



RENEWABLE SOLAR POWER PROJECT BY MAHINDRA RENEWABLES PRIVATE LIMITED



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Summary:

Verification purpose: LGA Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “Mahindra Renewables Private Limited” to perform the 3rd periodic verification of the “Renewable Solar Power Project by Mahindra Renewables Private Limited” (VCS ID 2059). The project activity involves installation of 250 MW Solar Power project in the state of Gurh Tehsil, Rewa district of Madhya Pradesh state of India. The main purpose of this verification activity is to have an independent third party for the assessment of the project design, monitoring report to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. The electricity generated from the project activity is supplied to the Indian electricity grid as per Power Purchase Agreement signed with Delhi Metro Rail Corporation.

Start date of the project activity is 06-July-2018. This is the day on which 1st phase of solar project activity was commissioned. An undertaking has been submitted by PP for double counting confirming that no GHG reduction will be claimed in any other GHG mechanism for current monitoring period. Project activity undergoes continued operation and no major breakdown had taken place except routine maintenance.

This is 3rd monitoring under VCS and covers this activity from 01-April-2021 to 30-September-2021 (inclusive both days). During the Current Monitoring Period the project activity has supplied 242,395.02 MWh of electricity to the national grid, and thus contributing to the GHG reductions 227,075 tCO_{2e}.

The scope of the verification is the independent and objective review of the Monitoring Report (MR). The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM validation and verification standard for project activities, version 03.0, review against registered PD and Final Validation report, CDM Project Standard for project activities, version 03.0., VCS program guideline version 4.1 and VCS Standard version 4.2

A risk-based approach has been followed to perform this verification activity. In the course of verification, 04 Corrective Action request (CAR) and 01 Clarification Requests (CLs) were raised and successfully closed. No FAR was raised during this verification. The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided LGA Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

The assessment team has employed a risk based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VERs. The verification is not meant to

provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

The only purpose of the verification is its usage during the issuance process as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the verification opinion, which will go beyond that purpose.

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for document verifications. The entire documents checked/verification conducted to arrive at positive verification conclusions.

Based on the information reviewed and evaluated objectively, Applus+ Certification confirms that the implementation of the project has resulted in 227,075 tCO₂e emission reductions during the monitoring period from 01-April-2021 to 30-September-2021.

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1 INTRODUCTION

1.1 Objective

LGA Technological Center S.A. (Hereinafter referred as Applus+ Certification) has been appointed by “Mahindra Renewables Private Limited” to perform the 3rd periodic verification of the project entitled “Renewable Solar Power Project by Mahindra Renewables Private Limited” under VCS guideline version 4.1 and standard version 4.2. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and final verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against “Grid-connected electricity generation from renewable sources ACM0002- Version 19.0”
- the project's monitoring plan is assessed against “Grid-connected electricity generation from renewable sources ACM0002- Version 19.0”
- the project's compliance with the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guideline, version 4.1 and standard version 4.2
- CDM Validation and Verification Standard for project activities, version 03.0
- CDM Project Standard for project activities, version 03.0
- VCS guideline, version 4.1
- VCS standard, version 4.2

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of estimated verified emission reductions (VERs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR) prepared as per the registered PD and registered approved methodology Grid-connected electricity generation from renewable sources ACM0002- Version 19.0. The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS guideline version 4.1 and VCS standard, version 4.2 and, including the approved baseline and monitoring methodology Grid-connected electricity generation from renewable sources ACM0002- Version 19.0. The verification was based on the requirements in the CDM validation and verification standard for project activities, Version 03.0, CDM Project Standard for project activities, version 03.0, and VCS program guideline, version 4.1 and standard version 4.2

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for

improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It invoices follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement. The verification team has reviewed all the documents like commissioning certificates, Joint Balance Sheet, invoices etc.

1.3 Level of Assurance

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions

1.4 Summary Description of the Project

The main purpose of this project activity is to generate clean form of electricity through Solar power source. Mahindra Renewables Private Limited has set up 250 MW of solar power project in Madhya Pradesh of India. The electricity generated from the project activity is supplied to Indian electricity grid. The commissioning dates and locations of all plant is mentioned in section 4.1.

