



SOLAR POWER PROJECT BY MYTRAH ENERGY INDIA PRIVATE LIMITED



Document Prepared by Infinite Solutions

Project Title	Solar Power Project by Mytrah Energy India Private Limited
Version	05
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Project ID	1784
Monitoring Period	01-April-2022 to 30-June-2023 (Including both the days)
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. The project is a bundled project activity which involves installation of 372 MW (AC) solar project in different states of India through SPVs.

Over the 10 years of first crediting period, the project is replacing anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 638,520 tCO_{2e} per year, thereon displacing 681,607 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel based power plant.

The commission details of the SPVs for the project are given in section 3.1. The first plant was commissioned on 19-June-2017 and last was commissioned on 26-November-2018.

Scenario existing prior to the implementation of project activity:

The scenario existing prior to the implementation of the project activity, is electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the Tool 7, "Tool to calculate the emission factor for an electricity system version 7."

Baseline Scenario:

As per the applicable methodology ACM0002 Grid-connected electricity generation from renewable sources version 19, a Greenfield power plant is defined as "a new renewable energy power plant that is constructed and operated at a site where no renewable energy power plant was operated prior to the implementation of the project activity".

As the project activity falls under the definition of a Greenfield power plant, the baseline scenario as per paragraph 22 of Section 5.2.1 of applied methodology is the following:

If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

Hence, pre-project scenario and baseline scenario are the same.

Total emission reductions achieved in this monitoring period:

During the Current Monitoring Period from 01-April-2022 to 30-June-2023 (First and last date included) the project activity has supplied 802,570MWh of electricity, and thus the total VCs achieved during this monitoring period is 751,827tCO₂e.

The audit history is given below-

Audit Type	Period	Program	VVB Name	Number of years
Validation	19-June-2017 to 18-June-2027(including both the days)	VCS	LGAI Technological Centre.S.A.	-//-
Verification	19-June-2017 to 17-March-2019(including both the days)	VCS	LGAI Technological Centre.S.A.	1 year, 8 months, 27 days
Verification	18-March-2019 to 31- March - 2020(including both the days)	VCS	TUV SUD SOUTH ASIA PVT LTD	1 year, 14 days
Verification	01-April-2020 to 31-May-2021(including both the days)	VCS	KBS Certification Services Pvt Ltd	1 year, 2 months, 00 days
Verification	01-June-2021 to 28- February-2022(including both the days)	VCS	LGAI Technological Centre.S.A.	00 years, 9 months, 00 days
Verification	01-March-2022 to 31-March-2022(including both the days)	VCS	LGAI Technological Centre.S.A.	00 years, 1 month, 00 days
Verification	01-April-2022 to 30-June -2023 (including both the days) ¹	VCS	VKU certifications	1 year, 3 months
Total	19-June-2017 to 30-June -2023	VCS		6 years, 12 days

¹ This is the current monitoring period or current

	(including both the days)			
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1.2 Sectoral Scope and Project Type

The project activity falls under the following Sectoral scope and Project Type:

Sectoral Scope : 01 - Energy industries (renewable / non-renewable sources)
Project Type : I - Renewable Energy Projects
Project Category : Grid-connected electricity generation from renewable sources
ACM0002- Version 19.0²

This project is not a grouped project activity.
This Project is not an AFOLU project.

1.3 Project Proponent

Organization name	JSW Neo Energy
Contact person	Mr. Ramesh Kure
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India
Telephone	+91 72888 75975
Email	ramesh.kurre@jsw.in

1.4 Other Entities Involved in the Project

Organization name	Infinite Solutions
Role in the Project	Carbon Consultant
Contact person	Jimmy Sah
Title	Project Manager

² <http://cdm.unfccc.int/methodologies/DB/VJI9AX539D9MLOPXN2AY9UR1N4IYGD>

Address	214-215 Milinda Manor, Opp. Next Treasure Island, 2 RNT Marg, Indore- 452001
Telephone	+91-731-4050174
Email	jimmy@infisolutions.org

1.5 Project Start Date

Start date of the project activity is the earliest date of interconnection with the grid i.e., 19-June-2017. This is the date of commissioning of 50 MW (25*2) MW solar PV project activity by Mytrah Aadhya Power Pvt Ltd. Located at Punjab.

1.6 Project Crediting Period

Crediting Period Start date: 19-June-2017

Crediting Period End date: 18-June-2027

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

1.7 Project Location

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

Sl. No	Name of SPVs	Village (Site)	District	State	Latitude (N)	Longitude (E)
1	Mytrah Abhinav Power Pvt Ltd	Thimajipet	Mahabubnagar	Telangana	16.6870	78.1745
		Arvapally	Nalgonda		17.3029	79.5131
		Domakonda	Nizamabad		18.2780	78.4687
		Alampur	Gadwal		15.9161	77.9602
		Gadwal	Gadwal		16.2647	77.7806
		Tandur	Rangareddy		17.3073	77.6128
		Nagarkurnool	Mahabubnagar		16.4944	78.4221
2	Mytrah Adarsh Power Pvt Ltd	Reddypet	Nizamabad	Telangana	18.4440	78.3964
		Chegunta	Medak		17.9915	78.4363

		Thunkibollaram	Siddipet		17.75957	78.5961
		Tungathurthuv	Nalgonda		17.3556	79.5895
		Guntipally	Nalgonda		16.6383	78.7788
		Shanigaram	Siddipet		18.2259	79.0023
3	Mytrah Agriya Power Pvt Ltd	Kamareddy	Kamareddy	Telangana	18.2521	78.2972
4.	Mytrah Akaash Power Pvt Ltd	K.M.Pally	Nalgonda	Telangana	16.7736	78.8785
5	Mytrah Aadhya Power Pvt Ltd	Bareta	Mansa	Punjab	29.8774	75.673
		Balran	Sangrur	Punjab	29.8576	75.807
6.	Mytrah Advait Power Pvt Ltd	Hunagund	Bagalkot	Karnataka	16.0072	76.0394
		Sindagi	Bijapur		16.9663	76.2408
7.	Mytrah Akshaya Energy Pvt Ltd	Raibagh	Belagavi	Karnataka	16.4149	74.92

The project locations have been shown in the maps below-





1.8 Title and Reference of Methodology

Title: Grid-connected electricity generation from renewable sources

Reference: Grid-connected electricity generation from renewable sources ACM0002-Version 19.0³

Type I: Energy industries (renewable / non-renewable sources)

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

- Tool 7 : Tool to calculate the emission factor for an electricity system - Version 07.0 (EB 100, Annex 04)⁴
- Tool 1: Methodological Tool- Tool for the demonstration and assessment of additionality - Version 07.0.0 (EB 70, Annex 08)⁵

1.9 Participation under other GHG Programs

The project has neither been registered, nor seeking registration under any other GHG programs. The project is seeking registration only in VCS program.

³ <http://cdm.unfccc.int/methodologies/DB/VJI9AX539D9MLOPXN2AY9UR1N4IYGD>

⁴ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

1.10 Other Forms of Credit and Supply Chain (Scope 3) Emissions

The project activity neither has nor intends to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

- Emission Trading Programs and Other Binding Limits: Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits.
- Other Forms of Environmental Credit: The Project Participant has no intent to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.
- Supply Chain (Scope 3) Emissions: The project activity involves generation of electricity using renewable source of energy (Solar Energy) and therefore does not involve any supply chain (scope 3) during the operation of the project activity as it does not involve purchased /manufacturing goods.

