2</sub> e in to the atmosphere during the reporting period.                              | Overall prevented the release of 422,632 tCO <sub>2</sub> e into the atmosphere as no SDG reporting has been done previously, therefore current and overall project contributions are same.                                                                 |

## 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.

Section 3.3 and 3.4 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 same<sup>9</sup>.

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 (Security office at the main gate & plant office) which is accessible to stakeholders anytime 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 submitted to [info@acme.in](mailto:info@acme.in)

Stakeholder meetings were organized at the time of registration of project activity in order to identify the major challenges around the area, stakeholders were invited well in advance through printed invitation, calls, meeting and a notice is placed around the local common areas. Various CSR activities around site are carried out. The stakeholder are also request to share their experiences and grievances on continuous basis. Registers is used to records the grievances and feedback.

During the current monitoring period, positive feedback has been received regarding site operation. Records of grievances received during the current monitoring period is mentioned below:-

---

<sup>9</sup> <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

| S.No. | SPV Name                         | Complaint Received From        | Date of Complaint | Complaint Details                                                                                                              | Action Taken by PP                                                    | Remark from PP |
|-------|----------------------------------|--------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------|
| 01    | Niranjana Solar Energy Pvt. Ltd. | Sudhakar Reddy(Village Person) | 23-December-2021  | Site Approach Roads Needs to Repair                                                                                            | Road is repaired ,back filled and levelled for ease of movement       | Completed      |
| 02    |                                  | Nageppa (Technician )          | 28-January-2022   | Site Approach Side bushes should be removed                                                                                    | All side bushes has been removed and the road is clear now            | Completed      |
| 03    | Vishwatma Solar Energy Pvt. Ltd. | Local Farmer                   | 21-April-2022     | Farmers agricultural land was near the solar plant and they were having issues with the movement way.                          | For ease of movement path has been cleared and the road is maintained | Completed      |
| 04    |                                  | Local Govt. School Teacher     | 02-July-2022      | In local village Government school surrounding, playground was filled with bushes and long grasses, So teacher asked to cut it | Grass cutting orders were given for clean ground.                     | Completed      |
| 05    |                                  | Chandrana (Driver)             | 18-July-2022      | In Block-02 area road was damaged due to heavy rain in recent time vehicle movement is difficult                               | Sand and Stone Chips were put on the road for avoiding the slipness   | Completed      |

All the grievances received during the current monitoring period has been properly discussed with the plant head office and implemented by the site incharge. The grievance copies have been submitted to VCS WB.

### 2.3 AFOLU-Specific Safeguards

Not applicable to this as this is not an AFOLU project activity.

## 3 IMPLEMENTATION STATUS

### 3.1 Implementation Status of the Project Activity

The project activity involves the installation of Solar Power Projects. The total capacity of the project is 381.5 MW. The project is promoted by ACME Cleantech Solution Private Limited with its different group SPVs. The project activity is using solar energy to generate direct current (DC) using photovoltaic modules that converts into alternating current by inverters. The project activity instances under grouped project activity is grid connected and will install a new power plant (i.e. solar PV) at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The generated electricity is being supplied to grid or uses grid network for captive or third party sale.

The project activity instances are small scale project activities (with power generation capacity less than 15 MW) and large scale project activities (with power generation capacity more than 15 MW). The Project activity follows AMS I.D. Version 18 or ACM0002 Version 17.0 based on scale of project activity instances.

The solar power generated from the Project is displacing the electricity generated from thermal power stations feeding into Indian grid and replacing the usage of diesel generators for meeting the power demand during shortage periods. Since, the solar power is Green House Gas (GHG) emissions free, the power generated prevent the anthropogenic GHG emissions generated by the fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. The estimation of GHG reductions by this project is limited to carbon dioxide (CO<sub>2</sub>) only.

All project activity instances are photovoltaic (PV) plant/unit, the project activity instances would use solar energy to generate direct current from photo voltaic modules that will be converted into alternating current by inverters. The technical specifications of the plants are tabulated below:

The geo co-ordinates and the commissioning information of each instances of the project activity are mentioned in the table below

| PP Name                              | MW | State          | Project Location | Latitude (N) | Longitude (E ) |
|--------------------------------------|----|----------------|------------------|--------------|----------------|
| Mihit Solar Power Private Ltd.       | 25 | Punjab         | Kherakhurd       | 29.66        | 75.26          |
| Mihit Solar Power Private Ltd.       | 25 | Punjab         | Mankhera         | 29.59        | 75.24          |
| Mihit Solar Power Private Ltd.       | 24 | Punjab         | Jandekalan       | 29.62        | 75.20          |
| ACME Jaisalmer Solar Power Pvt. Ltd. | 20 | Andhra Pradesh | Rayachotti       | 14.11        | 78.78          |
| Aarohi Solar Pvt. Ltd.               | 50 | Andhra Pradesh | Hindupur         | 13.98        | 77.48          |
| Dayanidhi Solar Power Pvt. Ltd.      | 40 | Andhra Pradesh | Santipuram       | 12.88        | 78.38          |
| Niranjana Solar Energy Pvt. Ltd.     | 20 | Andhra Pradesh | Patthikonda      | 15.36        | 77.49          |
| Vishwatma Solar Energy Pvt Ltd.      | 30 | Andhra Pradesh | Yemmiganur       | 15.67        | 77.47          |

|                                   |      |              |                    |       |       |
|-----------------------------------|------|--------------|--------------------|-------|-------|
| Acme Raipur Solar Power Pvt. Ltd. | 30   | Chattishgarh | Bagbahara          | 21.12 | 82.48 |
| Dayakara Solar Power Pvt Ltd      | 30   | Telangana    | Maddur             | 16.88 | 77.58 |
| Grahati Solar Energy Pvt Ltd      | 50   | Telangana    | Balanagar          | 16.93 | 78.13 |
| Acme Odisha Solar Power Pvt Ltd   | 25   | Odisha       | Balongir,          | 20.54 | 83.38 |
| Eminent Solar Power Pvt Ltd.      | 12.5 | Uttarakhand  | Uddham Singh Nagar | 29.2  | 79.1  |

### Technical Specifications of the 11 project activity instances

#### 1. Mihit Solar Power Private Ltd.

##### a) Mihit Solar Power Private Ltd kherakhurd 25 MW

| Technical detail of the equipment | Remark                              |
|-----------------------------------|-------------------------------------|
| PV Technology and Make            | Poly and Make- Talesun, BYD, Telsun |
| Specification of Module           | 250 Wp, 255 Wp, 260 Wp              |
| Total No of Module                | 102744                              |
| AC Capacity                       | 25 MW                               |
| DC Capacity                       | 26.24 MW                            |
| Tilt Details                      | Seasonal Tilt                       |
| <b>Inverter Details</b>           |                                     |
| Make                              | Schneider Electric                  |
| AC Power                          | 680                                 |
| Total No. of Inverter             | 29                                  |
| <b>Transformer Details</b>        |                                     |
| Make                              | Schneider Electric                  |
| Transformer KVA                   | 25 Mva                              |
| Total Numb PT & Trafo             | 1                                   |

##### b) Mihit Solar Power Private Ltd. Mankhera 25 MW

| Technical detail of the equipment | Remark                            |
|-----------------------------------|-----------------------------------|
| PV Technology and Make            | Poly and Make- BYD, telsun, waree |
| Specification of Module           | 255 Wp, 260 Wp, 250 Wp            |
| Total No of Module                | 102528                            |
| AC Capacity                       | 25 MW                             |
| DC Capacity                       | 26.25 MW                          |
| Tilt Details                      | Seasonal Tilt                     |
| <b>Inverter Details</b>           |                                   |
| Make                              | Schneider Electric                |

|                            |                    |
|----------------------------|--------------------|
| AC Power                   | 680                |
| Total No. of Inverter      | 29                 |
| <b>Transformer Details</b> |                    |
| Make                       | Schneider Electric |
| Transformer KVA            | 25 Mva             |
| Total Numb PT & Trafo      | 1                  |

c) Mihit Solar Power Private Ltd. Jhandekalan 24 MW

| Technical detail of the equipment | Remark                                 |
|-----------------------------------|----------------------------------------|
| PV Technology and Make            | Poly and Waree, BYD, Telsun            |
| Specification of Module           | 250 Wp, 260 Wp, 275 Wp, 265 Wp, 255 Wp |
| Total No of Module                | 98616                                  |
| AC Capacity                       | 24 MW                                  |
| DC Capacity                       | 25.20 MW                               |
| Tilt Details                      | Seasonal Tilt                          |
| <b>Inverter Details</b>           |                                        |
| Make                              | ABB, TBEA, Delta                       |
| AC Power                          | 1000                                   |
| Total No. of Inverter             | 19                                     |
| <b>Transformer Details</b>        |                                        |
| Make                              | Schneider Electric                     |
| Transformer KVA                   | 25 Mva                                 |
| Total Numb PT & Trafo             | 1                                      |