The Project activity is a Solar power energy, a renewable energy generation and the electricity generated by the project activity is exported to the Indian electricity grid. The project will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The PP has entered into long term power purchase agreement with DMRC (Delhi Metro Rail Corporation Limited) and M.P. Power Management Company Limited and Mahindra Renewables Private Limited. The electricity generated by the project activity is supplied to the Indian electricity grid.

During the Current Monitoring Period from 01-April-2021 to 30-Septemeber-2021 (First and last date included) the project activity has supplied 242,395.02 MWh of electricity, and thus contributing to the GHG reductions 227,075 tCO₂e.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the Clean Development Mechanism Validation and Verification Standard for project activities, version 03.0 and VCS standard 4.2 and guideline, version 4.1 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

Once the project is received by the assessment team, the members of the assessment team carried out:

- I. A desk review of the monitoring Report against the registered PD;
- II. Follow-up interviews with project participant;
- III. The resolution of outstanding issues and the issuance of the final verification report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the VCS executive board.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. LGAI Technological Center, S.A. (Applus+ Certification) has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from verifying the identified criteria.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Jitendra Mohan Singh	LA/TE	YES	YES	NA	YES
Mr. Denny Xue	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

Document review

The Monitoring Report version 1 submitted by the PP was reviewed against the approved methodology, registered PD, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Follow-up interviews

A remote audit was conducted by LGAI Technological Center S.A. (Applus+ Certification) who performed interviews, telephone conferences with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report in the below sections.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 03 submitted by PP on 21-February-2022 serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country

Internal quality control

As final step of a verification of the final documentation including the final verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the project owners the positive verification opinion and relevant documents are submitted to the VCS secretariat through the VCS web-platform.

2.2 Document Review

The details of the document observed during the verification process are listed below in Appendix 1 of this report.

2.3 Interviews

The key personnel interviewed are summarized in the table below:

Sr. No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Sharma	sandeep	Sr. Manager Mahindra Renewables Private Limited	21-October-2021 (Via zoho meeting)	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism	Jitendra Mohan Singh
2.	Gupta	Sachin	Dr. Manager Mahindra Renewables Private Limited			
3.	Sahu	Prakash	Consultant EKI Energy Services Ltd		Monitoring Report, Emission Reductions calculation	

2.4 Site Inspections

The verification team has not performed the onsite visit for the verification this project activity. The exemption for conducting an onsite visit for this project activity is allowed by VERRA, as the VCS has not a specific requirement to preform the site visits, however, an adequate level of assurance has been achieved during the verification processes. The reason for not conducting the onsite visit is the assessment for verification has been conducted during the COVID-19 pandemic, hence, this fact sums to the necessity of avoiding traveling to the site, given the restrictions in the countries in which the assessment team is based, and the ones applicable in the host country of the PA, apart from globally applied Applus+' restrictions to its personnel and contractors during the pandemic.

The VVB has taken alternative measures for ensuring a reasonable level of assurance while conducting the Verification process, using standard auditing techniques and advanced communication solutions in order to be able to interview the relevant stakeholders and to cross-check the relevant documentation, implementation of the project activity and its design, monitoring performance, equipment in the project activity, etc. (all the evidences and processes of cross-check are detailed within this Verification Report).

The VVB has taken alternative measures for ensuring a reasonable level of assurance while conducting the Verification process, using standard auditing techniques and advanced communication solutions in order to be able to interview the relevant stakeholders and to cross-

check the relevant documentation, implementation of the project activity and its design, monitoring performance, equipment in the project activity, etc. (all the evidences and processes of cross-check are detailed within this Verification Report). The interviewed personnel and the scope and means of interview are listed in above Section 2.3 of this Verification Report.

Technical details & metering/monitoring arrangement verified through onsite photographs/name plates and calibration certificates shared by PP. All the documents were cross checked to ensure conservative estimation of emission reduction.

During the remote audit, the PP representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of meters, the generation, recording, and monitoring of the data and the error accountability were discussed. To cross check the information provided by PP, various documents like technical specifications, commissioning certificates, PPA, JMR sheets, invoice, calibration certificates, etc. were also verified.