1.11 Sustainable Development Contributions

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. The project is a bundled project activity which involves installation of 372 MW solar project in different states of India through SPVs.

The project's contribution to SDGs with respect to current monitoring period are as follows:



For SDG 7: About 802,570MWh renewable electricity has been supplied to Indian grid during the reported monitoring period i.e. 01-April-2022 to 30-June-2023(Inclusive of both dates), that helps to increase the renewable energy share in the energy mix.



For SDG 13: By supplying 802,570MWh clean electricity to Indian grid, the project avoided release of 751,827tCO_{2e} into the atmosphere during the reporting period i.e. 01-April-2022 to 30-June-2023 (Inclusive of both dates).



For SDG 8: Project proponent is committed to provide employment opportunities and ensures the proper health & safety trainings. During the current monitoring period the project proponent provided employment to 779 persons.

Table 1:

Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
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1)	7.2	7.2.1: Renewable energy share in the total final energy consumption	Implemented activities to increase	About 802,570MWh, renewable electricity has supplied to Indian grid during the reported period that helps to increase the renewable energy share in the energy mix.	Since Commissioning, A total of 3,353,995.71 MWh (2,551,425.71 MWh in last 5 verification + 802,570MWh during current verification) of renewable electricity has been supplied to the Indian grid by the project activity since commissioning. <table><tr><th>Monitoring period(Inclusive of both dates)</th><th>Contribution</th><th>Unit</th></tr><tr><td>19-June-2017 to 17-March-2019</td><td>595,937.14</td><td>MWh</td></tr><tr><td>18-March-2019 to 31-03-2020</td><td>650,378.57</td><td>MWh</td></tr><tr><td>01-April-2020 to 31-May-2021</td><td>786,331</td><td>MWh</td></tr><tr><td>01-June-2021 to 28-February-2022</td><td>456,006</td><td>MWh</td></tr></table>	Monitoring period(Inclusive of both dates)	Contribution	Unit	19-June-2017 to 17-March-2019	595,937.14	MWh	18-March-2019 to 31-03-2020	650,378.57	MWh	01-April-2020 to 31-May-2021	786,331	MWh	01-June-2021 to 28-February-2022	456,006	MWh
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2)	8.5	8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Implemented activities to increase employment opportunities and quality of work.	Total 779 peoples are employed during this reporting period. Total 69 training was provided during the current monitoring period-	Since Commissioning, Employment to 779 peoples and 98 training are provided. <table><tr><th>Monitoring period</th><th>Contribution</th><th>Units</th></tr><tr><td>19-June-2017 to 17-March-2019</td><td rowspan="3">No employment and training was reported in previously submitted SD reports.</td><td rowspan="3"></td></tr><tr><td>18-March-2019 to 31-03-2020</td></tr><tr><td>01-April-2020 to 31-May-2021</td></tr><tr><td>01-June-2021 to 28-February-2022</td><td>470 employees 20 trainings</td><td>Number</td></tr><tr><td>01-March-2022to 31-March- 2022</td><td>330 Employees 9 trainings</td><td>Number</td></tr></table>	Monitoring period	Contribution	Units	19-June-2017 to 17-March-2019	No employment and training was reported in previously submitted SD reports.		18-March-2019 to 31-03-2020	01-April-2020 to 31-May-2021	01-June-2021 to 28-February-2022	470 employees 20 trainings	Number	01-March-2022to 31-March- 2022	330 Employees 9 trainings	Number
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01-March-2022to 31-March- 2022	330 Employees 9 trainings	Number																	

3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By supplying 802,570MWh clean electricity to Indian grid, the project avoided release of 751,827tCO ₂ in to the atmosphere during the reporting period.	Since its commissioning, the project has Since its commissioning, the project has avoided the emission of 3,141,114 tCO₂e (2,389,287 tCO₂e in last 5 verifications + 751,827tCO₂e during current verification) in the atmosphere. <table><tr><th>Monitoring period</th><th>Contribution</th><th>Unit</th></tr><tr><td>19-June-2017 to 17-March-2019</td><td>557,667</td><td rowspan="4">tCO₂</td></tr><tr><td>18-March-2019 to 31-03-2020</td><td>609,256</td></tr><tr><td>01-April-2020 to 31-May-2021</td><td>736,377</td></tr><tr><td>01-June-2021 to 28-February-2022</td><td>427,182</td></tr></table>	Monitoring period	Contribution	Unit	19-June-2017 to 17-March-2019	557,667	tCO ₂	18-March-2019 to 31-03-2020	609,256	01-April-2020 to 31-May-2021	736,377	01-June-2021 to 28-February-2022	427,182
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01-June-2021 to 28-February-2022	427,182																

					01-March-2022 to 31-March-2022	58,805	
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2 SAFEGUARDS

2.1 No Net Harm

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

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013⁶. This report clearly mentioned that solar PV project activity operations do not result in direct air pollution, noise pollution. During the current monitoring period there is no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity and project is implemented as per VCS approved PD, hence is no negative environmental and socio-economic impacts.

2.2 Local Stakeholder Consultation

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

Name of Investor	Capacity	Project Location			Date of Invitation	Date of Meeting
		Site	District	State		
Mytrah Abhinav Power Private Limited	8	Thimmajipet	Mahabubnagar	Telangana	12/01/2016	19/01/2016
	8	Arvapally	Nalgonda		13/01/2016	20/01/2016
	15	Domakonda	Nizamabad		15/03/2016	22/03/2016
	11	Alampur	Gadwal		11/01/2016	18/01/2016
	15	Gadwal	Gadwal		14/01/2016	21/01/2016
	15	Tandur	Rangareddy		15/01/2016	22/01/2016
	15	Nagarkurnool	Mahabubnagar		16/01/2016	23/01/2016

⁶ https://odishainnovationcell.nic.in/Content/SIC/Articles/RE_Development_Impacts_in_India.pdf

Mytrah Adarsh Power Private Limited	1 5	Reddypet	Nizamabad		13/02/20 16	20/02/20 16
	1 5	Chegunta	Medak		15/02/20 16	22/02/20 16
	1 5	Thunkibollaram	Siddipet		16/02/20 16	23/02/20 16
	1 5	Tungathurthy	Nalgonda		17/02/20 16	24/02/20 16
	1 5	Guntipally	Nalgonda		18/02/20 16	25/02/20 16
	1 5	Shanigaram	Siddipet		19/02/20 16	25/02/20 16
Mytrah Agriya Power Private Limited	5 0	Kamareddy	Kamareddy		12/02/20 16	19/02/20 16
Mytrah Akaash Power Private Limited	5 0	KM Palli	Nalgonda		09/01/20 16	16/01/20 16
Mytrah Aadhya Power Private Limited	5 0	Bareta & Balran	Mansa & Sangrur	Punjab	19/09/20 15	26/09/20 15
Mytrah Advait Power Private Limited	1 5	Hunagund	Bagalkot	Karnataka	08/04/20 16	15/04/20 16
	1 5	Sindagi	Bijapur		09/04/20 16	16/04/20 16
Mytrah Akshaya Energy Private Limited	1 5	Raibagh	Belagavi		15/04/20 17	22/04/20 17

At the time of project registration, Stakeholder meeting was organized in order to identify the major challenges around the area, stakeholders are 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 with proper stakeholder requirements meeting. No any negative comments received during stakeholder meeting.