2. ACME Jaisalmer Solar Power Pvt. Ltd., Rayachotti (20 MW)

| Technical detail of the equipment | Remark                 |
|-----------------------------------|------------------------|
| PV Technology and Make            | Poly and BYD, Telsun   |
| Specification of Module           | 260 Wp, 255 Wp, 250 Wp |
| Total No of Module                | 99095                  |
| AC Capacity                       | 20 MW                  |
| DC Capacity                       | 25.31 MW               |
| Tilt Details                      | Seasonal Tilt          |
| <b>Inverter Details</b>           |                        |
| Make                              | ABB, TBEA              |
| AC Power                          | 1000                   |
| Total No. of Inverter             | 20                     |
| <b>Transformer Details</b>        |                        |

|                       |                    |
|-----------------------|--------------------|
| Make                  | Electrotherm       |
| Transformer KVA       | 4Mva (4), 2Mva (2) |
| Total Numb PT & Trafo | 6                  |

### 3. Aarohi Solar Pvt. Ltd., Hindupur (50 MW)

| Technical detail of the equipment | Remark                                           |
|-----------------------------------|--------------------------------------------------|
| PV Technology and Make            | Poly & Thinfiln, Make-Solar frontier, telsun,GCL |
| Specification of Module           | 165 Wp, 170 Wp, 265 Wp, 260 Wp                   |
| Total No of Module                | 334632                                           |
| AC Capacity                       | 50 MW                                            |
| DC Capacity                       | 58.04 MW                                         |
| Tilt Details                      | Seasonal Tilt                                    |
| <b>Inverter Details</b>           |                                                  |
| Make                              | ABB                                              |
| AC Power                          | 1000                                             |
| Total No. of Inverter             | 50                                               |
| <b>Transformer Details</b>        |                                                  |
| Make                              | ABB                                              |
| Transformer KVA                   | 25 Mva                                           |
| Total Numb PT & Trafo             | 2                                                |

### 4. Dayanidhi Solar Power Pvt. Ltd., Santipuram (40 MW)

| Technical detail of the equipment | Remark                           |
|-----------------------------------|----------------------------------|
| PV Technology and Make            | Poly and Make- BYD, Talesun, GCL |
| Specification of Module           | 260 Wp, 255 Wp, 250 Wp           |
| Total No of Module                | 188280                           |
| AC Capacity                       | 40 MW                            |
| DC Capacity                       | 48.38 MW                         |
| Tilt Details                      | Seasonal Tilt                    |
| <b>Inverter Details</b>           |                                  |
| Make                              | ABB,TBEA                         |
| AC Power                          | 1000                             |
| Total No. of Inverter             | 38                               |
| <b>Transformer Details</b>        |                                  |
| Make                              | Schneider Electric               |
| Transformer KVA                   | 20 Mva                           |
| Total Numb PT & Trafo             | 2                                |

## 5. Niranjana Solar Energy Pvt. Ltd., Pattikonda (20 MW)

| Technical detail of the equipment | Remark                                     |
|-----------------------------------|--------------------------------------------|
| PV Technology and Make            | Poly and Make-BYD, Talsen, Telsun          |
| Specification of Module           | 250 Wp, 255 Wp, 260 Wp                     |
| Total No of Module                | 97848                                      |
| AC Capacity                       | 20 MW                                      |
| DC Capacity                       | 25.04 MW                                   |
| Tilt Details                      | Seasonal Tilt                              |
| <b>Inverter Details</b>           |                                            |
| Make                              | ABB, Delta                                 |
| AC Power                          | 1000                                       |
| Total No. of Inverter             | 20                                         |
| <b>Transformer Details</b>        |                                            |
| Make                              | SUDHIR POWER TRANSFORMER, SERVOMAX         |
| Transformer KVA                   | Sudhir -2Mva-(1),4Mva (4), Servo- 2Mva (1) |
| Total Numb PT & Trafo             | 6                                          |

## 6. Vishwatma Solar Energy Pvt Ltd., Yemmiganur (30 MW)

| Technical detail of the equipment | Remark                                     |
|-----------------------------------|--------------------------------------------|
| PV Technology and Make            | Poly and Make- BYD, Talesun, Telsun, Waree |
| Specification of Module           | 260 Wp, 255 Wp, 250 Wp, 245 Wp             |
| Total No of Module                | 146040                                     |
| AC Capacity                       | 30 MW                                      |
| DC Capacity                       | 36.68 MW                                   |
| Tilt Details                      | Seasonal Tilt                              |
| <b>Inverter Details</b>           |                                            |
| Make                              | ABB,TBEA                                   |
| AC Power                          | 1000                                       |
| Total No. of Inverter             | 30                                         |
| <b>Transformer Details</b>        |                                            |
| Make                              | Schneider Electric                         |
| Transformer KVA                   | 4 Mva                                      |
| Total Numb PT & Trafo             | 1                                          |

## 7. Acme Raipur Solar Power Pvt. Ltd., Chattisgarh (30 MW)

| Technical detail of the equipment | Remark                              |
|-----------------------------------|-------------------------------------|
| PV Technology and Make            | Poly and Make- Talesun, BYD, Telsun |
| Specification of Module           | 250 Wp, 255 Wp,260 Wp               |

|                            |                    |
|----------------------------|--------------------|
| Total No of Module         | 126192             |
| AC Capacity                | 30 MW              |
| DC Capacity                | 32.25 MW           |
| Tilt Details               | Seasonal Tilt      |
| <b>Inverter Details</b>    |                    |
| Make                       | ABB, Sungrow, Tbea |
| AC Power                   | 1140, 630, 1250    |
| Total No. of Inverter      | 28                 |
| <b>Transformer Details</b> |                    |
| Make                       | ABB                |
| Transformer KVA            | 30 Mva             |
| Total Numb PT & Trafo      | 1                  |

#### 8. Dayakara Solar Power Pvt Ltd., Maddur (30 MW)

| Technical detail of the equipment | Remark                                      |
|-----------------------------------|---------------------------------------------|
| PV Technology and Make            | Poly and Make- Raisen, suntech, BYD, telsun |
| Specification of Module           | 260 Wp, 265 Wp, 255 Wp, 269 Wp              |
| Total No of Module                | 149040                                      |
| AC Capacity                       | 30 MW                                       |
| DC Capacity                       | 38.80 Wp                                    |
| Tilt Details                      | Seasonal Tilt                               |
| <b>Inverter Details</b>           |                                             |
| Make                              | ABB, Tmeic                                  |
| AC Power                          | 1000                                        |
| Total No. of Inverter             | 30                                          |
| <b>Transformer Details</b>        |                                             |
| Make                              | ABB                                         |
| Transformer KVA                   | 30 Mva                                      |
| Total Numb PT & Trafo             | 1                                           |

#### 9. Grahati Solar Energy Pvt Ltd., Balanagar (50 MW)

| Technical detail of the equipment | Remark                                    |
|-----------------------------------|-------------------------------------------|
| PV Technology and Make            | Poly and Make- BYD, Risen, Sintek, Telsun |
| Specification of Module           | 260 Wp, 255 Wp, 265 Wp                    |
| Total No of Module                | 248784                                    |
| AC Capacity                       | 50 MW                                     |
| DC Capacity                       | 64.5 MW                                   |

|                            |               |
|----------------------------|---------------|
| Tilt Details               | Seasonal Tilt |
| <b>Inverter Details</b>    |               |
| Make                       | ABB, Tmeic    |
| AC Power                   | 1000          |
| Total No. of Inverter      | 50            |
| <b>Transformer Details</b> |               |
| Make                       | ABB           |
| Transformer KVA            | 25 Mva        |
| Total Numb PT & Trafo      | 2             |

