BUNDLED SOLAR POWER PROJECT BY D.J. MALPANI AND GIRIRAJ ENTERPRISES

Document Prepared by **VKU Certification Pvt. Ltd.**

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Summary:

M/s VKU Certification Pvt. Ltd. (hereafter referred as VKU) was commissioned by M/s EKI Energy Services Limited, has verified the greenhouse gas emission reductions reported for the project activity "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" (VCS ID 1670[1]) in India, covering monitoring period from 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates) with regard to the relevant requirements for VCS activities. The project activity entails the installation of solar power projects in Tamil Nadu and Telengana, two different Indian states. The project's total installed capacity is 56.25 MWac This is a bundled project which employs solar energy to generate electricity and then distributes that electricity to the state grid. The power produced is exported to the regional grid network, which is a subset of UNIFIED INDIAN grid.

This project activity is a greenfield project, meaning that there were no renewable energy-based electricity generation facilities at each site of the bundled project, and the equivalent amount of electricity would have been provided by a grid that was dominated by fossil fuels. This project activity significantly reduces GHG emissions by substituting solar (clean energy) energy for fossil fuels-based electricity.

The objective of the verification is to have an independent review ex-post determination of the monitored reductions in GHG emission reductions, Verification was conducted using VKU's procedures in line with the requirements specified in the VCS program guide version 4.2/4/, VCS standard Version 4.3/5/, VCS validation and verification manual version 3.2/6/, CDM M&P, the latest version of the CDM Validation and Verification Standard/7/, and relevant decisions of the COP/MOP and the CDM

[1] https://registry.verra.org/app/projectDetail/VCS/1670

EB and applying standard auditing techniques. The verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification.

The verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable VCS / CDM requirements in order to be certified.

The GHG emission reductions were calculated on the basis of the ACM0002 "Grid-connected electricity generation from renewable sources" (Version 17.0)/9/ and the monitoring plan included in the registered Joint VCS PD-MR (version 02) dated 27-March-2017/3/.

During this verification, 05 Corrective Action Request (CAR) and 02 Clarification Requests (CLs) were identified related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology, and these CARs and CLs are successfully closed after necessary corrections/clarifications by the client. The same has been discussed in Appendix B of this verification report.

In conclusion, it is VKU's opinion that the project activity "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" (VCS ID 1670) in Telangana and Tamil Nadu state of India meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology ACM0002 "Grid-connected electricity generation from renewable sources" (Version 17.0)/9/. The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the monitoring period from 01-July-2021 to 31-March-2022 (inclusive of both start and end dates) and under the first crediting period (31-March-2015 to 30-March-2025) amount to 71,267 tCO2e

CONTENT

1 INTRODUCTION

1.1 Objective

M/s EKI Energy Services Limited Commissioned M/s VKU Certification to carry out verification of the project "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" (VCS ID 1670) project in India for the period from 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates).

This report details the findings of the project's verification, which was carried out in accordance with the VCS Requirements, UNFCCC CDM requirements, as well as guidelines for assuring uniform project operations, monitoring, and reporting.

The objective of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS program guide Version 4.2/4/, VCS standard version 4.3/5/ and GHG program applied, on the basis of the registered project design document.

This is the seventh verification of first crediting period. The verification is for a period of nine months i. e. from 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates) that comes under first crediting period[2] from 31-March-2015 to 30-March-2025). The objectives of this verification exercise are, by review of objective evidence, to establish that:

- All structural characteristics (technology, project equipment, monitoring and metering equipment) of the project are in place, and the project activity has been carried out and operated in accordance with the registered Joint VCS PD-MR /3/;
- The monitoring report/1/ and other supporting documents are complete; the data is collected and preserved in accordance with the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting, and to establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation

[2] The first crediting period for the project activity is from 31-March-2015 to 30-March-2025. The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times (As per registered Joint VCS PD-MR, version 02, dated 27-March-2017).

1.2 Scope and Criteria

The verification scope is:

- to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- to evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- to verify that reported GHG emission data is sufficiently supported by evidence.

The project is evaluated in accordance with the requirements of the VCS standard version 4.3/5/, the VCS programme guide version 4.2/4/, the VCS validation and verification manual version 3.2/6/, as well as any applicable regulations and guidelines. VKU has used a rule-based approach (as criteria) in the verification, concentrating on the identification of critical reporting rules and the dependability of project monitoring, based on the recommendations in the most recent versions of the CDM Validation and Verification Standard Version 3.0 /7/ and VCS Validation and Verification Manual Version 3.2/6/.

Verification is not intended to provide project proponents any consulting. But indicated requests for clarifications and/or corrective actions might have offered suggestions for enhancing the monitoring.

1.3 Level of Assurance

Before being delivered to the client, every version of the verification report underwent an independent internal technical review to ensure that all verification operations had been carried out in conformance with the relevant VKU's procedure and with a **reasonable level of assurance**.

A technical reviewer (or reviewers) qualified in accordance with VKU's qualification procedure conducted the technical review. The following individuals are part of the verification team and technical reviewer:

Role/Qualification	Last Name	First Name
VCS Team Leader, VCS Verifier	Ahirwar	Vivek Kumar
Technical Expert (TA 1.2, Solar)	Ahirwar	Vivek Kumar
Technical Reviewer & Technical Expert (TA 1.2, Solar)	Kumar	Sanjay

1.4 Summary Description of the Project

The project activity involves electricity generation by renewable source (solar energy) and supplying the generated electricity to the state grid system which is under the purview of the Unified Indian Electricity Grid of India. This is a greenfield project activity i. e. there was no renewable energy-based electricity generation facility in each site of this bundled project and equivalent amount of electricity would have been supplied by fossil-fuel dominated grid – which is pre-project scenario as well as baseline scenario for this project activity. The project activity ensures the reduction of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

The project activity is grid-connected solar energy generation located at Hoti village of Medak district in Telangana state of India and Sengottai village of Virudhunagar district in Tamil Nadu state of India. M/s. D. J. Malpani and Giriraj Enterprises are the Project Proponents of the project activity respectively. The total capacity of the project activity is 56.25 MW. **The project plant was commissioned on 31-March-2015 and 23-September-2015 for Telangana and Tamil Nadu location respectively** and is functioning successfully since then and dates are verified against registered Joint VCS PD-MR/3/ and commissioning certificates/15/

Project Investors	Project	Project Capacity in AC	Date of commissioning	Project location	State
M/s. D. J. Malpani	Solar	16.25 MW	31-March-2015	Village- Hoti Tehsil- Zaheerabad Mandal, District- Medak	Telangana
Giriraj Enterprises	Solar	40 MW	23-September-2015	Village- Sengottai, Tehsil- Virudhunagar, District- Virudhunagar	Tamil Nadu

Start date of this bundled project activity is 31-March-2015

As per MR/1/, the electricity generated from the project is supplied to the state grid system which is under the purview of the Unified Indian Grid which is confirmed from registered Joint VCS PD-

MR, version 02, dated 27-March-2017/3/ Joint Meter Readings issued by State electricity Board/12/ and, last verification report/21/ and interview with PP/28/.

This information was verified during on site assessment and found to be in line with the details provided in the registered Joint VCS PD-MR /3/. The total emission reductions achieved in this monitoring period i. e. from of 01-July-2021 to 31-March-2022 (first and last days included) is 71,267 tCO2e. The net electricity generated by the bundled project activity that was evacuated to the grid during the current monitoring period (7th monitoring period) of 01-July-2021 to 31-March-2022 (inclusive of both the dates) is 72,893 MWh.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i. e. VCS Program Guide version 4.2/4/, VCS standard document version 4.3/5/. The GHG emission reductions are on the basis of the approved Baseline and **monitoring methodology ACM0002, "Grid-connected electricity generation from renewable sources" (version 17.0)/9/**

Scope: 01 Energy Industries (renewable- and non-renewable sources) Title: "Grid Connected Renewable Electricity Generation" (version 17) /11/.

During onsite visit/23/ verification team **reviewed 100% data for all the PV Modules** involved in this project at site **and hence no sampling is involved.**

The verification consisted of the following three phases

- Document review;
- On-site assessment including Interviews and actual project scenario;
- Resolution of any Material Discrepancy and the issuance of the final verification report and certification.

The following sections outline each step in more detail.

2.2 Document Review

The monitoring report (MR) version 01 of 13-May-2022, version 02 of 15-September-2022 /, version 03 of 12-October-2022, Version 04 of 03-November-2022 & Version 05 of 15-November-2022 the emission reduction calculations spreadsheet version 1.0 of 13-May-2022, version 2.0 of 15-September-2022, version 03 of 12-October-2022 /2/, were assessed as part of the verification. In addition, registered Joint VCS PD-MR/5/ in particular the baseline estimations

and the monitoring plan for the project was reviewed. The following table lists the documentation that was reviewed during the verification.