The stakeholders are also requested to share their experiences and grievances on continuous basis. Registers is used to records the grievances and feedback. Grievance register is placed at the main gate of site office and is accessible to everyone. During the current monitoring period, no grievances were received , therefore, no any mitigation measures were required. In case of grievances, the nature of probable resolution is discussed with the plant head office and implemented by the site in-charge.

2.3 AFOLU-Specific Safeguards

This section is not applicable here as the project activity is a solar project activity.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity involves the installation of Solar PV project. The total installed capacity of the project is 372 MW of Solar PV plant located at different states in India. The project is promoted by **Mytrah Energy India Private Limited**.

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

In the Pre- project scenario the entire electricity, delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

The project is replacing anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 638,520 tCO₂e per year, thereon displacing 681,607 MWh/year amount of electricity from the grid over the 10 years crediting period.

The details of the SPVs for the project and their location of installation are mentioned in the table below: -

Sl. No	Name of SPVs	Capacity (MW)	COD	Site	Connection with Grid	State	Usage
1	Mytrah Abhinav Power Pvt Ltd	8 MW	30-June-2017	Thimajipet	Indian Grid	Telangana	Sale to State Discom
		8 MW	19-July-2017	Arvapally			
		15 MW	05-December-2017	Domakonda			
		11 MW	19-August-2017	Alampur			
		15 MW	21-August-2017	Gadwal			
		15 MW	02-March-2018	Tandur			
		15 MW	27-February-2018	Nagarkurnool			

2	Mytrah Adarsh Power Pvt Ltd	15 MW	05-December-2017	Reddypet	Indian Grid	Telangana	Sale to State Discom
		15 MW	22-November-2017	Chegunta			
		15 MW	23-October-2017	Thunkibollaram			
		15 MW	08-November-2017	Tungathurthy			
		15 MW	25-September-2017	Guntipally			
		15 MW	23-May-2018	Shanigaram			
3	Mytrah Agriya Power Pvt Ltd	50 MW	25 MW on 22-November-2018	Kamareddy	Indian Grid	Telangana	Sale to State Discom
			25 MW on 26-November-2018				
4	Mytrah Akaash Power Pvt Ltd	50 MW	12.5 MW on 16-March-2018	K.M.Pally	Indian Grid	Telangana	Sale to State Discom
			17.5 MW on 12-April-2018				
			20 MW on 22-November-2018				
5	Mytrah Aadhya Power Pvt Ltd	25 MW	19-June-2017	Bareta	Indian Grid	Punjab	Sale to State Discom
		25 MW	19-June-2017	Balran		Punjab	
	Mytrah Advait Power Pvt Ltd	15 MW	09-February-2018	Hunagund	Indian Grid	Karnataka	

6		15 MW	08-February-2018	Sindagi			Sale to State Discom
7	Mytrah Akshaya Energy Pvt Ltd	15 MW	23-January-2018	Raibagh	Indian Grid	Karnataka	Sale to State Discom

These are the SPVs of Mytrah Energy India Private Limited and the project is promoted by Mytrah Energy India Private Limited. As on date, the entire 372 MW capacity has been commissioned.

The project activity aims to harness solar energy through installation of Solar PV project with total installed capacity of 372 MW.

Solar PV Project Technology Details –

The technical specification for 15 MW solar project by Mytrah Advait Power Private Limited at Hunagund site, Karnataka

S.NO	ASSET NAME	MAKE	RATING	Qty
1	Solar PV module	Phono	320	27000
2	Solar PV module	Phono	325	25560
3	Total No. of Modules			52560
4	PV Inverter-1	ABB	1.667 MW	9
5	Inverter Transformer	ESSEAR	33000/3*400 V,5MVA	3
6	Inverter Transformer	Raychem	33kV/(380V*4)	4

The technical specification for 15 MW solar project by Mytrah Advait Power Private Limited at Sindagi site, Karnataka

S.NO	ASSET NAME	MAKE	RATING	Qty
1	Solar PV module	BYD	320	3120
2	Solar PV module	Risen	320	41991
3	Solar PV module	Phono	320	1344
4	Solar PV module	Risen	325	7825
5	Total No. of Modules			54280
6	PV Inverter	ABB	1.7 MWp	9
7	Inverter Transformer	ESENNAR	33kV/(400V*3)- 5 MVA	3
8	Current transformer	ECS	300/1 A	3

The technical specification for 15 MW solar project by Mytrah Akshaya Energy Private Limited at Raibagh site, Karnataka

S.NO	ASSET NAME	MAKE	RATING	Qty
1	Solar PV module	Phono	320	5120
2	Solar PV module	Chint	320	47800
3	Total No. of Modules			52920
4	PV Inverter	ABB	1.7 MW	9
5	Inverter Transformer	ESENNAR	33kV/(400V*3)-5 MVA	3
6	Current transformer	Straton Electricals	300/1 A	3

The technical specification for 25 MW solar project by Mytrah Aadhya Power Private Limited at Bareta site, Punjab

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Risen	310 Wp	26200
2	Solar PV module	Risen	315 Wp	20762
3	Solar PV module	Risen	320 Wp	36288
4	PV Inverter	SUNGROW	2.5 MW	8
5	Total No. of Modules			83250
6	Power Transformer	Crompton Greeves	66/11 KV ,25 MVA	1
7	Inverter Transformer	VOLTAMP	11000/315 V-2.5MVA	8

The technical specification for 25 MW solar project by Mytrah Aadhya Power Private Limited at Balran site, Punjab

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Risen	315 Wp	9080
2	Solar PV module	Risen	335 Wp	21240
3	Solar PV module	Risen	340 Wp	38720
4	Solar PV module	Waree	350 Wp	640
5	Solar PV module	Astroenergy	315 Wp	2612
6	Solar PV module	Astroenergy	320 Wp	5564
7	Number of Module			77856
8	PV Inverter	SUNGROW	0.5 MW	12
9	PV Inverter	SUNGROW	2.5 MW	6
10	Power Transformer	Crompton Greeves	66/11 KV ,25 MVA	1

11	Inverter Transformer	VOLTAMP	11000/315 V-2.5MVA	6
12	Inverter Transformer	Universal Power	11KV/315V -1.5MVA	4

The technical specification for 8 MW solar project by Mytrah Abhinav Power Private Limited at Thimajipet site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	BYD	310	29720
2	PV Inverter	TMEIC	1 MW	8
3	Inverter Transformer	Raychem	33kV/(380V*4)-4 MVA-ONAN	2
4	Current transformer	Vamet Industries	200/1 A	9
5	Potential Transformer	Vamet Industries	33kV/110V	9

The technical specification for 8 MW solar project by Mytrah Abhinav Power Private Limited at Arvapally site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	BYD	320	28750
2	Central Inverter	Sungrow	2520 KW	3
3	Transformer	Shilchar	33KV/315,2.7 MVA	3
4	Current transformer	Straton	200/1A	3
5	Potential transformer	Straton	33KV/110V	3