#### 10. Acme Odisha Solar Power Pvt Ltd, Bolangir, Odisha (25 MW)

|                                          |                           |
|------------------------------------------|---------------------------|
| <b>Technical detail of the equipment</b> | <b>Remark</b>             |
| PV Technology and Make                   | Poly and Make- BYD, Trina |
| Specification of Module                  | 250 Wp, 255 Wp, 260 Wp    |
| Total No of Module                       | 123624                    |
| AC Capacity                              | 25 MW                     |
| DC Capacity                              | 31.68 MW                  |
| Tilt Details                             | Seasonal Tilt             |
| <b>Inverter Details</b>                  |                           |
| Make                                     | SCHEINDER, TBEA           |
| AC Power                                 | 680, 630                  |
| Total No. of Inverter                    | 37                        |
| <b>Transformer Details</b>               |                           |
| Make                                     | CGL                       |
| Transformer KVA                          | 25 Mva                    |
| Total Numb PT & Trafo                    | 1                         |

#### 11. Eminent Solar Power Pvt Ltd., Udham Singh Nagar District, Uttarakhand (12.5 MW)

|                                          |                             |
|------------------------------------------|-----------------------------|
| <b>Technical detail of the equipment</b> | <b>Remark</b>               |
| PV Technology and Make                   | Poly and Make- Talesun, BYD |
| Specification of Module                  | 260 Wp, 265 Wp              |
| Total No of Module                       | 59400                       |
| AC Capacity                              | 12.5 MW                     |
| DC Capacity                              | 15.75 MW                    |
| Tilt Details                             | Seasonal Tilt               |
| <b>Inverter Details</b>                  |                             |
| Make                                     | TBEA                        |

|                            |                        |
|----------------------------|------------------------|
| AC Power                   | 1000                   |
| Total No. of Inverter      | 12                     |
| <b>Transformer Details</b> |                        |
| Make                       | Electrotherm           |
| Transformer KVA            | 4.5 Mva (1), 4 MVA (2) |
| Total Numb PT & Trafo      | 3                      |

The respective project is running smoothly, there were no any instances occurred that would alter the GHG reductions, methodology applicability and monitoring procedure. The plant went for the schedule maintenance at regular intervals. There were zero breakdown subsequently no impact in emission reduction. There are also no changes to the project proponent.

## 3.2 Deviations

### 3.2.1 Methodology Deviations

No methodology deviation is applied during the monitoring period.

### 3.2.2 Project Description Deviations

#### Deviation-1

In technology description there are some revisions in plant configuration (make, ratings and number of equipment) due to maintenance of the project activity. Reconfigurations of the equipment's has not any impact on baseline emission calculations, additionality, project individual/overall capacity and PLF of the project.

Nature of Deviation is permanent.

### 3.2.3 Grouped Projects

The project activity is grouped project activity. However, no new project activity instances have been added in this grouped project during the current monitoring period. Thus original 11 project activity instances are part of current monitoring period.

# 4 DATA AND PARAMETERS

## 4.1 Data and Parameters Available at Validation

| Data / Parameter | EF <sub>grid,OM,y</sub> |
|------------------|-------------------------|
|------------------|-------------------------|

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data unit                                                                                    | tCO <sub>2</sub> /MWh                                                                                                                                                                                                                                                                                                                                                                            |
| Description                                                                                  | Operating Margin CO <sub>2</sub> emission factor in year y                                                                                                                                                                                                                                                                                                                                       |
| Source of data                                                                               | Calculated from CEA database, Version 11, April 2016                                                                                                                                                                                                                                                                                                                                             |
| Value applied                                                                                | 0.9941                                                                                                                                                                                                                                                                                                                                                                                           |
| 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 05.0.0” as 3-year generation weighted average using data for the years 2012-2013, 2013-2014 & 2014-2015. The data are obtained from “CO <sub>2</sub> Baseline Database for Indian Power Sector” version 11.0, 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 <sub>grid,BM,y</sub>                                                                                                                                                                                                                                                                                                                                                                           |
| Data unit                                                                                    | tCO <sub>2</sub> /MWh                                                                                                                                                                                                                                                                                                                                                                             |
| Description                                                                                  | Build Margin CO <sub>2</sub> emission factor in year y                                                                                                                                                                                                                                                                                                                                            |
| Source of data                                                                               | Calculated from CEA database, Version 11, April 2016                                                                                                                                                                                                                                                                                                                                              |
| Value applied                                                                                | 0.9285                                                                                                                                                                                                                                                                                                                                                                                            |
| 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 05.0.0” as 3-year generation weighted average using data for the years 2012-2013, 2013-2014 & 2014-2015. The data are obtained from “CO <sub>2</sub> Baseline Database for Indian Power Sector” version 11.0, 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 <sub>grid,CM,y</sub>                                                                                                                                                                                                                                             |
| Data unit                                                                                    | tCO <sub>2</sub> /MWh                                                                                                                                                                                                                                               |
| Description                                                                                  | Combined Margin CO <sub>2</sub> emission factor in year y                                                                                                                                                                                                           |
| Source of data                                                                               | Calculated from CEA database, Version 11, April 2016                                                                                                                                                                                                                |
| Value applied                                                                                | 0.9777                                                                                                                                                                                                                                                              |
| Justification of choice of data or description of measurement methods and procedures applied | <p>The combined margin emissions factor is calculated as follows:</p> $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ <p>Where:</p> <p>EF<sub>grid,BM,y</sub>= Build margin CO<sub>2</sub> emission factor in year y (tCO<sub>2</sub>/MWh)</p> |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p><math>EF_{grid,OM,y}</math> = Operating margin CO<sub>2</sub> emission factor in year y (tCO<sub>2</sub>/MWh)</p> <p><math>W_{OM}</math> = Weighting of operating margin emissions factor (%) = 75%</p> <p><math>W_{BM}</math> = Weighting of build margin emissions factor (%) = 25%</p> <p>Calculated as per “Tool to calculate the emission factor for an electricity system, version 05.0.0”. The data is obtained from “CO<sub>2</sub> Baseline Database for Indian Power Sector” Version 11, April 2016, published by the Central Electricity Authority, Ministry of Power, Government of India.</p> |
| 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                                                | $EG_{facility,y}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Data unit                                                       | MWh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Description                                                     | Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Source of data                                                  | Credit note/ JMR/Form B reports/ monthly generation report from respective state electricity board/DISCOM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description of measurement methods and procedures to be applied | <p><b>Data Type:</b> Measured</p> <p><b>Monitoring equipment:</b> Energy Meters are used for monitoring</p> <p><b>Recording Frequency:</b> Continuous monitoring and Monthly recording from Energy Meters, Summarized Annually</p> <p><b>Archiving Policy:</b> Paper &amp; Electronic</p> <p><b>Calibration frequency:</b> One in five years</p> <p>Electricity exported/imported to the grid is in kWh. However for the calculation purpose electricity exported is converted in MWh.</p> <p>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 joint meter reading certificates/credit notes issued by state electricity board as per below equation:</p> <p><math>EG_{facility,y} = EG_{Export} - EG_{Import}</math></p> |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>The joint reading at metering point is carried out once in a month in presence of O&amp;M officials and state electricity board personnel. The calculations/measurement of net electricity supplied to grid is under purview of state electricity board and the PP/Project activity Instance owner has no role on it. PP/Project activity Instance owner gets value of net electricity supplied to grid and hence this parameter is mentioned as a part of monitoring plan.</p> <p><b>Cross Checking:</b></p> <p>Quantity of net electricity supplied to the grid can be cross checked from the invoices raised by the PP to the State Electricity Board or invoices with third party.</p>                                                                                       |
| Frequency of monitoring/recording | Continuous monitoring and monthly recording                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Value monitored                   | 432,268                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Monitoring equipment              | Monitoring equipment are energy meters installed at each of the project activity instance site. Readings can be cross checked with back up meter. The accuracy class of meters, calibration frequency of meters is totally under purview of state electricity board and PP do not have any control on it. The meter details, make, calibration date, due date and respective accuracy class are mentioned in the APPENDIX 1: Calibration Records                                                                                                                                                                                                                                                                                                                                    |
| QA/QC procedures to be applied    | The calibration of all the meters are undertaken once in five years <sup>10</sup> and faulty meters are duly replaced immediately. The calibration details is being provided in APPENDIX 1: Calibration Records. The meters are of accuracy class 0.5s or higher. The meter accuracy class and calibration interval is under purview of state electricity board and PP/Project Activity Instances owner do not have any control on it. It is also noted that apportioning procedure (if applicable for project activity instances) is under control of state electricity board and PP do not have any control on it. The available parameter to PP/project activity instance owner is the net electricity supplied to grid and same parameter is mentioned as monitoring parameter. |
| Purpose of the data               | The Data/Parameter is required to calculate the baseline emission.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Calculation method                | The parameter is measured and if any calculation is required, the calculation is based on measured parameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