/1/	EKI: VCS monitoring report for "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises", Version 01 of 13-May-2022 and version 02 of 15-September-2022, and version 03 of 12-October-2022, version 04 of 03-November-2022 2022 & Version 05 of 15-November-2022
/2/	EKI: Emission Reduction Calculation Spreadsheet, Version 01 of 13-05-2022, Version 02 of 15-09-2022, Version 03 of 12-October-2022
/3/	EKI: registered Joint VCS PD-MR for the project 'Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises' version 2.0 of 27-March-2017
/4/	VCS: VCS Program Guide, version 4.2 of 22-June-2022
/5/	VCS: VCS Standard, version 4.3 of 22-June-2022
/6/	VCS Validation and verification manual version 3.2 dated 19-October-2016
/7/	CDM Validation and Verification Standard version 3.0 dated 09-September-2021
/8/	VCS: Monitoring report Template VCS Version 4.1 of 20-January-2022
/9/	CDM Executive Board: Baseline and Monitoring Methodology Baseline and monitoring methodology ACM0002", "Grid-connected electricity generation from renewable sources" (version 17.0)
/10/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/11/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/12/	Monthly JMR issued by TANGEDCO& TSTRANSCO for the current verification period.
/13/	Certificates of Calibration for all the meters belonging to project activity
/14/	Invoice issued by PP to TANGEDCO (Tamil Nadu Generation and Distribution Cooperation Limited) for Tamil Nadu and TSPCC (Telangana State Power Coordination Committee) & TSTRANSCO (Transmission Corporation of Telangana) for Telangana
/15/	Commissioning certificate of the project activity issued by state electricity authority
/16/	Power Purchase Agreements signed between Project Proponent and state electricity authority M/s. Giriraj Enterprises and TANGEDCO (Tamil Nadu Generation and Distribution Cooperation Limited) for Tamil Nadu (40 MW Solar Power Plant Project Activity by Giriraj Enterprises at Village- Sengottai, Tehsil- Virudhunagar, District- Virudhunagar State- Tamil Nadu) dated 12-September-2014 M/s. D.J. Malpani and Southern Power Distribution Company of Telangana Limited For Telangana (16.25 MW Solar Power Plant Project Activity by D J Malpani at Village- Hoti

	Tehsil Zaheerabad Mandal, District- Medak, State- Telangana) dated 23-December-2014
/17/	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period
18/	Monthly generation reports issued by O&M contractor
/19/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I
/20/	Carbon check Private Ltd: Joint Validation & Verification report "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" of 30-March-2017 https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=44611&IDKEY=j98klasmf8jflkasf8098afnasfkj98f0a9sfsakjflsakjf8da61518569
/21/	Previous VCS Verification Report monitoring period: 01-January-2021 to 30-June-2021 (Includes both first and last days) https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=56221&IDKEY=f98klasmf8jflkasf8098afnasfkj98f0a9sfsakjflsakjf8d077528759
/22/	VERRA: https://registry.verra.org/app/project Detail/VCS/1670
/23/	Site visit photographs and attendance sheet dated 1-July-2022 for Tamil Nadu and 02-July-2022 for Telangana
/24/	Breakdown details of Tamil Nadu and Telangana Sites
/25/	Technical Specifications
/26/	Grievance Registers present on-site
/27/	GPS Google software used for Location
/28/	Onsite personnel interviews/Visit
/29/	REC website Renewable Energy Certificate Registry of INDIA (Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in)
/30/	EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf

2.3 Interviews

An on-site inspection has been performed by the assessment team. However, the representatives of the PP and O&M contractors were interviewed personally by assessment team on **01-July-2022 for Tamil Nadu site and 02-July-2022 for Telangana site**i. e. personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed are mentioned in the table below.

For TamilNadu site:

S. No.	Name	Designation	Topic

1	Karunaraja S	Senior Engineer	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC
2	S Sudalayendy	Engineer	
3	M.Thangapanda	Engineer	
4	N. Ganapathi	Engineer	Data archiving, breakdown details and maintenance of generation records
5	E.Makern (Suplapuram)	Junior Engineer	Data recording, management and archiving procedure
6	L. Vellaichamy (Aruppukttai)	Assistant Manager	Data management and archiving procedure

For Telangana Site:

S. No.	Name	Designation	Topic
1	Bandev.K	Enrich Solar Services Pvt Ltd, Assistant Manager	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC
2	Ramakant Kulkarni	Enrich Solar Services Pvt Ltd, DY Manager	
3	Naga Malleswara Rao	Senior engineer	Project Implementation, data management, recording, monitoring and archiving.
4	B.Venkntram	Engineer	Data archiving, breakdown details and maintenance of generation records
5	Hanmanth	Engineer	
6	P. Nassimulu	Engineer	
8	Isak Burdipad	Supervisor	Management practices, data storage, QA/QC

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording and archiving procedures. The assessment was drawn based on the feedback received during telephonic interview coupled with the documentation.

For Tamil Nadu Site

S. No.	Name	Category	Topic of Discussion
1	P Manojkumar (Senkulam)	Local Stakeholder	Implementation of Project activity and its impact on the economic, social and environmental parameters around the located project activity and on the local people of the area. The ongoing communication procedure and the address of their grievance by the project proponent The employment generation due to project activity implementation
3	Sureshprabhu	Local Stakeholder	
4	K Iyyannar	Local Stakeholder	
5	P Soundapandi (Sengottai)	Local Stakeholder	
6	K Saktivel (Koilkarapatti)	Local Stakeholder	

FFor Telangana SiteFor Telangana Site

S. No.	Name	Category	Topic of Discussion
1	R Ishwar	Local Stakeholder	Implementation of Project activity and its impact on the economic, social and environmental parameters around the located project activity and on the local people of the area. The ongoing communication procedure and the address of their grievance by the project proponent
2	Habeeb	Local Stakeholder	
3	Rakash	Local Stakeholder	
4	M Srinivas	Local Stakeholder	

5	B Jattapp	Local Stakeholder	The employment generation due to project activity implementation

During the on-site stakeholder consultation interview, there were no critical comments received. More information is provided in section 4.2.2 below.

2.4 Site Inspections

Site Location visited:

An On-site visit was undertaken by the verification team to the project location identified in the MR at Hoti village of Medak district of Telangana state in India on 02-July-2022 and Sengottai village of Virudhunagar district of Tamil Nadu on 1-July-2022 to carry out the following;

a. A review of the operation and implementation of the registered project activity in accordance with the Joint VCS PD-MR/3 and VCS MR/1/approved documents;
b. An analysis of the information flows used to generate, aggregating and reporting the monitoring parameters;
c. Interviews/28/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered Joint VCS PD-MR /3/
d. A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;
e. A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PD-MR, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
f. A review of calculations and assumptions made in determining the GHG data and emission reductions;
g. An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

A corrective action request (CAR) is raised if one of the following occurs:

- If monitoring and reporting reveal non-conformities with the monitoring plan or methodology, or if the evidence offered to demonstrate conformity is insufficient;
- Errors in the application of assumptions, data, or calculations of emission reductions have been made, which will affect the estimate of emission reductions;
- The project's proponent has not addressed issues encountered in a FAR during validation to be assessed during verification.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

In summary, **02 CL and 05 CARs** were raised during this verification which were closed successfully and details are given under Appendix B of this report.

2.5.1 Forward Action Requests

This is 7th periodic verification of the project activity and no FAR was raised from validation /20/ and previous verification /21/.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as a part of the verification and does not hold holds the accreditation for Validation of projects under this or any relevant Sectoral Scope. Hence this section is not applicable for present verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is neither registered nor seeking registration under any GHG program and it is only registered under VCS with project ID: 1670[3].. Assessment Team has verified the same from Verra Registry and similar exercise was performed for CDM/GS/GCC/UCR registries with similar project title/capacity and Project Proponents but the assessment team was not able to trace any such project registered under any of the above stated registries or under any other similar mechanisms.. This was further confirmed through a declaration/17/ submitted by the PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program thus ensuring emission reduction generated from the project activity for current monitoring period (01-July-2021 to 31-March-2022) will not be double counted hence accepted by the assessment team Audit team also checked the REC Mechanism database of India and found that the project activity is not accredited / registered under REC mechanism of India which was also verified from the REC website (Renewable Energy Certificate Registry of India) (Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in) /29/ Further, declaration/17/ for the same is submitted by the PP which was examined by the assessment team and was found correct. Later assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

[3] https://registry.verra.org/app/projectDetail/VCS/1670

1. https://www.recregistryindia.nic.in/

2. http://cdm.unfccc.int/

3. http://www.goldstandard.org/

4. https://verra.org/verra-standards-and-programs/.