The technical specification for 15 MW solar project by Mytrah Abhinav Power Private Limited at Domakonda site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Chint	320	11025
2	Solar PV module	Phono	320	37969
3	Solar PV module	BYD	320	12650
4	PV Inverter (String Inverter)	HUAWEI	43KW	349
5	ACCB	Trisquare	160A	90
6	LT Panel	Trisquare	3200A	8

7	Inverter Transformer	SUDHIR	33kV/(500V*2)-4 MVA-ONAN	3
8	Inverter Transformer	SUDHIR	33kV/(500V*2)-3 MVA-ONAN	1
9	Total No. of Modules			61644

The technical specification for 11 MW solar project by Mytrah Abhinav Power Private Limited at Alampur site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	PV Module	BYD	320	39375
2	Inverters	SUNGROW	2.5 MW	4
3	String monitoring box	Trinity touch	400A	74
4	Inverter Transformer	KIRLOSKAR ELECTRIC CO LTD	33kV/380V-2.75 MVA-ONAN	4
5	Current transformer	Straton	33KV	3
6	Potential transformer	Straton	33KV	3

The technical specification for 15 MW solar project by Mytrah Abhinav Power Private Limited at Gadwal site, Telangana

S.NO	ASSET NAME	MAKE	RATING	Qty
1	Solar PV module	BYD	320	55680
2	PV Inverter	TMEIC	1 MW	15
3	Inverter Transformer	Raychem	33kV/(380V*4)	4
4	Current transformer	Straton Electricals	300/1 A	3
5	Potential Transformer	Straton Electricals	33kV/110V	3

The technical specification for 15 MW solar project by Mytrah Abhinav Power Private Limited at Tandur site, Telanaga.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Chint	320	17968
2	Solar PV module	Phono	320	35938
3	No. of Modules			53906
4	PV Inverter	TMEIC	1 MW	15
5	Inverter Transformer	Voltamp	33kV/(380V*4)-4 MVA-ONAN	3
6	Inverter Transformer	Silchar	33kV/(380V*3)-3 MVA-ONAN	1

7	Current transformer	Pragathi Electricals	300/1 A	6
8	Potential Transformer	Electrical Control system	33kV/r3/110V/r3	6

The technical specification for 15 MW solar project by Mytrah Abhinav Power Private Limited at Nagarkurnool site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	BYD	320	26938
2	Solar PV module	Phono	320	31625
3	Total No. of Modules			58563
4	PV Inverter	SUNGROW	2.5 MW	6
5	Inverter Transformer	Sudhir Transformer	33kV/(360V*1)-2.5 MVA-ONAN	6
6	Current transformer	Vamet Industries	200/1 A	6
7	Potential Transformer	Vamet Industries	33kV/110V	6

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Reddypet site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	BYD	320	58891
2	String Inverter	Huawei	43 KW	349
3	Total No. of Modules			59240
4	LT Panel	Sterling Generators	500 V,2 MW	8
5	Inverter Transformer	Raychem	500v/33KV-4MVA	2
6	Inverter Transformer	Raychem	500v/33KV-3MVA	1
7	Inverter Transformer	Sudhir	500v/33KV-4MVA	1

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Chegunta site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	BYD	320	53085

2	Solar PV module	Phono	320	8313
3	Total No. of Modules			61398
5	LT Panels	Sterling Generators	500V 4000Amps	6
6	Inv Transformer	Sudir Power Ltd	33kV/500V 5MVA	3
7	HT Panels	Techno carft	36KV,1250Amps	1
8	Current transformer	Straton	300/1A	3
9	Potential transformer	Straton	33KV/110V	3

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Thunkibollaram site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Phono	320	42282
2	Solar PV module	Sera	320	16000
3	Total No. of Modules			58282
4	LT panel	STRILING GENERATOR	1500 KW	2
5	LT panel	STRILING GENERATOR	2000 KW	4
6	Inverter Transformer	Raychem	33kV/(500V*2)- 4 MVA-ONAN	2
7	Inverter Transformer	Sudhir	33kV/(500V*2)- 4 MVA-ONAN	1
8	Inverter Transformer	Sudhir	33kV/(500V*2)- 3 MVA-ONAN	1
19	Current transformer	Pragathi Electricals	300/1 A	3

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Tungathurthy site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Chint	320	28697
2	Solar PV module	Phono	320	29588
3	Total No. of Modules			58285
4	Inverter Transformer	Raychem	33kV/(380V* 4)-4 MVA- ONAN	4
5	LT Panel	Tri square	500 V 3200 A	8
6	Current transformer	Straton Electrical	300/1A	3
7	Potential Transformer	Vamet Industries	33kV/110V	3

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Guntipally site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	Qty
1	Solar PV module	Phono	320	53750
2	String monitoring box	Trinity touch	1000V DC,400A	107
3	PV Inverter	TMEIC	1 MW	15
4	Inverter Transformer	SHILCHAR	33kV/(380V*4)-4 MVA	4
5	Current transformer	Straton Electricals	300/1 A	3
6	Potential Transformer	Straton Electricals	33kV/110V	3

The technical specification for 15 MW solar project by Mytrah Adarsh Power Private Limited at Shanigaram site, Telangana.

S.NO	ASSET NAME	MAKE	RATING	QTY
1	PV Module	Phono	320	25156
2	PV Module	BYD	320	28751
3	Inverters	TMEIC	1 MW	15
4	String monitoring box	Solaris	1000V DC,400A	120
5	Inverter Transformer	Raychem	33kV/(380V*4)-3 MVA	1
6	Inverter Transformer	HPS	33kV/(380V*4)-2 MVA	2
7	Inverter Transformer	Shilchar	33kV/(380V*4)-4 MVA	1
8	Inverter Transformer	Raychem	33kV/(380V*4)-4 MVA	1
9	HT Panel	Technocrafts	33Kv	1
10	Current transformer	Straton	33KV	3
11	Total No. of Modules			53907
12	Potential transformer	Straton	33KV	3

The technical specification for 50 MW solar project by Mytrah Agriya Power Private Limited at Kamareddy site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Risen	325	55305
2	Solar PV module	Adani	325	7410
3	Solar PV module	Risen	320	34340
4	Solar PV module	Adani	320	6355
5	Solar PV module	Chint	320	48500
6	Solar PV module	Sumec	320	49880

7	Solar PV module	Sumec	325	15750
8	PV Inverter	SUNGROW	2.5 MW	20
9	Inv Transformer	SUDHIR	33kV/360V-2.5 MVA	11
10	Inv Transformer	Raychem	33kV/360V-2.5 MVA	9
11	Power Transformer	Transformers & Rectifiers	132/33kV, 31.5/25MVA	2
12	Total No. of Modules			217540

The technical specification for 50 MW solar project by Mytrah Akaash Power Private Limited at K.M.Pally site, Telangana

S.NO	ASSET NAME	MAKE	RATING	QTY
1	Solar PV module	Phono	320	94820
2	Solar PV module	Risen	320	29750
3	Solar PV module	Waree	320	52450
4	Solar PV module	Adani	325	29160
5	PV Inverter	SUNGROW	2.5 MW	20
6	Total No. of Modules			206180
7	Inverter Transformer	Raychem	33kV/380V-2.5 MVA	11
8	Inverter Transformer	SUDHIR	33kV/360V-2.5 MVA	9
9	Power Transformer	ANDREW YULE	132/33kV, 31.5/25MVA	2

The project has been under operation since commissioning i.e 19-June-2017 which is the start date of the project activity, without any major breakdowns. Moreover, no significant events have occurred during this monitoring period that could potentially impact the reduction and monitoring of greenhouse gas emissions.