<sup>10</sup> [http://www.aegcl.co.in/Metering\\_Regulations\\_Of\\_CEA\\_17\\_03\\_2006.pdf](http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf)

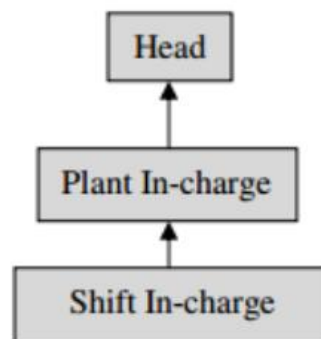
|          |                                                                                            |
|----------|--------------------------------------------------------------------------------------------|
| Comments | Data is archived electronically for a period of 2 years beyond the end of crediting period |
|----------|--------------------------------------------------------------------------------------------|

### 4.3 Monitoring Plan

The monitoring plan, which is implemented by the PP 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 registration, monitoring, measurement, reporting and reviewing of the data results with the PP. PP follows the mentioned structure for data monitoring, collection, data archiving and calibration of equipment for this project activity instances. The team comprises of the following members:

#### Organisational Structure for Monitoring



PP has assigned the responsibility of operation and maintenance of project activity instances with relevant and authorized O&M contractors. The Plant In-charge and Shift In-Charge have been deployed by O&M contractors.

**Responsibilities of Head:** Overall functioning and maintenance of the data.

**Responsibilities of Plant In-charge:** Responsibility for Maintains the data records, ensures completeness of data, and reliability of data (calibration of equipment).

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

In the event when the individual verification period dates and billing cycle dates of the project activity do not coincide, then the electricity export will be apportioned based on number of days. The ratio of number of days under monitoring period and total number of days under billing cycle will multiplied to total electricity export to billing cycle and the same is used in this monitoring period.

For project activity instances which involves solar projects with common metering, apportioning is followed to determine net electricity export to grid. The apportioning procedure is not under

control of PP, thus value of net electricity supplied to grid is available to PP and same is mentioned as monitoring parameter. The value of net electricity supplied to grid is used for ER calculations.

It is to be noted that the metering arrangement, accuracy class of meters, feeder arrangements, calibration frequency of meters are under control of state electricity board and PP do not have any control on it. Thus any deviation at actual site or during verification is accepted.

#### **QA & QC Procedures to be followed**

Necessary check meters as required have been installed, to operate in standby mode or when the main meters are not working. All meters are calibrated at least once in five year as per CEA notification. Records of calibration certificates are maintained for verification. Hence, high quality is ensured with the above parameters. The calibration of meters is under purview of state electricity board and CME/ project activity instances owner do not have any control on it.

#### **Data Recording and Storage**

For measuring the net energy supplied to grid by the project activity instances at the interconnection point, one set of Main meter and Check Meter is provided. Representatives of both project activity instances Owner and State Utility are present to record the monthly meter readings. The state utility prepares the credit report for the net energy supplied to the grid and same is used as a basic document for monitoring and verification of the net energy supplied to the grid. Based on the monthly credit report, the project activity instances Owner raise an invoice to the utility. Utility pays to the project activity instances Owner based on this document.

The above documents are kept at safe storage for verification of emission reductions generated from the project activity. The period of data storage will be 2 years beyond crediting period.

#### **Emergency preparedness**

The project activity does not result in any unidentified activity that can result in substantial emissions from the project activity. However, in case monitoring equipment get failed or is found faulty, they are replaced with calibrated meters as quickly as possible. In case main meter get failed or is found faulty, the reading of check meter will be considered.

#### **Personnel training**

In order to ensure a proper functioning of the project activity instances and a properly monitoring of emission reductions, the staff are trained. The Shift In-charge and Plant In-charge are trained in equipment operation, data recording, operation and maintenance and emergency procedures in compliance with the monitoring plant.

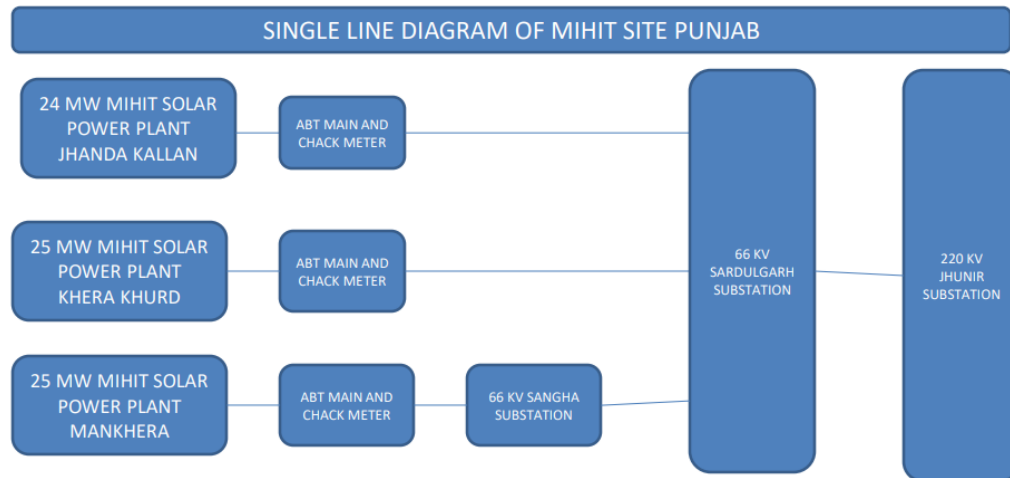


Figure 1. Metering block layout of Mihit Solar Power Private Ltd.

| Jaisalmer solar power Pvt Ltd |         | SLD Jaisalmer Solar power Pvt Ltd Rayachoti /PSS |                  |  |             |  |          |            |                  |
|-------------------------------|---------|--------------------------------------------------|------------------|--|-------------|--|----------|------------|------------------|
| ACME                          |         |                                                  |                  |  |             |  |          |            |                  |
| Block.No.                     | INV-NO. | HT SWITCHGEAR                                    | OUT GOING FEDDER |  | POWER TRAF0 |  | BUS      | Line       | GSS              |
| 1                             | 1&2     | Incomer Feeder-1                                 | O/G-1            |  | PTR (35MVA) |  | 33KV Bus | 33 kv Line | 220/132/33kv GSS |
| 4                             | 1,2,3,4 |                                                  |                  |  |             |  |          |            |                  |
| 5                             | 1,2,3,4 |                                                  |                  |  |             |  |          |            |                  |
| 1                             | 3&4     | Incomer Feeder-2                                 | O/G-2            |  | PTR (35MVA) |  | 33KV Bus | 33 kv Line | 220/132/33kv GSS |
| 2                             | 1,2,3,4 |                                                  |                  |  |             |  |          |            |                  |
| 3                             | 1,2,3,4 |                                                  |                  |  |             |  |          |            |                  |

Figure 2. Metering block layout of Acme Jaisalmer Solar Power Pvt. Ltd.