5.https://www.ucarbonregistry.io/

6. https://projects.globalcarboncouncil.com/

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/17/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries. The details of the registries checked are as follows:

1. https://www.recregistryindia.nic.in/

2. http://cdm.unfccc.int/

3. http://www.goldstandard.org/

4. https://verra.org/verra-standards-and-programs/

5.https://www.ucarbonregistry.io/

6. https://projects.globalcarboncouncil.com/

3.2 Methodology Deviations

During the current monitoring period, no methodology deviation was observed and even during the previous verification /21/, no methodology deviations were observed

3.3 Project Description Deviations

There is no project description deviation applied during the current monitoring period. No deviation was involved in previous verification as well /21/. The assessment team confirms the same by checking the project website[4]

[4] [4]https://registry.verra.org/app/projectDetail/VCS/1670

3.4 Grouped Project

This is not a grouped project. Therefore, this section is Not Applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with PP representative, it was concluded that the project is implemented as per the requirement of the registered Joint VCS PD-MR/3/ and approved monitoring plan. During the current monitoring period, it was observed **through breakdown log sheet records/24/** also mentioned in section 03 and Appendix section of monitoring report/1/ present on site where it was verified that no unforeseen incident/event evolved which can impact the operation of the project activity. The project underwent continuous operation and only scheduled maintenance as per the manufactures specification which is acceptable to the assessment team as verified during the interview with PP personnel/28/ Senior engineers/Junior engineer/Assistant manager present at site during onsite visit. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

During the current monitoring period, all the solar power plants were operational and the project activity has supplied 72,893 MWh of electricity, and thus contributing to 71,267 tCO2e GHG reductions.

S.No.	Plant Site	Net Operational Hours	Breakdown hours
1.	M/s. D.J. Malpani, Telangana	3562 hours	7 hours 20 minutes (0.21% of operational hours)
2.	Giriraj Enterprises, Tamil Nadu	3091.75 hours	76 hours 25 minutes (2.47% of operational hours)

Plant Breakdown has occurred during the current monitoring period. The breakdown information is listed in Appendix 1 of the monitoring report /1/. The overall breakdown length is computed as 76 hours 25 minutes for the Tamil Nadu site and 7 hours 20 minutes for the Telangana site. Consequently, there have been no substantial repercussions of plant breakdown on the project activity's reduction of GHG emissions or the project activity's monitoring method. Reasons for breakdown include String cable failure, GFD Trip, Inverter checking, Inverter communication disturbed, PV I-V Curve Test,Force Majeure, power Transformer tripping.

Project location is confirmed by the assessment team through the GPS Google software/27/. Moreover, assessment team confirms that the latitudes and longitudes as mentioned in the registered Joint VCS PD-MR/3/ are correct. The latitudes and longitudes of project activity are confirmed below:

S. No.	Project Owner	Capacity	District	State	Latitude (N)	Longitude (E)
1	M/s. D. J. Malpani	16.25 MW	Medak	Telangana	17°39'21.08" N	77°33'24.55" E
2	Giriraj Enterprises	40 MW	Virudhu nagar	Tamil Nadu	9°38'8.03" N	77°51'16.17" E

Starting Assessment team checked the commissioning certificate/15/ and confirmed that the Dates of Commission for the Project are correct. Assessment team also confirm during the onsite audit/23/ that there is no change in project design viz., capacity of the solar panels remained the same and the project is implemented as per the description provided in the registered Joint VCS PD-MR/3/.This has been further verified from the Validation report/20/ and previous verification report /21/. Commissioning dates for project activity are given below:

S. No.	Project Owner	Capacity	Date of Commissioning	Village	Taluka	District	State
1	M/s D.J. Malpa ni	16.25 MW	31-March-2015	Hoti	Zaheerab ad Mandal	Medak	Telanga na
2	Giriraj Enterp rises	40 MW	23-September-2015	Sengottai	Virudhun agar	Virudhuna gar	Tamil Nadu

The Technical parameters have been verified with the name plates as well as with the technical specifications of Solar Panels and also cross checked from the technical manual of the Manufacturers/25/. Assessment team confirms that the technical parameters are consistent with the registered Joint VCS PD-MR/3/. The major technical specifications of the project activity are as follows:

The technical Specifications for 16.25 MW project activity is as below:

CSUN 255-60P- Polycrystalline Solar PV modules

Capacity DC – 17.92854 (70308 No of Modules, 255Watt capacity)

AC output capacity – 16.25 MW

The maximum loading allowed as per the state utility's PPA is 16.25 MW/16/

Inverter – ABB make, PVS800-57-1000KW-C

The technical Specifications for 40 MW project activity is as below:

Canadian Solar PV Modules, 315 Wp (CS6X-315P),

Capacity DC – 49.565280 (Total Modules (87024 + 72864 = 159,888) of 315 Watt capacity)

AC output capacity – 40 MW

The maximum loading allowed as per the state utility's PPA is 40 MW/16/

Please note that for both sites the invertor capacity is 1000 kW. On multiplying 1000KW with the no. of invertors i.e. for TN site 1000 x 40 = 40 MW and for TG site 1000 kW x 16 = 16 MW which matches the total installed capacity of the solar plant. This was verified during an onsite visit/28/

The assessment team confirmed through onsite visit/28/ with PP representative that there is no proposed or actual change to the project design during this monitoring period. It was observed that the monitoring plan was implemented as per the registered Joint VCS PD-MR/3/ and applied methodology ACM0002, Version 17.0/9/. The organizational role and responsibility as mentioned in the registered Joint VCS PD-MR/3/ is followed onsite. Meters are calibrated as per calibration frequency in registered Joint VCS PD-MR/3/. All the emergency preparedness as mentioned inMR/1/ are followed onsite and no discrepancies were found regarding the same.

Assessment team concludes the following:

a) There are no material discrepancies between project implementation and the project description provided in the registered Joint VCS PD-MR /3/.
b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.
c) There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/9/.
d) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/17/.

e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification/17/

f) The project is registered under VCS only, however PP has submitted the declaration stating/17/, they will not claim same GHG emission reductions of the project from any other GHG program for the current monitoring period when project is seeking to get GHG emission reduction from VCS. Audit team also checked the REC mechanism which was verified from the REC website Renewable Energy Certificate Registry of India (Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in))/31/

g) The project activity complies with indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR. In which SDG indicator taken by PP are;

- **7.2 i.e. (Renewable energy share in the total final energy consumption)** As a part of this project activity lifetime, 657,784.03 MWh renewable electricity has been supplied to Indian grid that helps to strengthen the renewable energy share in the energy mix. VVB has referred previous verification reports and thus found the above claimed renewable electricity supplied to Indian grid correct which have also been verified during previous verifications.
- **13.0 i.e. (**Take urgent action to combat climate change and its impacts) Due to installation of this project activity PP has prevented the release 643,101 tCO_{2e} into the atmosphere. Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region

Apart from that the Contribution to sustainable development the project activity has contributed to are: Economic, social, environmental, and technological well-being are the four criteria for sustainable development, according to the Ministry of Environment and Forests. The following are some ways that the project supports sustainable development.

Social well-being: During the construction and operation phases, the project contributed to providing employment opportunities. The project activities resulted in the improvement of local infrastructure.

Economic progress: Without the advantages of VCS, the project would not have been a clean technology investment in the area.

Technological advancement: A project's successful completion will boost solar-based power generation and inspire other business owners to launch similar initiatives.

Environmental protection: Solar energy, which is a renewable source of power, eliminates reliance on fossil fuels and conserves limited resources. Because the project activity produces zero emissions, it also contributes to reducing the quantity of GHG emissions as well as specific pollutants like SOx, NOx, and SPM that are produced by traditional thermal power generation facilities.

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the project description, All the above stated information was verified by VVB during onsite visit and site personnel interviews /28/

4.2 Safeguards

4.2.1 No Net Harm

Due to the project's use of renewable solar energy, there are no adverse socioeconomic or environmental effects. In fact, project activity benefits the area by promoting sustainable development through the provision of environmentally friendly power. Additionally, the generation of jobs aids in improving the socioeconomic standing of the region. As per the EIA notification dated 14-September-2006, the solar power projects are exempted from environmental clearance. Hence, Environmental impact assessment is not required for this project activity.

Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th-May-2011, has re-affirmed this and exempted solar power plants from EIA and Environmental Consent requirement. Hence verification team confirms that 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. Hence verification team confirms that 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.

Additionally, PP highlighted in MR/1/ that there was no influence on the area's air, water, or ecology during the project's operational and maintenance phases. The project activity helps to strengthen the region's skilled and unskilled labour force, as PP also emphasised in MR /1/. The project created job opportunities both during construction and for the duration of operation. This was confirmed during an on-site interview /30/ and has improved socio-economic impacts in the project region. The project activity increases the employment rate and standard of living for local residents nearby. As a result, the project activity has not caused any net harm.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered Joint VCS PD-MR/3/; sections 2.2 describe the Local Stakeholder Consultation Process as in-line with VCS requirement.

There were no additional significant objections or comments made by the stakeholders as part of ongoing feedback, and they were completely in favour of establishing these kinds of projects in the area.

In order to facilitate continuous engagement, the PP has also set up a grievance register/26/onsite, wherein the stakeholder may submit his or her complaint; should it be deemed to be valid; the matter will be handled right away. However, being a renewable solar

energy project, there hasn't been any comments or complaints received throughout this monitoring period, which can be confirmed on-site from the complaint register set up at the site.