The plant is running smoothly since commissioning with scheduled maintenance. No events or situations happened that can alter the applicability of the applied methodology.

3.2 Deviations

3.2.1 Methodology Deviations

This section is not Applicable, as there are no deviations requested under current monitoring period (01-April-2022 to 30-June-2023) and not in the previous monitoring from the applied methodology There is no methodology deviation.

3.2.2 Project Description Deviations

Deviation 1-

During the current monitoring period, the derivation is applied for the geo coordinate correction. The VCS registered Joint PD & MR mentioned the wrong geo coordinates. Updated Geo Coordinates mentioned below.

Sl. No	Name of SPVs	Village (Site)	District	State	Latitude (N)	Longitude (E)
1	Mytrah Abhinav Power Pvt Ltd	Domakonda	Nizamabad	Telangana	18.2780	78.4687
		Arvapally	Nalgonda		17.3029	79.5131
		Tandur	Rangareddy		17.3073	77.6128
		Nagarkurnool	Mahabubnagar		16.4944	78.4221
2	Mytrah Adarsh Power Pvt Ltd	Reddypet	Nizamabad		18.4440	78.3964
		Chegunta	Medak		17.9915	78.4363
		Thunkibollaram	Siddipet		17.7595	78.5961
		Tungathurthy	Nalgonda		17.3556	79.5895
		Guntipally	Nalgonda		16.6383	78.7788
		Shanigaram	Siddipet		18.2259	79.0023
3	Mytrah Agriya Power Pvt Ltd	Kamareddy	Kamareddy		18.2521	78.2972
4	Mytrah Aadhya Power Pvt Ltd	Balran	Sangrur	Punjab	29.8576	75.807
5	Mytrah Advaita Power Pvt Ltd	Hunagund	Bagalkot	Karnataka	16.0072	76.0394
		Sindagi	Bijapur		16.9663	76.2408
6	Mytrah Akshaya Energy Pvt Ltd	Raibagh	Belagavi		16.4149	74.92

This deviation is requested in present monitoring period of 01-April-2022 to 30-June-2023. The deviation does not have any impact on the project applicability, baseline scenario, additionality etc.

Deviation 2-

In the Verra Registry, the project proponent is listed as Mytrah Energy (INDIA) Ltd. While during the previous monitoring period, the project proponent has changed its name from “Mytrah Energy (INDIA) Ltd” to "Mytrah Energy India Private Limited". And it is also confirmed from PP that Mytrah Energy India Private Limited is the same legal entity as Mytrah Energy (INDIA) Ltd.

The deviation has already been approved during the monitoring period of 18-March-2019 to 31-March-2020.

Deviation-3-

During Previous Monitoring period, there was change in other entity as per registered VCS PD. The details of other entity involved in the project is mentioned below-

Organization name	Infinite Solutions
Role in the Project	Carbon Consultant
Contact person	Jimmy Sah
Title	Project Manager
Address	214-215 Milinda Manor, Opp. Next Treasure Island, 2 RNT Marg, Indore- 452001
Telephone	+91-731-4050174
Email	jimmy@infisolutions.org

This deviation was requested in monitoring period of 01-June-2021 to 28-February-2022 and the deviation has been approved. The deviation does not have any impact on the project applicability, baseline scenario, additionally etc. and the deviation has been approved by the board.

Deviation-4-

The VCS registered Joint PD & MR mentioned that the difference of final value of export and import is used for monthly values of net electricity supplied to the grid by the project activity. However, as per the state government policy of Karnataka 115% transmission losses are accounted in calculation of net electricity supplied to grid by the project activity. The formula used for net electricity calculation is mentioned below: -

EG_{PJ,grid,y} or EG_{PJ,facility,y} = Energy export-115% Of Import Energy

This is the actual practice being followed at the site. The net electricity can be verified from the invoices provided by the PP. Thus deviation is requested to correct project description information. This deviation is permanent in nature.

This deviation is reducing the electricity generation thereby reducing the emission reductions which is conservative. This deviation does not have any impact on the project applicability, baseline scenario, and additionality etc. This deviation was approved by the board.

3.3 Grouped Projects

The project activity is not a grouped project activity.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF_{grid, OM, y}
Data unit	tCO ₂ /MWh
Description	Operating Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14, Dec 2018 ⁷
Value applied	0.9610
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per tool 7 “Tool to calculate the emission factor for an electricity system, version 07” ⁸ as 3-year generation weighted average using data for the years 2015-16, 2016-17 & 2017-18. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 14 ⁹ , published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	EF_{grid, BM, y}
Data unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14, Dec 2018 ¹⁰

⁷ <https://cea.nic.in/cdm-co2-baseline-database/?lang=en>

⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

⁹ <https://cea.nic.in/cdm-co2-baseline-database/?lang=en>

¹⁰ <https://cea.nic.in/cdm-co2-baseline-database/?lang=en>

Value applied	0.8644
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per tool 7, “Tool to calculate the emission factor for an electricity system, version 07” ¹¹ as per the latest data available for the most recent year 2017-18. The data is obtained from “CO2 Baseline Database for Indian Power Sector” version 14, ¹² published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO2/MWh
Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14, Dec 2018 ¹³
Value applied	0.9368
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO2/MWh) $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO2/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM} = Weighting of build margin emissions factor (%) = 25%
Purpose of Data	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

For Karnataka Site

Data / Parameter	$EGPJ_{grid,y}$ or $EGPJ_{facility,l,y}$
Data unit	MWh

¹¹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

¹² ¹² <https://cea.nic.in/cdm-co2-baseline-database/?lang=en>

¹³ <https://cea.nic.in/cdm-co2-baseline-database/?lang=en>

Description	Quantity of electricity generated and supplied by the project power plant to the grid	
Source of data	Monthly joint meter reading reports	
Description of measurement methods and procedures to be applied	The difference of final value of export and 115% of import is used for monthly values of net electricity supplied to the grid by the project activity and same value will be considered for ER calculations.	
Frequency of monitoring/recording	Continuous measurement & monthly recording	
Value monitored	101,473	
	2022	54,488
	2023	46,985
	Total	101,473
Monitoring equipment	The electricity exported / supplied by the plant to pooling substation and further to substation. This meter also measures electricity imported by the plant from the grid.	
QA/QC procedures to be applied	The meters are approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years. ¹⁴ The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines will be applied appropriately to confirm the conservativeness of metering.	
	The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and PP do not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered the monitoring parameter.	
	The billing is raised based on substation meters.	
Purpose of the data	Calculation of baseline emissions	
Calculation method	Thus, Net electricity supplied to the grid by the project plant in a given month = EGPJ,grid,y or EGPJ,facility,l,y =Energy export-115% Of Import Energy	