| Aarohi solar Pvt Ltd |         | SLD Aarohi Solar Pvt Ltd Hindupur /PSS/GSS |                  |  |              |  |           |             |                  |
|----------------------|---------|--------------------------------------------|------------------|--|--------------|--|-----------|-------------|------------------|
| ACME                 |         |                                            |                  |  |              |  |           |             |                  |
| Block.No.            | INV.NO. | HT SWITCHGEAR                              | OUT GOING FEDDER |  | POWER TRAFO  |  | BUS       | Line        | GSS              |
| 1                    | 1,2,3,4 | Incomer Feeder-1                           | O/G-2            |  | PTR-2(25MVA) |  | 132KV Bus | 132 kv Line | 220/132/33kv GSS |
| 2                    | 1,2,3,4 | Incomer Feeder-2                           |                  |  |              |  |           |             |                  |
| 3                    | 1,2,3,4 | Incomer Feeder-3                           |                  |  |              |  |           |             |                  |
| 4                    | 1,2,3,4 | Incomer Feeder-4                           |                  |  |              |  |           |             |                  |
| 5                    | 1,2,3,4 | Incomer Feeder-5                           |                  |  |              |  |           |             |                  |
| 6                    | 1,2,3,4 | Incomer Feeder-6                           |                  |  |              |  |           |             |                  |
| 7                    | 1,2,3,4 | Incomer Feeder-7                           | O/G-1            |  | PTR-1(25MVA) |  | 132KV Bus | 132 kv Line | 220/132/33kv GSS |
| 8                    | 1,2,3,4 | Incomer Feeder-8                           |                  |  |              |  |           |             |                  |
| 9                    | 1,2,3,4 | Incomer Feeder-9                           |                  |  |              |  |           |             |                  |
| 10                   | 1,2,3,4 | Incomer Feeder-10                          |                  |  |              |  |           |             |                  |
| 11                   | 1,2,3,4 | Incomer Feeder-11                          |                  |  |              |  |           |             |                  |
| 12                   | 1,2,3,4 | Incomer Feeder-12                          |                  |  |              |  |           |             |                  |
| 13                   | 1,2     | Incomer Feeder-13                          |                  |  |              |  |           |             |                  |

Figure 3. Metering block layout of Aarohi Solar Pvt. Ltd.

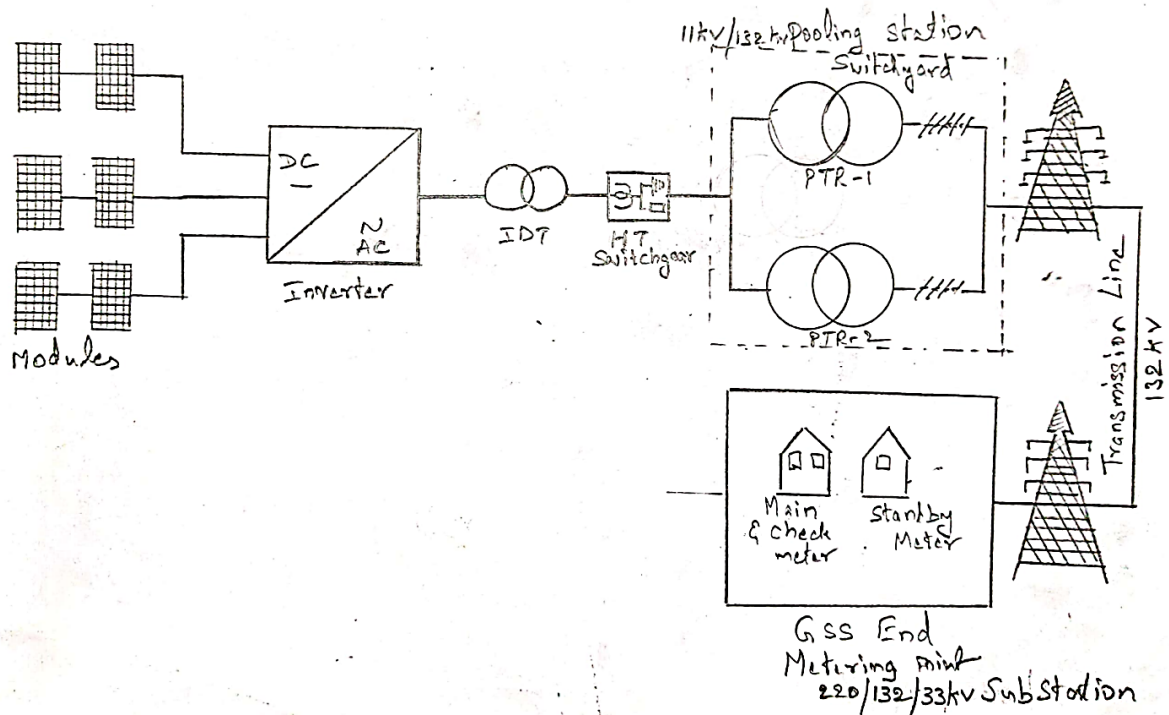


Figure 4. Metering block layout of Dayanidhi Solar Power Pvt. Ltd.

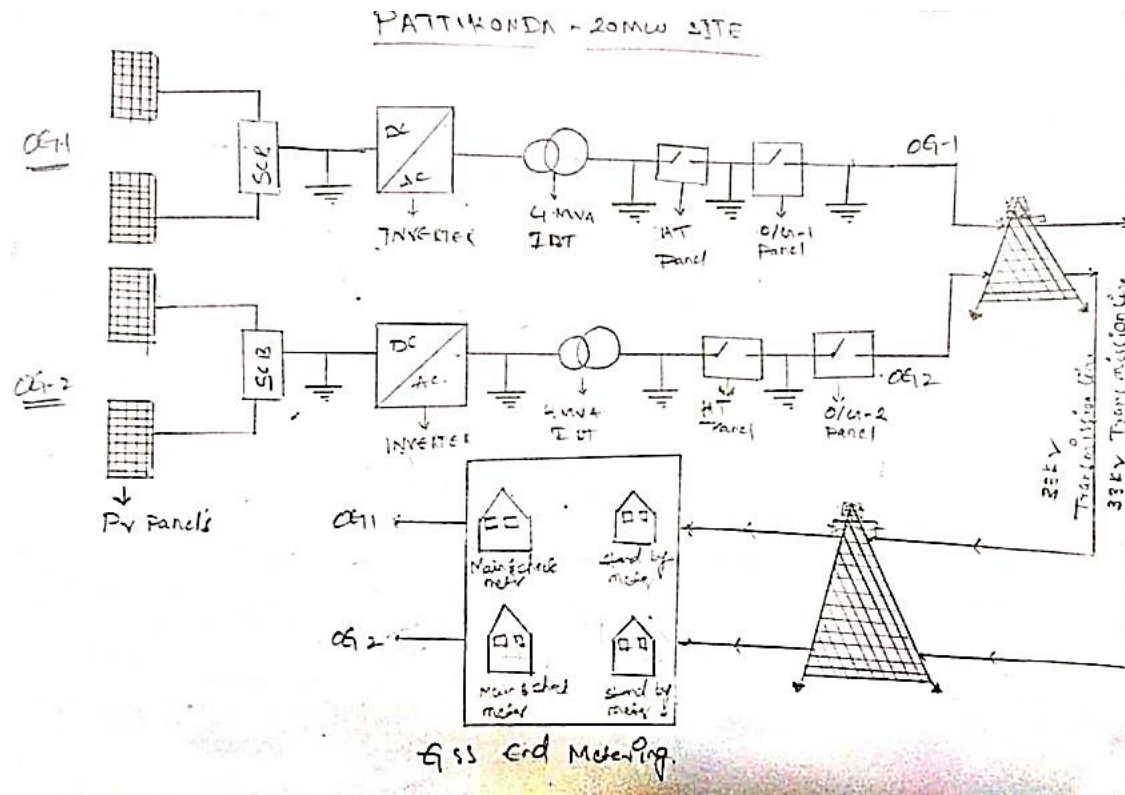


Figure 5. Metering block layout of Niranjana Solar Energy Pvt. Ltd.