The verification team has interacted with local stakeholders during on-site assessment and details are summarized in section 2.3 of this report. There was no negative comment or feedback from local stakeholders as recorded by the verification team.

4.3 AFOLU-Specific Safeguards

As the project comes under the category of NON-AFOLU projects therefore this section does not apply for this verification. Hence Not Applicable

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered Joint VCS PD-MR /3/ and the monitoring report/1/. The monitoring plan laid in the registered Joint VCS PD-MR/3/ is being followed at the site/23/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/. The emission reductions are purely based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. the verification of each monitoring parameter has been discussed later in section 4.5.

The project activity is expected to reduce emissions by 69,830 tCO2e for the present monitoring period, whereas the actual emission reductions were 71,267 tCO2e. The actual emission reductions made were 2% higher than what was anticipated. The higher PLF or higher electricity generation is chiefly responsible for this. The generation of electricity depends upon the number of annual days of sunshine availability and many other climatic conditions, which are not within the control of the project participant. Therefore, it is acceptable if there has been a higher generation during the current verification time because of certain natural circumstances.

The assessment team further performed the analysis of the achieved PLF against the ex ante PLF and also the difference in PLF between the two. Further this was plotted in a graph and represented.

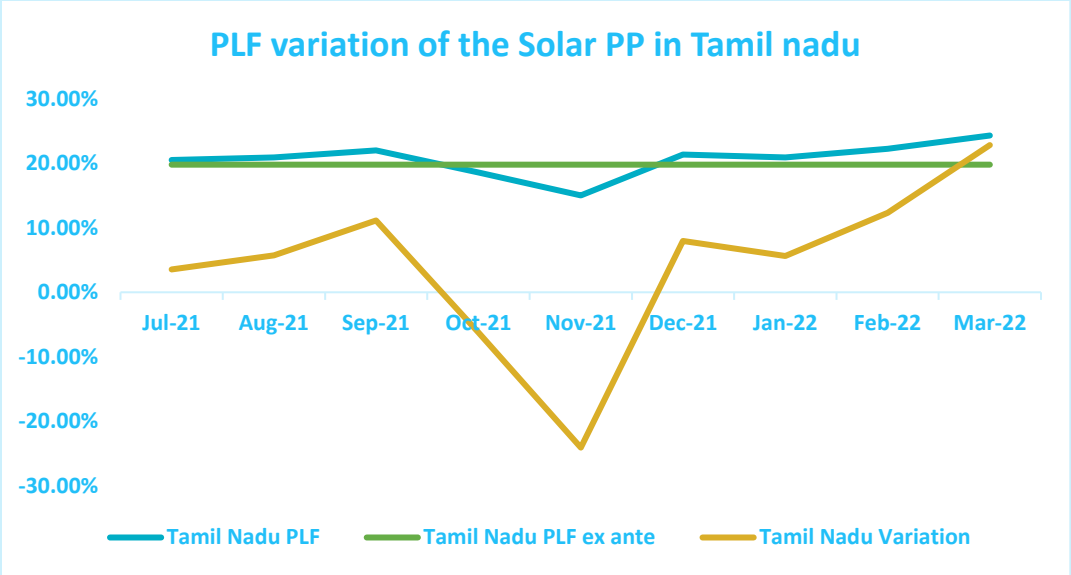
It can be seen that the net variation % has been positive for the site in Tamil nadu at +4.32% while it is negative for Telangana at -3.95%. So it can be seen that the PLF which is a function of the solar irradiation is fluctuating for different months with respect to ex ante PLF. However the net effect of the variation of PLF throughout the monitoring period is within +/- 5% from the ex ante PLF.

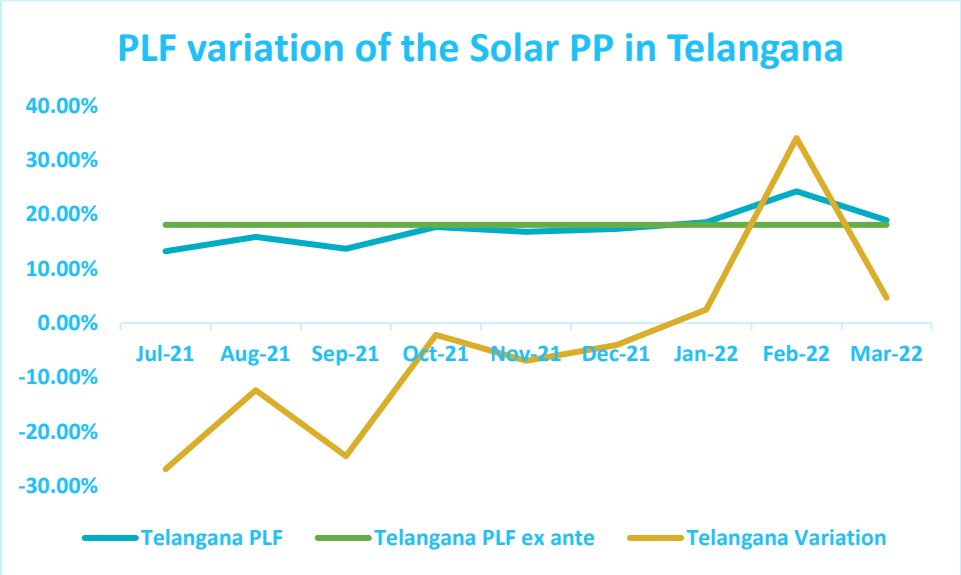
Variation of PLF in Tamil nadu from ex-ante estimation

Month	PLF	PLF ex ante	Variation
Jul-21	20.50%	19.80%	3.56%
Aug-21	20.94%	19.80%	5.74%
Sep-21	22.01%	19.80%	11.15%
Oct-21	18.56%	19.80%	-6.24%
Nov-21	15.03%	19.80%	-24.10%
Dec-21	21.38%	19.80%	7.97%
Jan-22	20.91%	19.80%	5.61%
Feb-22	22.25%	19.80%	12.35%
Mar-22	24.32%	19.80%	22.84%
Average variation from ex-ante PLF: 4.32%			

Variation of PLF in Telangana from ex-ante estimation

Month	PLF	PLF ex ante	Variation
Jul-21	13.23%	18.10%	-26.88%
Aug-21	15.86%	18.10%	-12.35%
Sep-21	13.67%	18.10%	-24.47%
Oct-21	17.71%	18.10%	-2.14%
Nov-21	16.84%	18.10%	-6.94%
Dec-21	17.37%	18.10%	-4.02%
Jan-22	18.56%	18.10%	2.52%
Feb-22	24.27%	18.10%	34.07%
Mar-22	18.94%	18.10%	4.66%
Average variation from ex-ante PLF: -3.95%			





Furthermore, the additionality of the project is unaffected by higher generation of 2% from the estimated value in registered VCS PD for this monitoring period because sensitivity analysis in PD already showed the impact of +/- 10% variation in PLF in IRR to be less than benchmark and hence acceptable to the VVB. The generation of electricity depends upon the number of annual days of sunshine availability and many other climatic conditions and for solar power plant energy generation is not constant throughout the year, which are not within the control of the project participant.

In section 4,5 of this report and section 5.4 of MR /1/ calculations has been stated. Which can be further compiled in ER/2/ which has been verified by the assessment team from Joint Meter

Readings issued to PP by State Utility i.e. TSTRANSCO for Telangana and TANGEDCO for Tamil Nadu and /14/& invoices issued by PP to state electricity authority (TSTRANSCO and TANGEDCO) respectively/16/ submitted to VVB by PP. Hence VVB verified that the calculation method and formulae used in calculating baseline emission is in compliance with the methodology used i.e., ACM0002 Version 17 /9/. Since project activity is a solar power project, leakage emission and project emission(as there is no fossil fuel based source is used) has been considered as zero.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification and onsite audit, all relevant documents were checked to assess the correctness and quality of data submitted by the project proponents, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

The only monitoring parameter in the project activity is "Quantity of net electricity supplied to the project (Solar) plant/unit to the grid in year y", $EG_{PJ,y}$ (MWh). This parameter is monitored through the reading of bulk energy meters installed.

S.No.	Plant Site	Installed at	Evacuation at
1.	Giriraj Enterprises, Tamil Nadu	Solar Plant End Switch Yard	110kV
2.	M/s D.J. Malpani, Telangana	Substation	33kV

Apportioning

In case of common metering arrangement, the apportioning will be done by state electricity board and PP is getting break up sheet where the energy supplied by project activity to grid is mentioned.

The same break up sheet will be used for invoice purpose. This apportioning process is under control of state electricity board and PP do not have any control on it.

The below tables describe how the parameter EGPJ,y, is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the

monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met:-

<table>
<tr><td>Parameter</td><td colspan="2">Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y, EG PJ, y(MWh)</td></tr>
<tr><td>Means of verification</td><td colspan="2"><table>
<tr><td>Criteria/Requirements</td><td>Assessment/Observation</td></tr>
<tr><td>Measuring /Reading /Recording frequency</td><td>Continuous monitoring, hourly measurement and at least monthly recording for net electricity generation.