¹⁴ As per Approved VCS PD

Comments	Data is archived in both paper and electronic forms for two years after the conclusion of the crediting period or the latest issuance of VERs for this project activity, whichever occurs later.
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For Punjab Site

Data / Parameter	EGPJ,grid,y or EGPJ,facility,l,y								
Data unit	MWh								
Description	Quantity of electricity generated and supplied by the project power plant to the grid								
Source of data	Monthly joint meter reading reports								
Description of measurement methods and procedures to be applied	The difference of final value of export and import is used for monthly values of net electricity supplied to the grid by the project activity and same value will be considered for ER calculations								
Frequency of monitoring/recording	Continuous measurement & monthly recording								
Value monitored	<table> <tr> <td>103,521</td><td></td></tr> <tr> <td>2022</td><td>60,141</td></tr> <tr> <td>2023</td><td>43,380</td></tr> <tr> <td>Total</td><td>103,521</td></tr> </table>	103,521		2022	60,141	2023	43,380	Total	103,521
103,521									
2022	60,141								
2023	43,380								
Total	103,521								
Monitoring equipment	The electricity exported / supplied by the plant to pooling substation and further to substation. This meter also measures electricity imported by the plant from the grid.								
QA/QC procedures to be applied	The meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years.¹⁵ The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines will be applied appropriately to confirm the conservativeness of metering. The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and PP do not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered the monitoring parameter.								

¹⁵ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

	The billing is raised based on substation meters.
Purpose of the data	Calculation of baseline emissions
Calculation method	Thus, Net electricity supplied to the grid by the project plant in a given month = Export, kWh – Import, kWh
Comments	Data is archived in both paper and electronic forms for two years after the conclusion of the crediting period or the latest issuance of VERs for this project activity, whichever occurs later.

For Telangana Site

Data / Parameter	EGPJ,grid,y or EGPJ,facility,l,y							
Data unit	MWh							
Description	Quantity of electricity generated and supplied by the project power plant to the grid							
Source of data	Monthly joint meter reading reports							
Description of measurement methods and procedures to be applied	The difference of final value of export and import is used for monthly values of net electricity supplied to the grid by the project activity and same value will be considered for ER calculations							
Frequency of monitoring/recording	Continuous measurement & monthly recording							
Value monitored	597,577 <table><tr><td>2022</td><td>321,478</td></tr><tr><td>2023</td><td>276,099</td></tr><tr><td>Total</td><td>597,577</td></tr></table>		2022	321,478	2023	276,099	Total	597,577
2022	321,478							
2023	276,099							
Total	597,577							
Monitoring equipment	The electricity exported / supplied by the plant to pooling substation and further to substation. This meter also measures electricity imported by the plant from the grid.							
QA/QC procedures to be applied	The meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years. ¹⁶ The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines will be							

¹⁶ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

	applied appropriately to confirm the conservativeness of metering. The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and PP do not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered the monitoring parameter. The billing is raised based on substation meters.
Purpose of the data	Calculation of baseline emissions
Calculation method	Thus, Net electricity supplied to the grid by the project plant in a given month = Export, kWh – Import, kWh
Comments	Data is archived in both paper and electronic forms for two years after the conclusion of the crediting period or the latest issuance of VERs for this project activity, whichever occurs later.

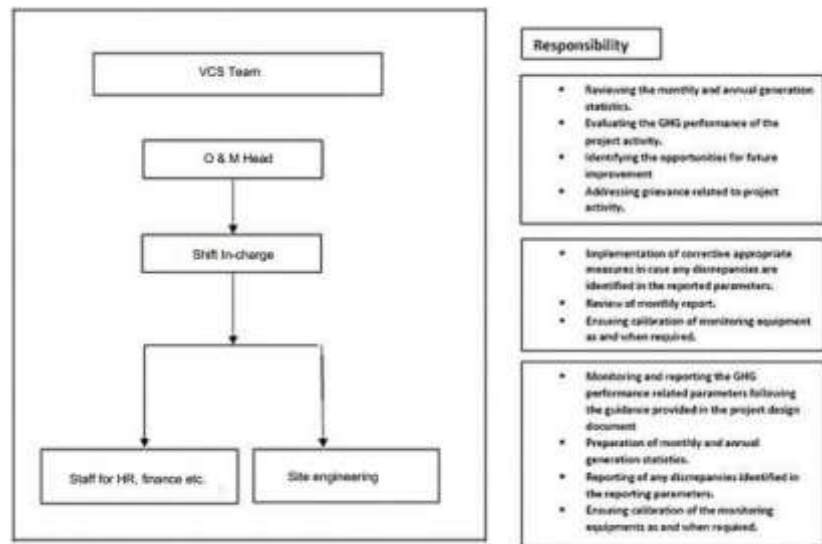
4.3 Monitoring Plan

The monitoring plan is developed in accordance with the modalities and procedures for VCS project activities and is proposed for grid-connected solar power project being implemented. The monitoring plan, which is implemented by the project participant 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 rests with the project participant. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipment's for this project activity. The team comprises of the following members:

Responsibilities of O&M Representative: Co-ordination between Site incharge of the O&M operator as well as the project participant and further report to PP head office.

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



Data Measurement

The export and import energy are measured continuously using the above-mentioned Main and Check meters located at the substations, with the substation details mentioned below in Appendix I. Readings of meters are taken on a monthly basis by an authorized officer of SEB in the presence of the PP or the PP's representative. Invoices are raised based on the Meter Reading Statement provided to the PP. These invoices can be used for cross-checking the meter readings taken for the respective project activity.

The project entails setting up a 372 MW (AC) Solar Photovoltaic (PV) power generation system that spans across the states of Telangana, Karnataka, and Punjab in India. Its main goal is to harness renewable solar energy to generate electricity. The produced power is effectively coordinated through a sequence of components and procedures, including modules, string inverters, transformers, transmission lines, and pooling substations.

Solar Photovoltaic Modules with a total capacity of 372 MW (AC) are strategically located in Telangana, Karnataka, and Punjab, India, utilizing solar panel I the initial stage of power generation, transformers at the inverter level to step up power to 33 kV, and transmission lines for efficient power transfer to the pooling substation; the pooling substation, serving as a central distribution point, houses transformers that further step up the voltage, optimizing long-distance transmission and preparing the power for integration into the Indian grid.

The power evacuation of the project activity is carried out by the State utility through Grid Substation. The Grid Substation at acts as a pivotal point where the power generated by the project is fed into the grid. This substation provides the necessary infrastructure, equipment, and monitoring capabilities to handle the high-voltage power coming from the project, ensuring efficient transmission.

For the solar panel cleaning the wet cleaning mechanism for solar panels aims to achieve peak performance by systematically removing dust, dirt, and contaminants, utilizing materials such as distilled water, a soft bristle brush, mild detergent, a squeegee or soft cloth, and personal protective equipment like gloves and eye protection.

Procedure

Before initiating the cleaning process, ensure safety by wearing gloves and eye protection, followed by a systematic procedure involving initial inspection, gentle dust removal, application of a mild detergent solution for stubborn stains, wet cleaning with a soft sponge or cloth, thorough rinsing with distilled water, meticulous drying using a squeegee or soft cloth during optimal times, concluding with a final visual inspection, checking for cleanliness, absence of streaks or spots, and noting any potential damage obscured by dirt, all meticulously documented in a cleaning log.