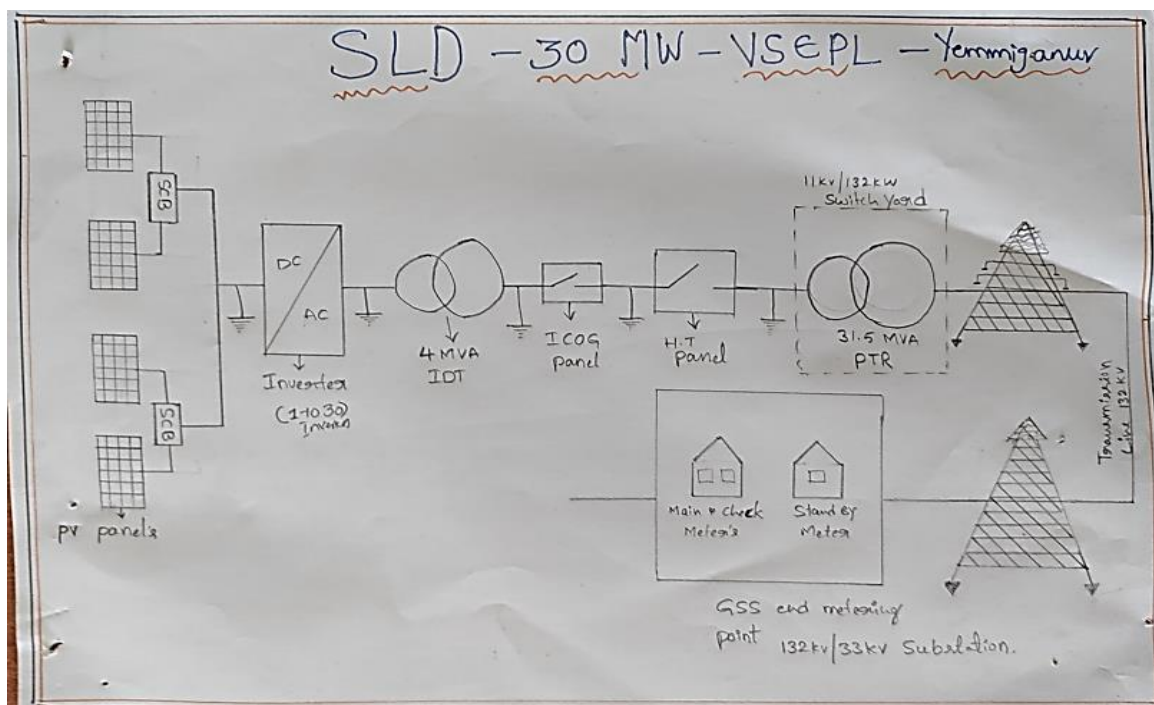


Figure 6. Metering block layout of Vishwatama Solar Energy Pvt. Ltd.

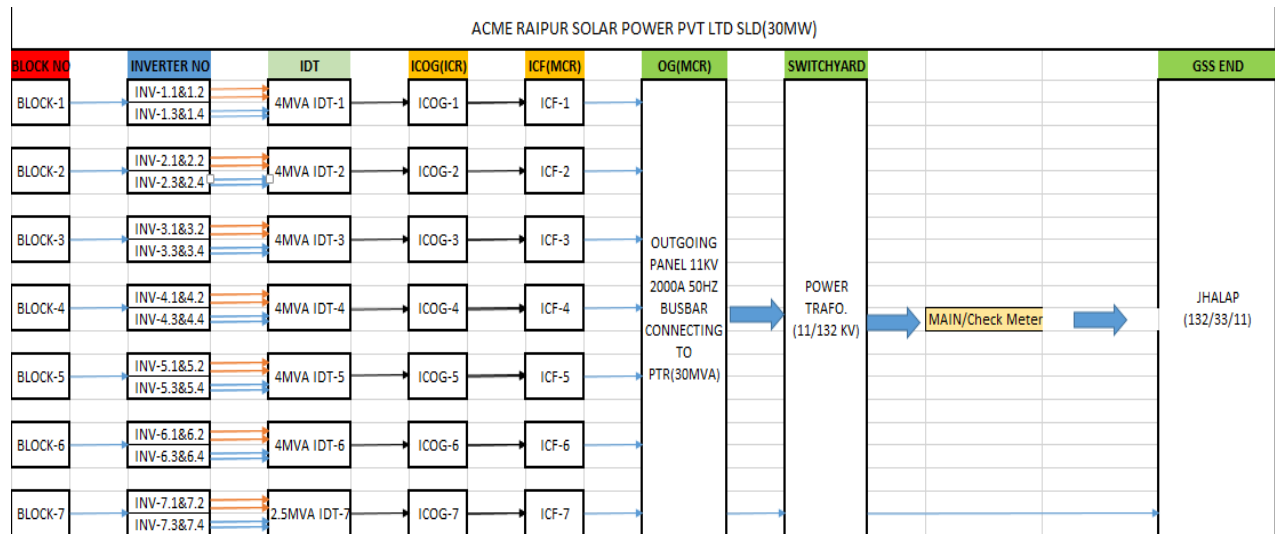


Figure 7. Metering block layout of Acme Raipur Solar Power Pvt. Ltd.

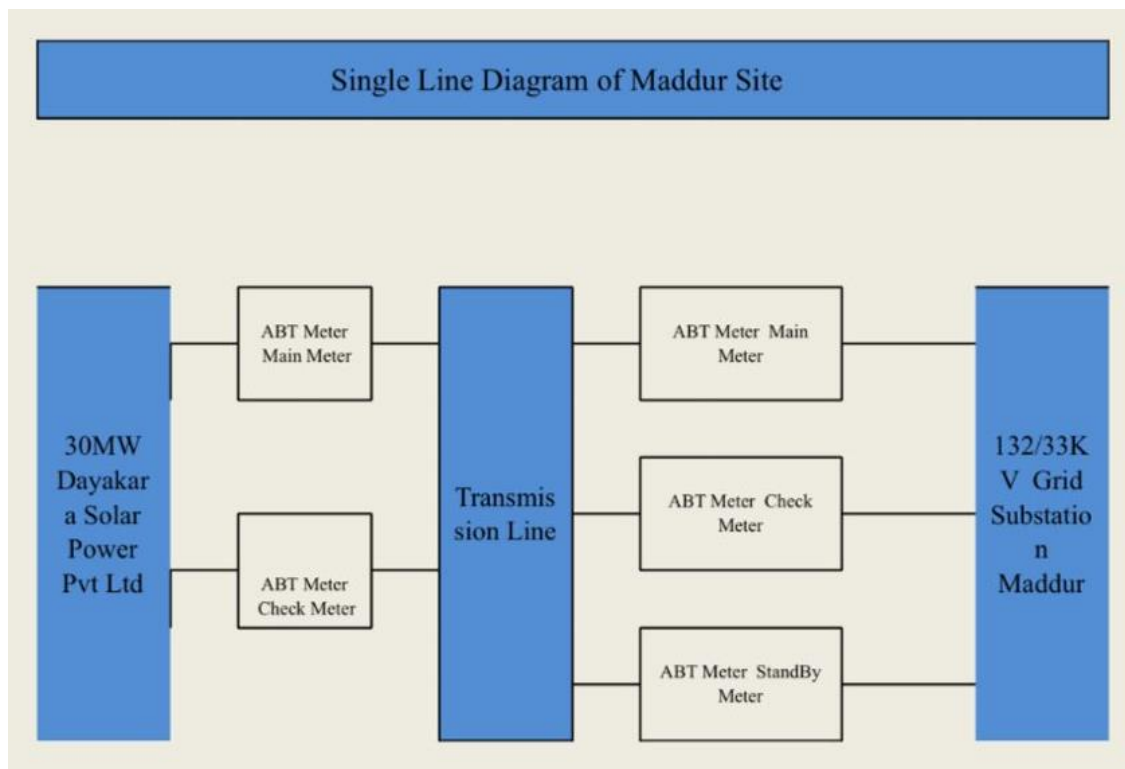


Figure 8. Metering block layout of Dayakara Solar Power Pvt. Ltd.