During the remote audit, the PP representatives/ O & M personal were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of meters, the generation, recording, and monitoring of the data and the error accountability were discussed. Various documents like the JMR sheets, invoices, on-site Photographs includes solar PV panels name plates, meter specifications, key technical specifications of the major equipment like panel etc. provided to assessment team were verified on skype video call to establish the current status and the implementation of the Project Activity

.2.5 Resolution of Findings

The objective of this phase of the verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for LGAI Technological Center S.A. (Applus+ Certification)'s positive conclusion on the project design and Monitoring report. The Corrective Action Requests and Clarification Requests raised by LGAI Technological Center S.A. (Applus+ Certification) were resolved during communications between the Client and LGAI Technological Center S.A. (Applus+ Certification) to guarantee the transparency of the validation process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 03 submitted by project owners on 21-February-2022 serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	00	00
Description of project activity	01	01	00
Application of selected baseline and monitoring methodology and selected standardized baseline			

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
- Applicability of methodology and standardized baseline	00	00	00
- Deviation from methodology	00	00	00
- Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	02	00
Calibration details	00	01	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	00	00
Others (please specify)- Break down details	00	00	00
-Matter related to double counting Declaration			
- Non- functional Weblink			
-JMR/Invoices			
Total	01	04	00

The list of findings and their resolution is presented in Appendix 2 of this report.

2.5.1 Forward Action Requests

This is 3rd periodic verification of the project activity and no FAR was raised from validation, previous and during this verification process.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification, as Applus+ Certification holds the accreditation to perform Validation Activities under this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity has not participated under any other GHG program, apart from Verified Carbon Standard. PP will not claim benefits of carbon emission reduction credits achieved through this project activity under any other GHG programme for the crediting period claimed under VCS. Also, the project has not generated any other form of environmental credit and a declaration for the same has been submitted to the assessment team and the same is acceptable. This project activity is not a result of any binding limit of National/International bodies. The project is purely voluntary in nature. The project is also not participated in any other emission trading programs. Further, the project is not registered under the REC mechanism of India and the same is cross-checked at <https://recregistryindia.nic.in>. This was confirmed through a declaration submitted by the PP and hence accepted by the assessment team.

PP has provided undertaking is provided to confirm that there is no any double accounting for current monitoring period. Further, Assessment team confirms that the project activity is not participating in any other form of environmental credits.

3.2 Methodology Deviations

The project activity used Grid-connected electricity generation from renewable source ACM0002-Version 19.0 which is as per the registered VCS PD and thus no deviation is sought regarding the methodology. The project complies with all the requirement of the methodology and thus deviation to the methodology is not a requirement for the present project activity.

3.3 Project Description Deviations

Deviation 1:

PP has applied one deviation related to monitoring during previous verification. The monitoring practice is updated (November 2019) and it's shifted to Deviation Settlement Mechanism (DSM) in order to more strengthen the national grid. The export and import values are omitted. In DSM mechanism, PP have to forecast energy generation in a day time block (In India, 15 minutes each, total 96 blocks) well in advance. The invoicing is done on the forecasted value. The actual generation deviation from the forecasted values is penalized, it depends upon the deviation magnitude. Therefore, instead of export and import values, the final net actual values is directly obtained for the calculation of emission reduction. Total Energy schedule and the Actual values (which is the actual Net delivered) is maintained by the Western Regional Power Committee (WRPC) Secretariat, Central Electricity Authority, Government of India.

VVB had checked the Regional Energy Account (monthly net export) for the every month in respect of western Region has been uploaded on the WRPC website, <http://www.wrpc.gov.in/>. The weekly DSM data can be fetched through the website in order to have a cross check on the Actual values. The nature of deviation is permanent. VVB confirmed the approach is correct and in line

with host country guidelines. The project description deviation *doesn't impact* the applicability of the methodology, additionality *and* baseline scenario of *project*.

PP has requested another two deviations during the current monitoring period.