The net generated electricity supplied to the grid is determined through SEB energy meter installed at delivery points (i.e. the connected sub-station).

Net electricity generated and supplied by the project (Solar) plant/unit to the grid = Electricity Export to the grid – Electricity Import from the grid.

For Telangana site the feeder is located at not more than 350 m from the solar plant and for Tamil Nadu site there are 8 feeders that are located within 1450 m distance from solar plant. The Solar Plant End Switch Yard at TN site and substation at TG site where metering is done are close to the plant site. Hence no transmission loss is being considered.</td></tr>
</table></td></tr>
</table>

		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered Joint VCS PD-MR /3/ and monitoring methodology/9/. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews with site personnel. /28/
		Monitoring equipment	Make at Giriraj Enterprises, Tamil Nadu: L & T Make at M/s.D.J. Malpani, Telanagana: Elster Rest of the details are same for both the sites: Tri vector meter Data type: Measured Type of meter: Static type meter (Main & Check). Both are Bidirectional meters. Accuracy Class of meter: 0.2s
		Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment is 0.2s, which is as per the registered Joint VCS PD-MR /3/ which is as per the norm defined in the PPA/16/.
		Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range which is per registered Joint VCS PD-MR /3/

	Calibration frequency /interval:	Calibration frequency of the meters is once in 5 years.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is once in 5 years as outlined in the registered Joint VCS PD-MR /3/ is in accordance with the national standards/19/i.e Clause 18 of Central Electricity Authority (Installation and Operation of Meters)[5]. This was also confirmed during interview with onsite personnel /28/, which is in line with VCS Standard version 4.3 /5/ calibrations requirements as well as per the registered monitoring plan
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an NABL accredited Laboratory. by Yathwa Energy Solutions Pvt. Ltd. For Telangana and Measurematic India for Tamil Nadu /13/and calibration of energy meters is under the jurisdiction of state utility as mentioned in Joint PD-MR/3/ and was verified during onsite personnel interviews/28/
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of energy meters is valid for whole reporting period for project activity.
	Is the calibration carried out for a measuring range comparable with the range for which	Yes. As per the calibration certificates, error variation observed is lesser than the error

[5] Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I

		measurements have been carried out?	variation specified. Hence, it is within the measurable range. The calibration is carried out appropriately as per the registered monitoring plan and VCS VVS standards version 4.3/5/
		How were the values in the monitoring report verified?	Cumulative value of EG PJ ,y for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. The monthly values were verified from the invoice /14/ issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 72,893 MWh. (18,565 MWh at Telangana Site+ 54,328 at Tamil Nadu Site)
		If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,y}$ were further cross checked with the monthly invoices raised by the PP /14/ to state utility and found to be consistent.
		Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview/28/ with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.

	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02, CAR#02, CAR#04and CAR#05 was raised and resolved		
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.		

Parameters fixed ex ante:

Parameter	Unit	Description	Value
EFgrid,OM,y	tCO2/MWh	Operating Margin CO2 Emission Factor in year y	0.9941 tCO2/MWh is consistent with the registered Joint VCS PD-MR/3/.
EFgrid,BM,y;	tCO2/MWh	Build Margin CO2 Emission Factor in year y	0.9285 tCO2/MWh is consistent with the registered Joint VCS PD-MR /3/.
EFgrid,CM,y	tCO2/MWh	Combined Margin CO2 Emission Factor in year y	0.9777 tCO2/MWh is consistent with the registered Joint VCS PD-MR /3/.

Calibration of meters/13/: During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate. The installation and working

conditions of the meters were checked during the site inspection and were found to be satisfactory. Details of meters are provided in below table:

Meter and Calibration details for current monitoring period:

40 MW Project Activity by Giriraj Enterprises at Tamil Nadu

Meter Type	Meter Serial Number	Make	Accuracy Class	Calibration Date	Validity
Main Meter	17074037	L & T	0.2s	10-October-2018	09-October-2023
Check Meter	17074077	L & T	0.2s	10- October-2018	09-October-2023

As the calibration frequency of the meter is once in five years, the calibration reports are valid during the current monitoring period and there is no delay in the calibration.

16.25 MW Project Activity by D.J. Malpani at Telangana

Meter Type	Meter Serial Number at plant site	Make	Accuracy Class	Calibration Date	Validity
Main Meter	16351134	Elster	0.2s	11-June-2020	10-June-2025
Check Meter	16538757	Elster	0.2s	11-June-2020	10-June-2025
Standby Meter	02811297	Elster	0.2s	10-September-2020	09-September-2025

The energy meter calibration certificates/13/ are checked and found that the calibration details provided in the MR /1/ are correct. From the verification of above table, verification team also confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-July-2021 to 31-March-2022.

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPA signed by the PP with state utility/16/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of VVS version 3.2./5/

The registered Joint VCS PD-MR/3/ & MR /1/ and site audit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly JMRs issued by the state utility TANGEDCO (Tamil Nadu Generation and Distribution Cooperation Limited) for Tamil Nadu and TSPCC (Telangana State Power Coordination Committee) & TSTRANSCO (Transmission Corporation of Telangana) for Telangana confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations recorded in ER sheet /2/

In view of the above discussion the assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations:

The emission reduction as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

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

Where:

BE_y: Baseline emissions in year y (tCO_2e/yr)
$EG_{PJ,y}$: Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y (MWh/yr)
$EF_{grid,CM,y}$: Combined margin CO_2emission factor for grid connected power generation in year y calculated using the latest version of the"Tool to calculate the emission factor for an electricity system" (tCO_2e/MWh)

Parameter	Unit	Value
EG PJ, y	MWh	72.893.00
EF grid,CM,y	tCO2e	0.9777
BEy	=	72,893.00 * 0.9777
	=	71,267.00 (Round down value)

The verification team attests to the correctness of the formulas and methodologies used to compute baseline emissions. The applied default values, emission factors, and assumptions in the calculations are all reasonable. The verification team attests to the correctness of the formulas and methodologies used to calculate baseline emissions.

The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 2% We as VVB accepted this as this is mainly due to the higher PLF or higher generation of electricity. The generation of electricity depends upon the number of annual days of sunshine availability and many other climatic conditions and for solar power plant energy generation is not constant throughout the year, which are not within the control of the project participant.

The higher generation during the current verification period is hence due to certain natural conditions and hence acceptable as per registered Joint VCS PD-MR/3/.

Furthermore, the additionality of the project is unaffected by higher generation of 2% from the estimated value in registered VCS PD for this monitoring period because sensitivity analysis in PD already showed the impact of PLF of +/- 10% on IRR and it was below the benchmark and hence found appropriate by the VVB. The VVB further states that the verification is done for a period of nine months and 2% higher actual emission reduction achieved during the current monitoring period is due to higher PLF. For a solar project the sunshine availability may not remain constant throughout the year and thus is subject to change.. Hence the 2% actual emission reduction achieved during the current monitoring period neither affects additionality nor there is any deviation from the registered monitoring plan, which was verified by the VVB during onsite visit. A detailed analysis of the variation in the PLF is mentioned in section 3.2 above.

However as mentioned in appendix 2 of the monitoring report/1/, the breakdown that took place during the current monitoring period was for a total of 76 hours 25 minutes for the Tamil Nadu site and 7 hours 20 minutes for the Telangana site. The overall time of the breakdowns is quite short (0.21% in Telangana site and 2.47% in Tamil Nadu of the total operating hours) therefore there is no discernible effect on the emission reductions made during the monitoring period.

The generation of electricity depends upon many other climatic conditions, which are not within the control of the project proponent. The higher generation during the current verification period is due to certain climatic variations due to change in season Hence, it is acceptable to the VVB

All the data were made available and have been monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk that could lead to material errors, omissions or misstatements rating determined by the project proponent for the project activity and no risk was identified in the audit/verification plan hence not applicable.

5 VERIFICATION CONCLUSION

VKU Certification Pvt. Ltd. has performed the 7th verification of the first crediting period (31-March-2015 to 30-March-2025 which is inclusive of both dates) reported for the project activity "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" in India, VCS Registry Project ID 1670, for the period 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates), with regard to the relevant requirements for VCS activities.

The project proponents of the "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" project is responsible for:

a) The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered Joint VCS PD-MR version 2.0 of 27-March-2017/3/.
b) The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project's conformity with the requirements of VCS Standard version 4.3/5/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- The project has been implemented and operated as per the registered Joint VCS PD-MR/3/;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.3/5/ requirements;
- The monitoring is in place as per the applied baseline and monitoring methodology;
- The monitoring plan in the registered Joint VCS PD-MR/3/ is as per the applied baseline and monitoring methodology.