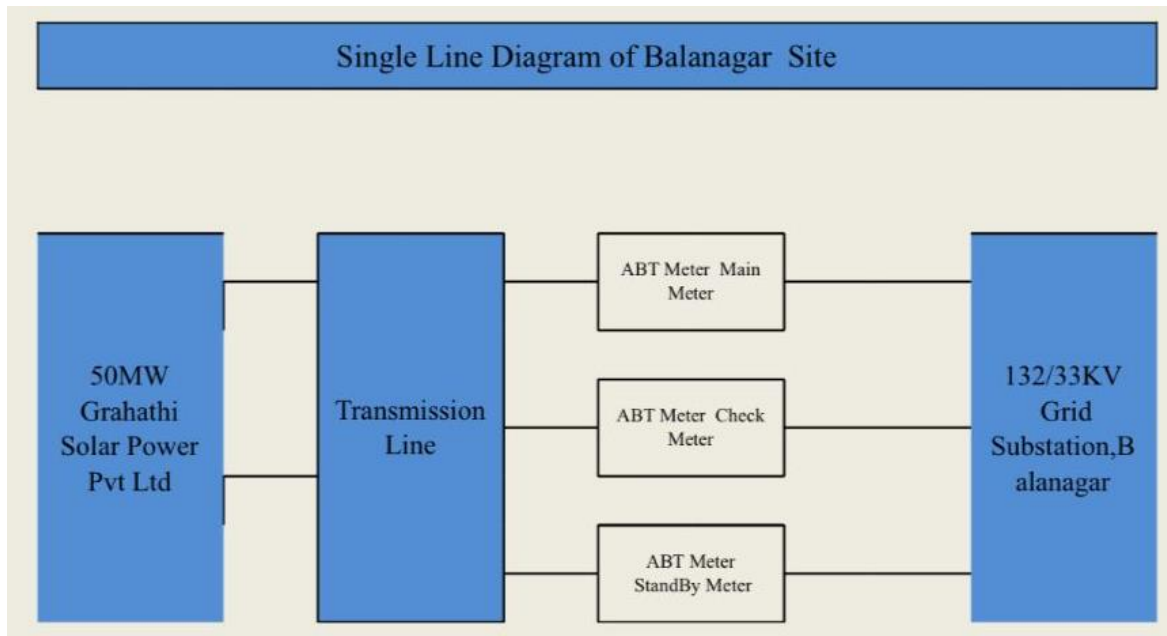


Figure 9. Metering block layout of Grahathi Solar Energy Pvt. Ltd.

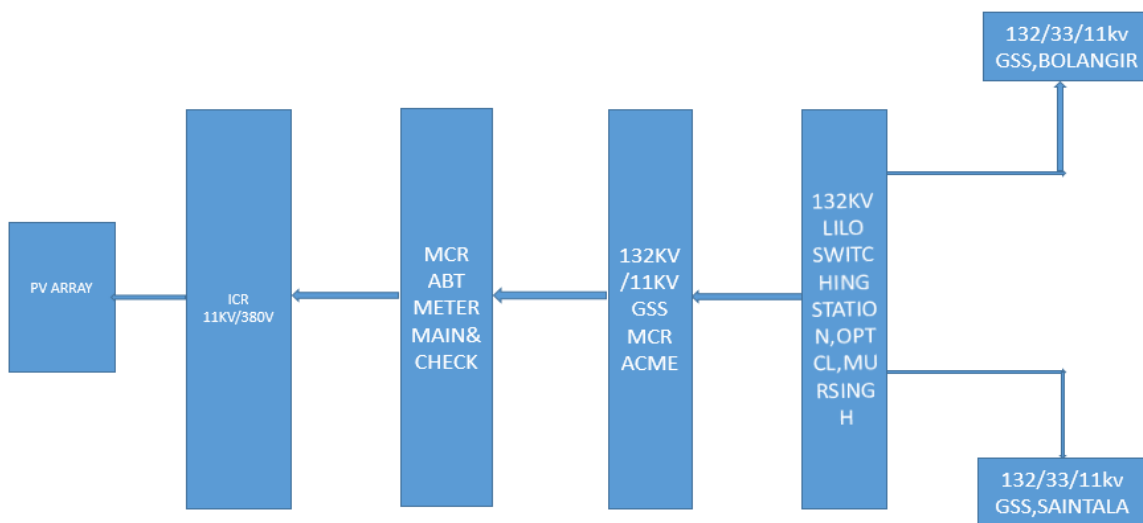


Figure 10. Metering block layout of Acme Odhisha Solar Power Pvt Ltd

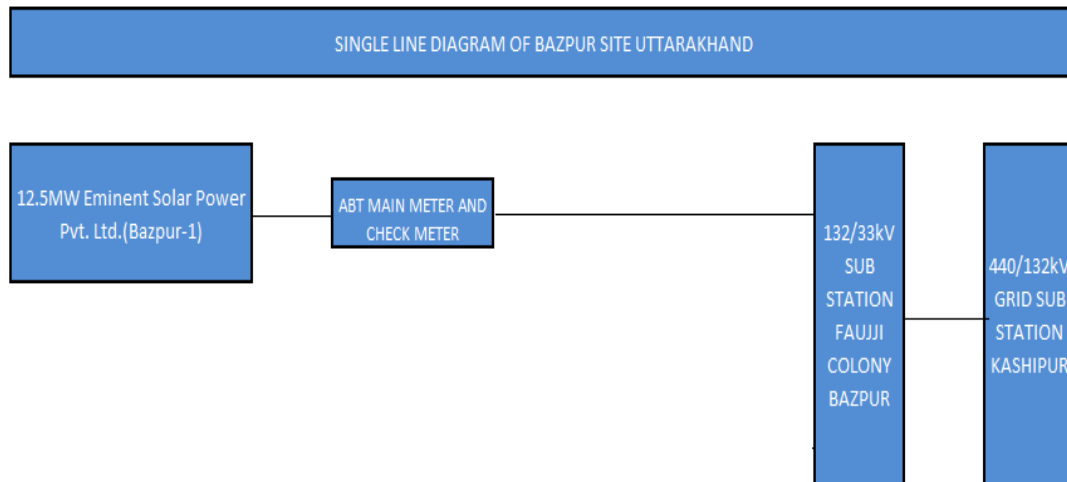


Figure 11. Metering block layout of Eminent Solar Power Pvt Ltd.

For Punjab state projects (74 MW), the project activity meters are connected to 66 kV supply line (CT/PT connected to 66 kV/110 V) and for rest sites the solar plants are connected at 132 kV/33 kV substation.

## 5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

### 5.1 Baseline Emissions

The baseline emission calculation for the project activity instances is attributable to the CO<sub>2</sub> Emission that could have been produced by the fossil fuel based power plants in absence of the project activity. Therefore the amount electricity supplied to the Indian grid will be multiplied by the grid emission factor of Indian grid to calculate the baseline emissions reduced by the project activity.

$$BE_y = EG_{\text{facility},y} \times EF_{\text{grid},\text{CM},y}$$

Where,

|                                |   |                                                                                                                                |
|--------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------|
| $BE_y$                         | = | Baseline Emissions in year y; tCO <sub>2</sub> e                                                                               |
| $EG_{\text{facility},y}$       | = | Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh) |
| $EF_{\text{grid},\text{CM},y}$ | = | CO <sub>2</sub> emission factor of the grid in year y; tCO <sub>2</sub> e/MWh                                                  |

Thus,

$$EG_{\text{facility},y} = 432,268 \text{ MWh}$$

$$EF_{\text{grid},\text{CM},y} = 0.9777 \text{ tCO}_2\text{e}$$

$$\begin{aligned} BE_y &= 432,268 * 0.9777 \\ &= 422,632 \text{ tCO}_2\text{e} \text{ (round down values)} \end{aligned}$$

Note that above value of emissions is summation of rounded down for each SPV, thus overall value is less than simply multiplication of  $432,268 * 0.9777$ .

## 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

The Formula used to calculate the net emission reduction for the project activity is

$$ER_y = BE_y - PE_y - LE_y$$

Where,

$ER_y$  = Emission Reduction in  $\text{tCO}_2/\text{year}$

$BE_y$  = Baseline emission in  $\text{tCO}_2/\text{year}$

$PE_y$  = Project emissions in  $\text{tCO}_2/\text{year}$

$LE_y$  = Leakage Emissions in  $\text{tCO}_2/\text{year}$

For the project activity during the current monitoring period, as per section 5.1

$$BE_y = 423,142 \text{ tCO}_2\text{e}$$

$$PE_y = 0 \text{ tCO}_2\text{e}$$

$$LE_y = 0 \text{ tCO}_2\text{e}$$

$$\begin{aligned} ER_y &= 422,632 - 0 - 0 \\ &= 422,632 \text{ tCO}_2\text{e} \end{aligned}$$

| Year | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
|------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|

|                                              |                |          |          |                |
|----------------------------------------------|----------------|----------|----------|----------------|
| <b>01-September-2021 to 31-December-2021</b> | 189,602        | 0        | 0        | 189,602        |
| <b>01-January-2022 to 30-April-2022</b>      | 233,030        | 0        | 0        | 233,030        |
| <b>Total</b>                                 | <b>422,632</b> | <b>0</b> | <b>0</b> | <b>422,632</b> |

The actual emission reductions achieved is 422,632 tCO<sub>2</sub> which is 12.73% lower than estimated i.e. 484,303. The lower emission reduction achieved is justified due to lower generation in the current monitoring period.