Frequency:

Cleaning on a quarterly or semi-annual basis is adequate in moderate climates, with increased frequency recommended as necessary in areas characterized by high dust or pollution levels.

Data collection and archiving

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

Emergency preparedness

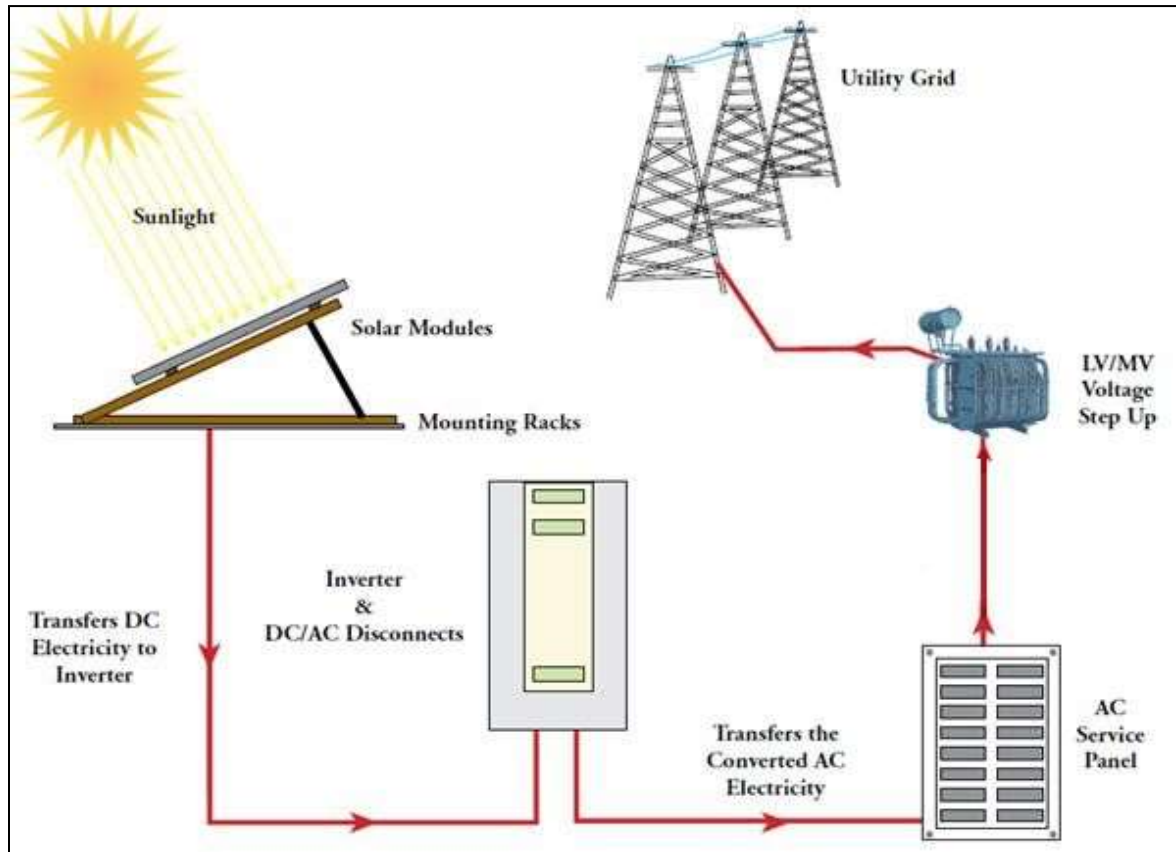
The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

In the event that the main meter, which is used to record the net electricity exported by the project, is found to be faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced by another meter such as Stand by meter, in the event of a delay in meter calibration, an error factor will be applied for the calculation of ER.

Personnel training

To guarantee the effective operation of the project and the accurate monitoring of emission reductions, comprehensive staff training is conducted within the plant. This includes instruction on the utilization of monitoring tools and software for evaluating system performance, comprehension of control systems for fine-tuning and optimizing solar power generation, and safety training covering working at heights and electrical safety measures. The training program encompasses the staff, with specific focus on plant helpers, who will receive training in equipment operation, data recording, , and

the implementation of operation and maintenance procedures, all in accordance with the monitoring plan. Line diagram for the solar project activity is shown below



QA/QC procedures

The energy meters at the feeders are maintained and owned by state electricity board. Neither the project proponent nor the site personnel have any control over it. The records will be crosschecked with the records of sold electricity to state electricity board. The meters are calibrated by state electricity board at-least once in five years.

Apportioning

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

- Apportioning the net electricity exported to grid, as recorded in the consolidated Share Certificate / JMR Report / Credit Notes certified by the respective state discom, based on the number of days in the monitoring period and the number of days for which Share Certificate / JMR Report / Credit Notes was prepared.

Net electricity exported to the grid = $A/B \times C$

Where:

A= Number of days matching in billing period and monitoring period.

B= Total number of days of the billing period/month

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

Calculation of net electricity exported to the grid is done by both the approaches and conservative value among the two is used for calculation of emission reductions during that period.

During the current monitoring period, apportioning has been done for the month of March 2022, and month of June 2023 since there is mismatch of monitoring period and billing cycle. The apportioning has been done by using the above mentioned approach.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

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

Where:

BE_y: Baseline emissions in year y (tCO₂e/yr)

EG_{PJ,grid,y} or EG_{PJ,facility,l,y} : Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y (MWh/yr)

EF_{grid,CM} : Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂e/MWh)

Parameter	Unit	Value
EG _{PJ,grid,y} or EG _{PJ,facility,l,y}	MWh	802,570
EF _{grid,CM,y}	tCO ₂ e	0.9368
BE _y	=	802,570* 0.9368
	=	751,827 (ROUND DOWN)

Vintage wise emissions reductions	
2022	408535
2023	343292
Total	751827

5.2 Project Emissions

Not Applicable, since project emissions from the solar project activity is zero as per 34, methodology ACM0002version 19.

5.3 Leakage

Not Applicable, since leakage emissions from the solar project activity is zero as per the para 56, methodology ACM0002version 19.