VKU Certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and

explanations that VKU Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 5.0 of 15-November-2022 for the "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" in India for the period 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates) are fairly stated. The GHG emission reductions are calculated on the basis of approved methodology ACM0002 version 17.0 and the monitoring plan included in the registered Joint VCS PD-MR, version 2.0 of 27-March-2017/3/

Hence VKU is able to certify that the emission reduction from the project during the monitoring period 01-July-2021 to 31-March-2022 (Inclusive of both start and end dates) amounts to 71,267 tCO2e.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO2e)	Project emissions or removals (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions or removals (tCO2e)
01-07-2021 to 31-12-2021	45,215	0	0	45,215
01-01-2022 to 31-03-2022	26,052	0	0	26,052
Total	71,267	0	0	71,267

:

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH4	Methane
CL	Clarification Request
CO_2	Carbon dioxide
CO2e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission

PP(s)	Project Proponent(s)
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TANGEDCO	Tamil Nadu Generation and Distribution Cooperation Limited
TSPCC	Telangana State Power Coordination Committee
TSTRANSCO	Transmission Corporation of Telangana) for Telangana
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

.

APPENDIX B: AUDIT FINDINGS

Project Title: Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises (VCS_1670)

CAR: Corrective Action Request=05 Nos

CL: Clarification Request=02 Nos

FAR: Forward Action Request

Type			Date	08-September-2022
CL#01			Reference	Section of Ver protocol:1/DR, 2/DR&4/DR
Description of the Non Conformance				
1. PP is requested to explain the relevance of the statement mentioned in (section 1.5) of MR as nothing can be found below as per the statement. 2. PP is requested to submit a copy of grievance register to verify the stakeholder consultation in section 2.2. 3. PP is requested to specify the Head whose responsibilities are listed in section 4.3. 4. As per the guidelines of VCS MR template Version 4.1, PP is requested to add a Line Diagram to exemplify the process of GHG data collection and management system.				
1stResponse from PP			**Date**	**15-September-2022**
1. The statement has been removed from section 1.5 as the commissioning dates are already mentioned in 1.1 and section 3.1 of MR. 2. Grievance register has been submitted for review. 3. The responsibilities of head of O & M for the Solar Power Project are listed here. 4. Line diagram has been added in section 4.3 of VCS MR.				
1st Assessment by Audit Team	**Status**	**Open/Closed**	**Date**	**24-September-2022**
1. Assessment team has accepted the update in the section 1.5 of MR. 2. It is after verification proved that PP has successfully submitted the Grievance register. 3. Assessment team also verified that responsibilities of O& M have been specified as per registered PD. 4. However the PP is requested to clarify the inconsistency of the Line diagram added in the MR with the registered VCS PD version 2 and also clarify that why the Grid is outside of				

the of the project boundary in MR whereas in registered VCS PD version 2 it is inside of the project boundary.				
2nd Response from PP	**Date**		**29-September-2022**	
Line diagram has been revised in section 4.3 of MR. Revised MR has been provided to VVB				
1st Assessment by Audit Team	**Status**	**Closed**	**Date**	**19-October-2022**
Assessment team accepts the Line diagram added in the MR to justify the project boundary. Hence acceptable to the VVB. **CL#01 closed**				

Type	**Date**	22-November-2022
CL#02	**Reference**	Section of Ver protocol: 01/DR. 02/DR, 03/DR, 04/DR, 05/DR

Description of the Non Conformance

1. PP is requested to provide evidences and supporting proofs about the claims made under each of the section. For example if the project results in generating employment, please quantify and state the number of employment generated and how it benefitted the local population in section 1.11 of MR
2. PP to clarify whether the project activity will increase or decrease the GHG emissions in section 1.11 table 01 (Sustainable Development Contributions)
3. PP to clarify whether the goals under SDG 13.0 is same as stated in section 1.11 table 01 (Sustainable Development Contributions)
4. In Section 2.2 of MR PP is requested to clarify how the grievance mechanism works during the monitoring and how is it managed at site? How does the PP ensure quick or low turn around redressal of issues identified
5. In section 3.1 of MR PP is requested to clarify whether the system of measurement of energy from the solar panels is same in TN and TG? Also clarify whether the evacuation is happening at 11 KV for both the states? Where is the measuring meters installed ie., is it at the solar power plant yard or at the substation maintained by the state utility?
6. In section 3.1 of MR
   - 6.1 PP is requested to provide a SLD or block diagram to represent the metering points and the energy generation flow as per the description given here
   - 6.2 PP is requested to clarify whether the installation at site is parallel or series or a combination of both?
   - 6.3 PP has not stated on the mechanism available at site towards measurement of energy from the plant
   - 6.4 Is this the operational lifetime of the modules? Or inverters? Or Transformers? Please clarify?
   - 6.5 Please mention the units?
   - 6.6 Correct the typo error of Modules
   - 6.7 Please mention the AC output?
   - 6.8 Please mention the units?
   - 6.9 What is the DC to AC loading rate allowed by the state utility board or agency?
   - 6.10 Please mention the number of inverters and the converters?

6.11 Approximate distance for each of the feeder from the solar power plants
6.12 PP is requested to clarify whether this breakdown times have affected the normal operation of the plant and is it consistent with the regular operation of the plant. PP may provide normal operation hours in a year, PLF achieved per month for the assessment to cross check the claims of breakdown not affecting the operation of the plant

7. In section 3.2.2 PP is requested to clarify on the cleaning of the solar panels and how is it operationalised in the plant. If a fossil fuel-based machine is used for cleaning the panels done in order to increase efficiency, then are emissions from the machine taken into account towards ER calculation? If not, please clarify how it is not a deviation as per section 3.19 of the VCS v4.3
8. In section 4.2 of MR PP is requested to clarify why the transmission loss is not taken into account while estimating the net energy supplied to the grid.
9. The line diagram although representative is still generic and does not reflect the actual operation at site viz., TN and TG. PP is requested to provide SLD with proper labelling of the components in the SLD in section 4.3 of MR
10. Fossil fuel operated machine is used towards cleaning of the solar panels. Please clarify whether it is a significant and hence material emission source? Also state why it is not included as PE of the project activity in section 5.2 of MR.

1st Response from PP	Date	13 December-2022

1. The project has resulted in the generation of employment. Total no. of person employed during the monitoring period are 16 of which 8 were employed at TN and 8 at TG site. The project Owner is providing regular safety training to their workers about the accident hazards and risk related to specific works and preventive measures for avoiding accidents at site along with skill development trainings as well. The training attendance has been submitted to the VVB as a proof for the employment generated as well as trainings conducted.
2. The project activity will decrease the GHG emissions, the necessary correction has been done.
3. The goal under SDG 13.0 has been updated.
4. The PP has kept a grievance register at the plant site office where-in, the stakeholders including local community, government agencies and NGOs can put down their complaint and the same if found genuine are addressed. The grievances firstly are checked by the site-in-charge and is then forwarded to the manager after which it is communicated to the project owner who takes the necessary steps for the redressal of issues.
5. The system of measurement of energy from the solar panels is similar in TN and TG. The evacuation for TG site is happening at 33 kV while for Tamil Nadu it is happening at 110kV and the necessary correction has been made in the MR. For TN site the meters are installed at Solar Plant End Switch Yard while for the TG site meters are at the substation maintained by the state utility.
6. In section 3.1 of MR
   6.1 The SLD of the project activity representing the metering points have been updated in section 4.3 of the MR.
   6.2 The installation at the site is a combination of both series and parallel connection. Solar panels are first wired in series to increase the voltage and then these series connected strings are connected in parallel to increase the amperage of system to get the required output.
   6.3 The energy meters are installed at each site, for Tamil Nadu site the meters are installed at Solar Plant End Switch Yard while for the Telangana site meters are at the substation maintained by the state utility for the measurement of electricity generated.
   6.4 The operational lifetime for PV module is 25 years for both sites. For TN site lifetime of inverters is 20 Years and transformer is 20 Years and for Telangana site the lifetime of Inverters and Transformer is 25 years.
   6.5 The unit has been mentioned.
   6.6 The correction has been done.
   6.7 The AC output has been mentioned.

6.8 The unit has been mentioned.
6.9 For Tamil Nadu site the DC to AC loading rate is 50 MWp to 40 MWac as mentioned in the O&M agreement while for Telangana site it is 17.9 MWdc to 16.25 MWac as mentioned in the commissioning certificate.
6.10 At Telangana site total 16 inverters and for Tamil Nadu site 40 Inverters are present. There is no converter present at the site. The details have been updated.
6.11 For Telangana site the feeder is located at not more than 350 m from the solar plant and for Tamil Nadu site there are 8 feeders that are located within 1450 m distance from solar plant.
6.12 This breakdown is consistent with the regular operation of plant and does not affect the normal operation. The solar power plant during the monitoring period of 01-July-2021 to 31-March-2022 was operational for 3562 hours for Telangana site and 3091.75 hours for Tamil Nadu site, per month PLF data excel sheet has been submitted to VVB for review.