Deviation 2:

PP has requested another deviation during current monitoring period regarding cross check of schedule data and actual injection. As per QA/QC procedures in section 4.2 of registered PD, "Generation data required to cross check with the Monthly Generation Reports". Now PP requested deviation in cross check of data. The scheduled data can be crosschecked through the invoice generated and the actual data can be crosschecked with weekly DSM settlement statements receipt over <http://www.wrpc.gov.in>. The nature of deviation is permanent. The project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. Thus, acceptable to VVB.

Deviation 3:

PP has applied deviation in the "Description of measurement methods and procedures to be applied" of monitoring parameter EG_{facility,y}. This deviation is applied to impart correct parameter monitoring procedure by the Project activity. Clarity added about the plant new meter procedure with respect to deviation 1. Line diagram and parameter monitoring procedures updated related to billing energy meters at substation. The nature of deviation is permanent. The project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. Thus, acceptable to VVB.

3.4 Grouped Project

The project does not involve any addition of new project activity and thus the project does not fall under grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the remote audit, it was concluded through zoho meeting (video conferencing) that the project is implemented as per the instruction of the VCS PD and this is verified from the commissioning certificate. During the current monitoring period it was observed that no unforeseen situation evolved which can impact the operation of the project activity. The same was verified through the breakdown summary sheet of the project activity. Scheduled maintenance was carried out as per the instruction of the manufacturer and the same is acceptable to the assessment team.

Project location is confirmed by the assessment team through interview with PP by Zoho meeting during remote audit and assessment of monitoring report. Assessment team also checked the technical details of the project site containing latitude and longitude of the project site and confirmed that the details as mentioned in the registered PD are correct. The latitude and longitude of the project activity is given below;

Project Investor	Village	Tehsil	District	State	Latitude	Longitude
Mahindra Renewables Private Limited	Badwar	Gurh	Rewa	Madhya Pradesh	24°28'35.3"N	81°32'56.0"E
	Barsaita Pahad	Gurh	Rewa	Madhya Pradesh	24°28'53.3"N	81°34'31.9"E
	Barsaita Desh	Gurh	Rewa	Madhya Pradesh	24°28'53.2"N	81°34'31.4"E
	Itar Pahad	Gurh	Rewa	Madhya Pradesh	24°28'49.7"N	81°36'35.0"E
	Ramnagar Pahad	Gurh	Rewa	Madhya Pradesh	24°28'51.0"N	81°35'17.2"E

The technical specifications have been verified during remote audit as well as with the technical specifications of solar PV and also cross checked from the technical manual of the Manufactures. VVB confirmed with commissioning certificates that entire capacity of the project i.e. 250 MW commissioned in phases. The commissioning dates of the projects are as follows:

Project Investor	Capacity (MW)	Commissioning Dates
Mahindra Renewables Private Limited	5.1	06-July-2018
	35.7	07-Septemberr-2018
	100	05-April-2019
	94.2	10-July-2019
	15	03-January-2020
Total	250	

Assessment team checked the commissioning certificate and confirmed that the dates of Commission for the Solar plants are correct. There is no change in project design and the project is implemented as per the description provided in the VCS Joint PD 7 MR as confirmed by PP representative during remote audit. The technical specification of the project capacities commissioned in phases, is given below:

The technical specifications of 5.1 MW of 250 MW of Solar PV Power plant is provided below:

Solar PV Modules	
Make and Model	1. Longi Solar. LR6-72HV-340M 2. Longi Solar.LR6-72HV-345M
PV Module Technology	Monocrystalline
Total number of modules	19964 (340W-10044 Nos., 345W-9920Nos.)
Inverter/Power Conditioner	
Inverter Make and Model	Tmeic-PVH-L2550E
Number of Inverters	2 numbers
Continuous AC power at 50°C	2550 kWAc per Inverter
Mounting Structure	
Type of Structure	Fixed
Manufacturer and Model of Mounting Structure	Mahindra Susten
Tilt	14°
Pitch	5.8 M

The technical specifications of 35.7 MW of 250 MW of Solar PV Power plant is provided below:

Solar PV Modules	
Make and Model	1. Longi Solar. LR6-72HV-340M 2. Longi Solar.LR6-72HV-345M
PV Module Technology	Monocrystalline
Total number of modules	132122 (340W-66092 Nos., 345W-66030 Nos.)
Inverter/Power Conditioner	
Inverter Make and Model	Tmeic-PVH-L2550E
Number of Inverters	14 numbers
Continuous AC power at 50°C	2550 kWAc per Inverter
Mounting Structure	
Type of Structure	Fixed
Manufacturer and Model of Mounting Structure	Mahindra Susten
Tilt	14°
Pitch	5.8 M

The technical specifications of 94.2 MW of 250 MW of Solar PV Power plant is provided below:

Solar PV Modules	
-------------------------	--

Make and Model	1. Longi Solar. LR6-72HV-340W 2. Longi Solar. LR6-72HV-345W 3. Trina Solar. TSM-DE14A(II)-340W 4. Trina Solar. TSM-DE14A(II)-345W 5. Canadian Solar. CSU-320W 6. Canadian Solar. CSU-325W 7. Canadian Solar. CSU-330W
PV Module Technology	Monocrystalline/Polycrystalline
Total number of modules	1. Longi Solar. LR6-72HV-340W:27746 Nos. 2. Longi Solar. LR6-72HV-345W:24546 Nos. 3. TRINA. TSM-DE14A(II)-340W:87326 Nos. 4. TRINA. TSM-DE14A(II)-345W:27286 Nos. 5. Canadian Solar. CS6U-320W:6944 Nos. 6. Canadian Solar. CS6U-325W:49724 Nos. 7. Canadian Solar. CS6U-330W:156984 Nos.
Inverter/Power Conditioner	
Inverter Make and Model	1. ABB:PVS980-58-2000 KVA 2. TMEIC:PVH-L2550E
Number of Inverters	1. ABB-42 Nos. 2. TMEIC-4 Nos.
Continuous AC power at 50 °C	1. ABB-2000 kWAc 2. TMEIC-2550 kWAc
Mounting Structure	
Type of Structure	Fixed
Manufacturer and Model of Mounting Structure	Mahindra Susten
Tilt	14°
Pitch	5.8 M

The technical specifications of 100 MW of 250 MW of Solar PV Power plant is provided below:

Solar PV Modules	
Make and Model	1. Canadian Solar-CS6U-325W 2. Canadiun Solar-CS6U-330W 3. TRINA-TSM-DEI14A(II)-340W 4. TRINA-TSM-DEI14A(II)-345W
PV Module Technology	Monocrystalline/Polycrystalline
Total number of modules	410192 (CS: 325Wp-166160 Nos., 330Wp-212784 Nos.), (Trina:340 Wp-15624 Nos., 345 Wp-15624 Nos.)
Inverter/Power Conditioner	

Inverter Make and Model	ABB-PVS980-58-2000 KVA
Number of Inverters	50Nos.
Continuous AC power at 50°C	2000 kWAc per Inverter
Mounting Structure	
Type of Structure	Fixed
Manufacturer and Model of Mounting Structure	Mahindra Susten
Tilt	14°
Pitch	5.8 M

The technical specification 15 MW out of 250 MW is mentioned below:

Solar PV Modules	
Make and Model	1. Canadian Solar -325 W (34462 Nos.) 2. Longi Solar-365 W (10800 Nos.) 3. Jolywood -345W (10800 Nos.)
PV Module Technology	Monocrystalline/Polycrystalline
Inverter/Power Conditioner	
Inverter Make and Model	Huawei 160 KWp 1500v – 69 Nos ABB 2 MW 1500V/660V- 2 Nos
Transformer	
Make and Model	Shilchar and Toshiba
Ratings and Quantity	4MWA 33KV/800V-800V (3 Nos) 4MWA 33KV/660V-660V (1 Nos)

The start date of the project activity (date on which the 5.1 MW solar PV project was commissioned by i.e. 06-July-2018. This is connected to Indian grid in line with the approved VCS Joint PD & MR and VCS Standard version 4.2.