SPV wise emission reduction are tabulated below:

| SPVs                                 | State          | Capacity (MW) | 2021 tCO <sub>2</sub> e Emissions | 2022 tCO <sub>2</sub> e Emissions | Total tCO <sub>2</sub> e Emissions |
|--------------------------------------|----------------|---------------|-----------------------------------|-----------------------------------|------------------------------------|
| Mihit Solar Power Private Ltd. 25 MW | Punjab         | 25            | 10,457                            | 11,156                            | 21,613                             |
| Mihit Solar Power Private Ltd. 25 MW | Punjab         | 25            | 10,565                            | 11,592                            | 22,157                             |
| Mihit Solar Power Private Ltd. 24 MW | Punjab         | 24            | 11,151                            | 11,959                            | 23,110                             |
| ACME Jaisalmer Solar Power Pvt. Ltd. | Andhra Pradesh | 20            | 8,795                             | 14,658                            | 23,456                             |
| Aarohi Solar Pvt. Ltd.               | Andhra Pradesh | 50            | 24,383                            | 33,297                            | 57,681                             |
| Dayanidhi Solar Power Pvt. Ltd.      | Andhra Pradesh | 40            | 18,756                            | 26,534                            | 45,290                             |
| Niranjana Solar Energy Pvt. Ltd.     | Andhra Pradesh | 20            | 10,133                            | 12,844                            | 22,980                             |
| Vishwatma Solar Energy Pvt Ltd.      | Andhra Pradesh | 30            | 16,425                            | 19,642                            | 36,068                             |
| Acme Raipur Solar Power Pvt. Ltd.    | Chattishgarh   | 30            | 13,748                            | 16,791                            | 30,540                             |
| Dayakara Solar Power Pvt Ltd         | Telangana      | 30            | 17,410                            | 20,548                            | 37,958                             |
| Grahati Solar Energy Pvt Ltd         | Telangana      | 50            | 26,940                            | 33,130                            | 60,070                             |
| Acme Odisha Solar Power Pvt Ltd      | Odisha         | 25            | 13,205                            | 16,146                            | 29,353                             |
| Eminent Solar Power Pvt Ltd.         | Uttarakhand    | 12.5          | 6,300                             | 6,055                             | 12,356                             |
| <b>Total</b>                         |                | <b>381.5</b>  | <b>189,602</b>                    | <b>233,030</b>                    | <b>422,632</b>                     |

# APPENDIX 1: CALIBRATION RECORDS

The meter serial number (0.2 s Accuracy class) and their calibration dates project activity instances are as below.

| PP Name                              | MW   | State          | Project Location   | Main Meter serial number | Check Meter Serial Number | Stand By Meter if available | Calibration Date                                       |
|--------------------------------------|------|----------------|--------------------|--------------------------|---------------------------|-----------------------------|--------------------------------------------------------|
| Mihit Solar Power Private Ltd.       | 25   | Punjab         | Kherakhurd         | PBB48607                 | PBB48608                  | NA                          | 05-April-2019                                          |
|                                      |      |                |                    |                          |                           |                             | 01-June-2021                                           |
|                                      |      |                |                    |                          |                           |                             | 21-February-2022                                       |
| Mihit Solar Power Private Ltd.       | 25   | Punjab         | Mankhera           | PBB48603                 | PBB48604                  | NA                          | 02-September-2020                                      |
|                                      |      |                |                    |                          |                           |                             | 21-February-2022                                       |
| Mihit Solar Power Private Ltd.       | 24   | Punjab         | Jhandekalan        | PBB48610                 | PBB48609                  | NA                          | 10-August-2020                                         |
|                                      |      |                |                    |                          |                           |                             | 09-August-2022                                         |
| ACME Jaisalmer Solar Power Pvt. Ltd. | 20   | Andhra Pradesh | Rayachotti         | APX00910 & APX00913      | APX00911 & APX00914       | APX00912 & APX00915         | 19-December-2019 & 18-December-2019<br>21-October-2021 |
| Aarohi Solar Pvt. Ltd.               | 50   | Andhra Pradesh | Hindupur           | APX00584                 | APX00585                  | APX00586                    | 19-September-2020                                      |
|                                      |      |                |                    |                          |                           |                             | 13-December-2021 & 14-December-2021                    |
| Dayanidhi Solar Power Pvt. Ltd.      | 40   | Andhra Pradesh | Santipuram         | APX00604                 | APX00605                  | APX00600                    | 14-October-2020                                        |
|                                      |      |                |                    |                          |                           |                             | 20-December-2021                                       |
| Niranjana Solar Energy Pvt. Ltd.     | 20   | Andhra Pradesh | Pattikonda         | 15196518 & 15196512      | 15196519 & 15196521       | 15196516 & 15197462         | 26-February-2020                                       |
|                                      |      |                |                    |                          |                           |                             | 15-June-2021                                           |
| Vishwatma Solar Energy Pvt Ltd.      | 30   | Andhra Pradesh | Yemmiganur         | 15197463                 | 15197470                  | 15196511                    | 27-February-2020                                       |
|                                      |      |                |                    |                          |                           |                             | 16-June-2021                                           |
| Acme Raipur Solar Power Pvt. Ltd.    | 30   | Chhattisgarh   | Bagbahara          | Old Meter MSP54469       | NA                        | NA                          | 07-December-2015                                       |
|                                      |      |                |                    | CSE52062                 | NA                        | NA                          | 28-December-2019                                       |
| Dayakara Solar Power Pvt Ltd         | 30   | Telangana      | Maddur             | APX00907                 | APX00908                  | APX00909                    | 05-February-2020                                       |
|                                      |      |                |                    |                          |                           |                             | 02-September-2021                                      |
| Grahati Solar Energy Pvt Ltd         | 50   | Telangana      | Balanagar          | APX00971                 | APX00972                  | APX00973                    | 05-September-2020                                      |
|                                      |      |                |                    |                          |                           |                             | 25-November-2021                                       |
| Acme Odisha Solar Power Pvt Ltd      | 25   | Odisha         | Bolangir           | OPT01170                 | OPT01399                  | NA                          | 16-October-2019                                        |
|                                      |      |                |                    |                          |                           |                             | 12-November-2021                                       |
| Eminent Solar Power Pvt Ltd.         | 12.5 | Uttarakhand    | Uddham Singh Nagar | UKD02407                 | UKD02412                  | NA                          | 01-November-2019                                       |

The calibration frequency of the energy meters are once in five year. The calibrations are still valid during the current monitoring period. As a result, error factor is not applicable to the generation data.

For Punjab state projects (74 MW), the project activity meters are connected to 66 kV supply line (CT/PT connected to 66 kV/110 V) and for rest sites the solar plants are connected at 132 kV/33 kV substation.

## APPENDIX 2: TRAINING DETAILS

| SPVs                                 | State          | No. of Trainings |
|--------------------------------------|----------------|------------------|
| Mihit Solar Power Private Ltd. 25 MW | Punjab         | 21               |
| Mihit Solar Power Private Ltd. 25 MW | Punjab         | 15               |
| Mihit Solar Power Private Ltd. 24 MW | Punjab         | 39               |
| ACME Jaisalmer Solar Power Pvt. Ltd. | Andhra Pradesh | 6                |
| AaroHi Solar Pvt. Ltd.               | Andhra Pradesh | 14               |
| Dayanidhi Solar Power Pvt. Ltd.      | Andhra Pradesh | 4                |
| Niranjana Solar Energy Pvt. Ltd.     | Andhra Pradesh | 14               |
| Vishwatma Solar Energy Pvt Ltd.      | Andhra Pradesh | 10               |
| Acme Raipur Solar Power Pvt. Ltd.    | Chhattisgarh   | 16               |
| Dayakara Solar Power Pvt Ltd         | Telangana      | 23               |
| Grahati Solar Energy Pvt Ltd         | Telangana      | 4                |
| Acme Odisha Solar Power Pvt Ltd      | Odisha         | 8                |
| Eminent Solar Power Pvt Ltd.         | Uttarakhand    | 4                |
| <b>Total</b>                         |                | <b>178</b>       |