7. The cleaning of solar panels is being done manually and no fossil fuel based machine is being used for cleaning the panels. Hence, emissions from the machine are not taken into account towards ER calculation.
8. The Solar Plant End Switch Yard at TN site and substation at TG site where metering is done are close to the plant site. Hence no transmission loss is being considered.
9. The SLDs with proper labelling have been added in the MR.
10. The cleaning of solar panels is being done manually and no fossil fuel based machine is being used for cleaning the panels. Hence, emissions from the machine are not taken into account towards ER calculation.

1st Assessment by Audit Team	Status	~~Open/~~Closed	Date	28-December-2022

1. Assessment team confirms that PP has submitted justification regarding employment generation due to the implementation of the project activity during current monitoring period.
2. Assessment team confirms that PP has confirmed that project activity has resulted in decrease of GHG emissions and has submitted evidences to support the claim.
3. Assessment team confirms that PP has updated the SDG Goal 13
4. PP has justified the grievance mechanism in the MR which was confirmed by TL on site and thus acceptable to the VVB
5. Assessment team verifies the system of measurement of energy from the solar panels for both the sites as mentioned by PP.
6. Assessment team confirms that PP ha specified the SLD and technical specification of the modules/inverters/transformers for both the sites which is acceptable to the VVB.
7. Assessment team conforms that PP has mentioned the cleaning mechanism of the solar panels and its operation in the plant.

Hence CL#02 closed

Type	Date	08-September-2022

CAR#01	Reference	Section of Ver protocol:1/DR,
Description of the Non Conformance		
PP is requested to mention the unit along with the value of electricity generated(section 1.1) PP is requested to explain why Madhya Pradesh has been highlighted in the geographical map when the project activity is located in the Telangana and Tamil Nadu state of India. Please correct accordingly. PP is requested to update the value of longitude for Sengottai village (Tamil Nadu) as it is found inconsistent with the Joint VCS PD-MR version 2		
1st Response from PP	**Date**	**15-September-2022**
The unit has been updated along with the value in section 1.1 of MR. The map has been corrected and relevant locations have been highlighted. The longitude value has been updated in line with VCS PD-MR version 2		

1st Assessment by Audit Team	Status	Closed	Date	24-September-2022
Assessment Team hereby verifies the above stated updates i.e. Maps/ Longitude value and Unit of electricity done by PP in the monitoring report are in line with the Registered Joint PD-MR Version 02 dated 27/03/2017 **Hence CAR#01 is closed**				

Type	Date	08-September-2022
CAR#02	Reference	Section of Ver protocol:1 &4/DR
Description of the Non Conformance		
PP is requested to provide the working web link in the footnote in section 1.10 & 4.1 for mentioned parameters. The footnote seems like a number in the report so please do the editorial changes(section 4.2) PP is requested to clarify why the date mentioned for the calibration of standby meter in MR is found to be inconsistent with date the mentioned in Calibration certificate as provided to VVB (appendix)		
1st Response from PP	**Date**	**15-September-2022**

The working weblinks have been provided in the footnotes for both section 1.10 & 4.1 of MR. The necessary editorial changes have been done in section 4.2 of MR. The calibration date of stand by meter has been corrected in MR as per the calibration certificate.

1st Assessment by Audit Team	Status	Closed	Date	24-September-2022
PP has successfully added weblinks to section 1.10 & 4.1 of MR, also PP has changed the date of calibration for Telangana site of 16.25 MW Project Activity by D J Malpani and made relevant editorial changes in the MR as required which has been verified by the assessment team. **Hence CAR#02 closed**				

Type		Date	08-September-2022
CAR#03		Reference	Section of Ver protocol: ER Sheet
Description of the Non Conformance			
PP is requested to update the values of export and import for the month March 2022 in sub sheets “16.25 Telangana” as it is inconsistent with provided ‘JMR’ of March 2022. PP is requested to update the value of March 2022 net electricity generated value in“16.25 Telangana” as it is inconsistent with the provided ‘invoice’ of March 2022 PP is requested to mention version of ER along with date.			
1st Response from PP		Date	15-September-2022
The values for March 2022 in sub sheet “16.25 Telangana” have been corrected as per the JMR of March 2022 and the final Net generation and emission reduction value have been updated in the MR. The value of March 2022 net electricity generated value has been updated in line with the provided invoice of March 2022 and the final Net generation and emission reduction value have been updated in the MR. The version of ER has been updated along with the date.			

1st Assessment by Audit Team	Status	Open/Closed	Date	24-September-2022
PP has successfully updated the values in the ER sheet which are verified from the Invoices/JMRS as provided to the VVB.				

However PP is requested to correct the formula used in the calculation of emission reduction for Telangana Site 16.25 MW capacity. The values for Year 2022 have not been summed up. Please correct accordingly				
2nd Response from PP	**Date**		**29-September-2022**	
ER sheet has been revised – the values of 2022 have been summed up for Telangana site 16.25 MW capacity. Revised ER sheet has been provided to VVB				
2nd Assessment by Audit Team	**Status**	**Closed**	**Date**	**19-October-2022**
Assessment team states that PP has revised the values of 2022 and have been correctly summed up for Telangana site 16.25 MW capacity and is found to be in line with the JMRs/Invoices submitted by the PP to the VVB. **CAR#03 closed**				

Type	**Date**	**24-September-2022**
CAR#04	**Reference**	**Section of Ver protocol:1 &4/DR**
Description of the Non Conformance		
Since the project activity is bundled project by D.J. Malpani and Giriraj Enterprises so the PP is requested to update the details of project proponent in section 1.3 of MR as it is inconsistent with the VCS PD-MR version 2. PP is requested to specify the grid in section 1.1 & 4.3 of MR PP is requested to Please provide references to renewable energy generated/ER stated in footnote in Sustainable development contributions table in section 1.11 Specify the name of the DISCOM referred in section 4.2 as per PPA. PP is requested to provide the breakdown details for the current monitoring period PP is requested to mention the name of the entity performing the calibration throughout the MR As per RMP Tamil Nadu/Telangana site meters are calibrated once in five years, however the Calibration certificate has a validity of one year/18months respectively. Also as per VERRA VCS Standard version 4.3 para 3.15.5 a Project proponent shall ensure that the equipment is calibrated		

according to the equipment's specifications and/or relevant national or international standard. Also as per Validation Verification Manual Version 3.2 calibration practices should follow current good practice as required by Clause 5.10 of ISO 14064-2 PP is thus requested to justify how a calibration only valid for a year in calibration certificate valid for five years in the PD and Monitoring report it is not in line with the VCS Validation Verification standard version 4.3 and VCS Validation Verification manual version 3.2

1st Response from PP	Date	11-October-2022

The details of the project proponent has been updated in section 1.3 of MR in line with the VCS JOINT PD-MR version 2.

The grid name has been updated in section 1.1 & 4.3 of MR.

The values have been updated from previous monitoring reports which can be found on the VCS page of the project. The reference link for the same have been provided in the footnote.

The name of the DISCOM have been updated as per PPA in section 4.2 of MR.

The breakdown details for the current monitoring period have been updated in Appendix 2 of MR and excel log sheet has been submitted to verify the same.

For the current monitoring period, the meter calibration is done by NABL accredited agencies i.e.Yathva Energy Solutions Pvt. Ltd. through SPDCTL for Telangana site and Measurematic India through TANGEDCO for Tamil Nadu site.

The meter calibration done by NABL accredited laboratory for Telangana site which is valid for 5 years as per clause (18) of CEA (Installation and Operation of meters) Regulation, 2006 which states that "Calibration and periodical testing of meters. – All interface meters shall be tested at least once in five years at NABL accredited laboratories".

1st Assessment by Audit Team	Status	Open/Closed	Date	19-October-2022

Assessment team conforms that PP has updated the details of the project proponent in section 1.3 of MR which is in line with the VCS JOINT PD-MR version 2.

PP has successfully clarified the grid referred in section 1.1 & 4.3 of MR.

PP has also provided the weblink to the renewable energy generated/ER stated in footnote in Sustainable development contributions table in section 1.11

Assessment Team hereby confirms that PP has specified the name of the DISCOM as per PPA in section 4.2 of MR.

Assessment team founds the breakdown details for the current monitoring period updated in Appendix 2 of MR and excel log sheet has been submitted to verify the same by the PP to the VVB, which was verified and found to be acceptable.