5.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-April-2022 to 31-December-2022	408,535	0	0	408,535
01-January-2023 to 30-June-2023	343,292	0	0	343,292
Total	751,827	0	0	751,827

<u>Ex-ante emissions reductions /removals</u>	<u>Achieved emissions reductions /removals</u>	<u>Percent difference</u>	<u>Justification for the difference</u>
797,712 Total	751,827	-5.75%	It is to be noted here that as per the estimated emission reduction to be achieved from the project

			activity for the current monitoring period is 797,712 tCO₂e, whereas actual emission reductions achieved are 751,827tCO₂e, which is approximately 5.75% lesser than the estimated emission reductions. The generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant.
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APPENDIX1: CALIBRATION CERTIFICATE-

State: Karnataka

Mytrah Advait Power Private Limited		
Type of meter	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT
Meter Make	Secure	Secure
Meter Model	E3M024	E3M024
Location of meter	Substation 33/110 KV Hunagund	Substation 33/110 KV Sindagi
Accuracy of meter	0.2S	
Serial number of meters	Main Meter: 17151028 Check Meter: 17151010	Main Meter: 17151045 Check Meter: 17151050
Calibration frequency	Once in 5 years	
Calibration Authority	Yathva Energy Solutions Pvt. Ltd.	
Date of Calibration	13-July-2018	03-December- 2018
Calibration validity	12-July- 2023	02-December- 2023
Mytrah Akshay a Energy Private Limited		
Type of meter	Energy Meter / Electronic ABT	
Meter Make	L&T ER 300P	
Meter Model	Bi-directional RS 232	
Location of meter	Substation 33/110 KV Raibagh	
Accuracy of meter	0.2S	
Serial number of meters	Main Meter: 17115537 Check Meter: 17115532	
Calibration frequency	Once in 5 years	
Calibration Authority	Yathva Energy Solutions Pvt. Ltd.	
Date of Calibration	05-January- 2019	

Calibration validity	04-January- 2024
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State: Punjab

Mytrah Aadhya Power Private Limited		
Type of meter	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT
Meter Make	Secure	secure
Meter Model	//	//
Location of meter	Substation 66/11 KV Bareta	Substation 66/11 KV Balran
Accuracy of meter	0.2S	
Serial number of meters	Main Meter: PBB4878 0 Check Meter: PBB4878 1	Main Meter: PBB4880 3 Check Meter: PBB4880 2
Calibration frequency	Once in 5 years	
Calibration Authority	Punjab State Power Corporation Limited (PSPCL)	
Date of Calibration	01-December- 2018	26-November- 2018
Calibration validity	30-November- 2023	25-November- 2023

State: Telangana:

Mytrah Aadhya Power Private Limited							
Type of meter	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT
Meter Make	R3E	EDMI	Secure Meter Limited	EDMI	EDMI	Elster	Elster
Meter Model	Premier 300	//	Premier 300	//	MK6E	A1882RALN s200	A1882RALN s200

Location of meter	Substation 132/33 KV Thimajipet	Substation 132/33 KV Arvapally	Substation 132/33 KV Domakonda	Substation 132/33 KV Alampur	132/33 KV Gadwal Substation	Substation 132/33 KV Tandur	Substation 132/33 KV Nagarkurnool
Accuracy of meter	0.2S						
Serial number of meters	Main Meter: APX01099 Check Meter: APX01100 Standby: APX01101	Main Meter: HT01160859 Check Meter: HT01160860 Standby: HT011608	Main Meter: TS04282 Check Meter: TS04283 Standby: TS04284	Main Meter: HT01161106 Check Meter: HT01161107 Standby: HT01161108	Main Meter: HT01161111 Check Meter: HT01161112 Standby: HT01161113	Main Meter: 2838075 Check Meter: 2838076 Standby: 2838077	Main Meter: 2831529 Check Meter: 2831530 Standby: 2831
Calibration frequency	Once in 5 years						
Calibration Authority	Yathva Energy Solutions Pvt. Ltd.		Ganga Calibration Solutions Pvt. Ltd.	Yathva Energy Solutions Pvt. Ltd.		Ganga Calibration Solutions Pvt. Ltd.	Yathva Energy Solutions Pvt. Ltd.
Date of Calibration	14-November-2018	22-January-2019	19-February-2018	09-April-2018	22-February-2019	04-April-2018	14-May-2018
Calibration validity	13-November-2023	25-November-2023	18-February-2023	08-April-2023	21- February-2024	03-April-2023	13-May-2023
New Date of Calibration	17-September-2020	21-Jaunuary-2024	17-August-2020	03-December-2021	12-January-2022	31-October-2020	06-December-2021
Calibration validity	16-September-2025	17-December-2025	16-March-2025	02-December-2026	11-January-2027	30-October-2025	05-December-2026

Mytrah Adarsh Power Private Limited						
Type of meter	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT	Energy Meter / Electronic ABT
Meter Make	Secure Meter Limited	Elster	Elster	EDMI Indian Pvt. Ltd. Chennai	Elster	Secure Meter Limited
Meter Model	Premier 300	A1882RALN s200	A1882RALN s200	EDMI MK6E	A1882RALN s200	Premier 300
Location of meter	Substation 132/33 KV Reddypet	Substation 132/33 KV Chegunta	Substation 132/33 KV Thunki Bollaram	Substation 132/33 KV Tungathurthy	Substation 132/33 KV Guntipally	Substation 132/33 KV Shanigaram
Accuracy of meter	0.2S					
Serial number of meters	Main Meter: TSS04286 Check Meter: TSS04288 Standby: TSS04274	Main Meter: 02838084 Check Meter: 02838080 Standby: 02831527	Main Meter: 2838071 Check Meter: 2838072 Standby: 28380723	Main Meter: HT01161100 Check Meter: HT01161101 Standby: HT01161102	Main Meter: 02832434 Check Meter: 02832435 Standby: 02832436	Main Meter: APX01630 Check Meter: APX01635 Standby: APX01640
Calibration frequency	Once in 5 years					
Calibration Authority	Ganga Calibration Solutions Pvt. Ltd.					
Date of Calibration	15-May-2018	03-May-2018	10-May-2018	22-January-2019	29-March-2018	03-January- 2019
Calibration validity	14-May-2023	02-May-2023	09-May-2023	21-January-2024	28-March-2023	02-January- 2024
New Date of Calibration	10-August-2020	12-May-2021	11-June-2021	22-December- 2020	08-September- 2021	14-February-2022

Calibration validity	09-August-2025	11-May-2026	10-June-2026	21-December-2025	07-September-2026	13-February-2027
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Mytrah Agriya Power Private Limited	
Type of meter	Energy Meter / Electronic ABT
Meter Make	Secure Meter Limited
Meter Model	Apex 150
Location of meter	Substation 132/33 KV Kamareddy
Accuracy of meter	0.2S
Serial number of meters	Main Meter: APZ00439 Check Meter: APZ00440 Standby: APZ00441
Calibration frequency	Once in 5 years
Calibration Authority	Ganga Calibration Solutions Pvt. Ltd.
Date of Calibration	01-October-2018
Calibration validity	30-September-2023
New Date of Calibration	03-Nov-2020
Calibration validity	02-Nov-2025

Mytrah Akaash Power Private Limited	
Type of meter	Energy Meter / Electronic ABT
Meter Make	L & T Ltd.
Meter Model	ER300P
Location of meter	Substation 132/33 KV K.M. Pally
Accuracy of meter	0.2S
Serial number of meters	Main Meter: 17250998

	Check Meter: 17250999 Standby: 17251000
Calibration frequency	Once in 5 years
Calibration Authority	Ganga Calibration Solutions Pvt. Ltd.
Date of Calibration	04-January-2019
Calibration validity	03-January-2024
New Date of Calibration	25-September-2020
Calibration validity	24-September-2025

APPENDIX 2: TRAININIGS-

S.No	Training Topics
1.	Fire Safety
2	Document Management
3	Earth pit maintenance & Required to maintain good each value
4	Electrical Safeties
5	National Road Safety week
6	Road Accident
7	Traffic Management
8	SOP visuals
9	Training on Emergency management
10	Inverter maintenance and safety at work place