PP has specified that for the current monitoring period, the meter calibration is done by NABL accredited agencies i.e.Yathva Energy Solutions Pvt. Ltd. through SPDCTL for Telangana site and Measurematic India through TANGEDCO for Tamil Nadu site, This justification was found to be in line with the evidence (calibration certificate) submitted by the PP to the VVB

PP has justified the calibration of once in five years as per CEA notification, according to PP the meter calibration done by NABL accredited laboratory for Telangana site is valid for 5 years as per clause (18) of CEA (Installation and Operation of meters) Regulation, 2006 which states that "Calibration and periodical testing of meters. – All interface meters shall be tested at least once in five years at NABL accredited laboratories". It is to clarify that NABL accredited laboratories cannot provide a calibration certificates with validity of more than a year, which can be verified with the evidence (calibration certificate provided by the PP to the VVB), and during site visit as per the interview with the technical lead/PP present onsite, it was found out that meters have been working efficiently and no issues were faced during the current monitoring period, also to support that meters have a better accuracy class of 0.2s that makes them precise and efficient. Hence taking into consideration the defence of PP regarding the practice of CEA notification in RMP, VVB thus accepts the calibration practice of Once in five years, which is in line with the registered Joint PD-MR version 02, dated 27/03/2017

In the light of VCS standard 4.3, for non-AFLOU project RCP allowed is 7 years twice renewable. PP is requested to please clarify how this is consistent with the clause 3.8.1 of the VCS standard 4.3

2nd Response from PP	Date	19-October-2022

The project activity adopts renewable crediting period of 10 years and can be renewed maximum for two times as per Registered VCS Joint PD-MR version 02 dated 27/03/2017. Also to support the above justification, VCS standard v 4.3 page no 66 mentions and thus allows that the registered projects and projects that complete validation on or before 19 March 2020 remain eligible to apply the crediting period requirements under VCS version 03.

2nd Assessment by Audit Team	Status	Open/Closed	Date	22-October-2022

Assessment team confirms that as per provision of VCS standard version 3, when the PD of the following project was made VCS allowed the renewable crediting period of 10 years. Also as per VCS standard version 4.3 page no 66 mentions and thus allows that the registered projects and projects that complete validation on or before 19 March 2020 remain eligible to apply the crediting period requirements under VCS version 03. So VVB hereby accepts the above stated justification provided by the PP.

However as per VCS MR version 4.2 and standard version 4.3 there are some open issues that require closing

In section 2.1 of MR; PP is requested to summarize any potential negative environmental and socio-economic impacts (and steps taken to mitigate them) due to the implementation of the project activities as per VCS Standard v4.3, Section 3.17.2. In section 03 of MR; PP is requested to provide information about the operation of the project activity during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring In section 03 of MR again; PP has indicated the occurrence of breakdown in appendix. PP Is requested to explain how such breakdown impacted the GHG ERR and the monitoring process also to mention (cross reference) about breakdown details (as provided in appendix) in this section required as per VCS Monitoring Report Template v4.1, Section 3.1. In section 5.4 of MR; PP to provide sufficient explanation of the potential causes for the difference in actual versus estimated GHG ERRs.

3rdResponse from PP	**Date**	**03-November-2022**
Section 2.1 of MR has been revised with inclusion of potential negative environmental and socio-economic impacts – there are no negative potential environmental and socio-economic impacts of this project, only positive environmental and socio-economic impacts which have been mentioned in section 2.1 of MR Information on operation of the project activity including shutdowns i.e. information on events that may impact the GHG emission reductions or removals and monitoring, have been provided in section 3.1 of MR The impacts of breakdowns (i.e. shutdowns) on GHG emission reductions and monitoring process of the project activity solar PV power plants have been provided in section 3.1 of MR Section 5.4 of MR has been revised with inclusion of potential causes of difference between estimated and actual GHG emission reductions for this monitoring period		

3rdAssessment by Audit Team	**Status**	**Closed**	**Date**	**03-November-2022**
Assessment team confirms that section 2.1 of MR has been revised with inclusion of potential negative environmental and socio-economic impacts by the PP. It is to confirm that PP has updated section 3.1 of MR and has added information on operation of the project activity including shutdowns and impacts of breakdowns (i.e. shutdowns) on GHG emission reductions and monitoring process Assessment Team also confirms that section 5.4 of MR has been revised with inclusion of potential causes of difference between estimated and actual GHG emission reductions for this monitoring period by the PP which is acceptable to the VVB,				

Hence CAR#04 closed				
4th Assessment by Audit Team	**Status**	**Open/Closed**	**Date**	**22-November-2022**
1. PP is requested to clarify the higher emissions achieved in this MP, as outlier by providing with the PLF data for 3 years (if available) or at least 1 year PLF data prior to this MP. This data will allow assessment team to assess the ER calculations in line with VCS MR template v4.1 sections 3.1 and 5.4 2. Please indicate the potential negative environmental and socio-economic impacts and the steps taken to mitigate them were not stated in the monitoring report and ensure that it is in line with section 3.17.2 of the VCS 4.3				
4th Response from PP		**Date**		**13-December-2022**
1. The PLF data of last financial year has been sent to the VVB for review. 2. There are no significant potential negative environmental and socio-economic impacts of the project activity, all the negative effects that may result from the project have already been listed along with the steps taken to mitigate them.				
4th Assessment by Audit Team	**Status**	~~Open~~/Closed	**Date**	**28-December-2022**
Assessment team confirms that PP has provided the PLF data of last financial year for reference purposes. Assessment team also confirms that PP has explained that there are no significant potential negative environmental and socio-economic impacts of the project activity, all the negative effects that might result from the project have already been listed along with the steps taken to mitigate them. **CAR#04 closed**				

Type	**Date**	22-November-2022
CAR#05	**Reference**	Section of Ver protocol: 01/DR, 04/DR,
Description of the Non Conformance		
1. PP is requested to mention the operation of the plant as per the project description requirement as per the guidance document in section 01 of MR 1.1 PP to mention the operational hours of Solar power plant and is it the expected operational hours? 2. PP to state the monitoring period number is not mentioned in section 01 of MR 2.1 PP to mention energy generated from the project that was evacuated to the grid 3. PP to mention the states where these PPs have their respective SPP 4. PP to mention if the monitoring date mentioned in the in section 01 of MR is inclusive of both the dates? 5. PP to mention the basis for the statement in section 1.6 of MR 6. PP to correct the font used in footnotes on page no 07 referred in section 1.8 of MR. 7. In section 4.2 of MR What is the mechanism adopted in case there is delay in replacement of meters? How is the energy measured if both the meters are faulty? 8. In section 4.3 of MR PP is requested to explain how the first and second para under this section are contradicting each other. PP needs to unambiguously state the mechanism available at site		

for the measurement of the energy in the event of energy meter failure or calibration throws up error beyond acceptable limits.

9. In section 4.3 of MR PP is requested to mention the frequency as well as personnel provided with the training. Also mention the nature of training provided to the concerned staff
10. PP to total the breakdown times in order to make the total value consistent with the breakdown times stated earlier in appendix of the MR

1st Response from PP	Date	13-December-2022

1. The solar power plant during the monitoring period of 01-July-2021 to 31-March-2022 was operational for 3562 hours for Telangana site and 3091.75 hours for Tamil Nadu site. This is the actual operational hours of the plant.
2. The monitoring period number has been updated,
   2.1 The energy that is being evacuated to the grid has been mentioned.
3. The solar plant is located in the states of Telangana and Tamil Nadu.
4. Necessary correction is done.
5. The necessary correction has been done.
6. The footnote font has been corrected.
7. In case there is delay in replacement of the main meter, the data from the check meter will be used in its place. In case if the check meter is also faulty, during the period when the faulty meter is replaced by new calibrated meter, the readings from the plant are not available and therefore the emission reductions are not accounted for.
8. The necessary correction has been done.
9. For both the sites skilled and unskilled trainings are conducted at project sites. Generally, for Telangana the trainings are conducted once in every 3-4 month while for Tamil Nadu site the trainings are conducted twice a month. The training attendance have been submitted to VVB for review.
10. The total breakdown time has been updated.

1st Assessment by Audit Team	Status	~~Open/~~Closed	Date	28-December-2022

1. Assessment Team confirms and verifies that PP has mention the operation of the plant as per the project description requirement as per the guidance document in section 01 of MR
2. PP has successfully updated the monitoring period number for current monitoring period which was verified by the assessment team
3. PP has added theenergy generated from the project that was evacuated to the grid and has also mentioned the states where these PPs have their respective SPP
4. PP has made the relevant corrections in the MR which was verified by the assessment team and has also included that monitoring periods inclusive of both the dates.
5. PP has made the editorial changes in the footnotes.
6. Assessment team confirms that PP has specified the mechanism adopted in case there is delay in replacement of meters? How is the energy measured if both the meters are faulty.
7. Assessment team confirms that PP has mentioned the frequency as well as personnel provided with the training & has also mentioned the nature of training provided to the concerned staff
8. Assessment team confirms that PP has provided the total data of the breakdown times.

Hence CAR#05 closed

APPENDIX C: COMPETENCE STATEMENTS

Team Leader

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Indonesia, Bangladesh, Nepal, Ghana, Uganda, Kenya etc
Education Qualification	B.E. (Mechanical Engineering) M. Tech (Energy Management)
Year of Experience	10 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 2.1 - Process GHG Emission Expert TA 3.1 - Energy Demand TA 13.1 - Solid waste and wastewater

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 2.1, 3.1, 13.1)	YES

Technical Reviewer

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 3.1, 6.1, 13.1, 13.2)	YES