The assessment team confirmed through interview with O & M personal during remote audit that there are no changes in to the project design during this monitoring period. It was found that the monitoring plan was implemented as per the requirement of the VCS PD & approved monitoring Plan and applied methodology ACM0002: Grid-connected electricity generation from renewable sources –Version 19.0. The organisational role and responsibility as mentioned in the registered VCS PD is followed onsite. There are delay in calibration of meters. The energy meters are not calibrated during the current monitoring period (01- April-2021 to 30-Septemeber- 2021) due to COVID-19 pandemic as informed by PP during interview which comes under purview of state utility. The recent calibration of meters was done on 22-Janaury-2022 and observed error are within permissible limit of accuracy class 0.2s. Further, Joint meter readings reports contains only quantity of net electricity generation supplied to grid (actual values). Therefore, PP does has no export and import data separately JMRs prepared by state utility and PP has no role in preparation of JMRs. Hence, PP has applied double of maximum permissible error i.e.0.4% (2x0.2%) to the net electricity supplied to grid for the complete monitoring period which is conservatives approach adopted by PP. VVB confirmed the approach to be conservative and thus

acceptable to VVB. All the emergency preparedness as mentioned in the registered VCS PD is followed onsite and no discrepancies were found regarding the same.

The Project participant contribution from the project activity towards sustainable development in accordance to host country as explained below:

Social well-being:

The project would help in generating employment opportunities during the construction and operation phases. The project activity will lead to development in infrastructure in the region like development of roads and also may promote business with improved power generation.

Economic well-being:

The project is a clean technology investment in the region, which would not have been taken place in the absence of the VCS benefits the project activity will also help to reduce the demand supply gap in the state.

Technological well-being:

The successful operation of project activity would lead to promotion of solar based power generation and would encourage other entrepreneurs to participate in similar projects

Environmental well-being:

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

Further, Project proponent has demonstrated contribution to a minimum three SGs in Section 1.11 of final monitoring report. However, as per VCS standard Version 4.2, the same is effective immediately for all projects to be registered on or after 20-January-2023.

The project is not involved in any other form of GHG emission program and VCU's generated from this verification will not be used for other trading program to avoid any kind of double counting. The same is confirmed by the PP during the verification remote audit. Assessment team also conducted independent review regarding the same and found that the statement of the PP is accurate and project is not involved in any other kind of GHG trading for the present verifications/monitoring period.

The assessment team observed that the project is in line with the registered PD and applied methodology and thus no clarification/deviation is sought. CL 01 and CAR 01 were raised in this section during the verification process and closed successfully. Please refer below Appendix 2 for the detail closure of the CAR

Assessment team confirms following during the verification remote audit:

1. Start date of the project is 06-July-2018 (as per VCS PD).
2. An undertaking letter dated: 27-September-2021 has been submitted by PP for no double counting with any other GHG program. PP also has given a written declaration that project has not claimed other form of GHG credit for the concerned monitoring period.
3. Assessment team confirms that this is the 3rd monitoring under VCS and covers the activity from 01-April-2021 to 30-September-2021 (inclusive of both dates). Thus, VCS crediting period should be maximum of 10 years till end date of VCS crediting period. 06-July-2018 is the start date and crediting period end on 05-July-2028.
The GHG credits from 01-April-2019 to 30-September-2021 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "Double Counting".
4. Assessment team checked and found that the Project proponent of the project activity is as below for the current monitoring period:

Organization name	Mahindra Renewable Private Limited
Contact person	Mr. Rakesh Khaitan
Title	CEO
Address	Mahindra towers, Dr. G.M. Bhosle Marg P.K. Kurne Chowk, Worli-Mumbai-400018, Maharashtra, India.
Telephone	+91-99306 74683
Email	susten@mahindra.com

5. Assessment team also checked the details of other entity and found correct. The details are as below

Organization name	EKI Energy Services Limited
Contact person	Project Consultant
Title	Mr. Prakash Kr Sahu
Address	Project Manager
Telephone	Enking Embassy, Office no. 201, Plot 48, Scheme 78 Part-2, Vijay Nagar, Indore-452010, Madhya Pradesh, India
Email	+91 9589 899 649
	prakash@enkingint.org

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VCUs with the estimated VCUs and found that the actual VCUs is 227,075 tCO₂e which is 16.2% higher than the estimated emission reduction 195,490(389,911/365 days *183 days) tCO₂e during this monitoring period which is due to climatic conditions and high PLF attained by the solar power plant during the current monitoring period. The project activity has achieved 22.08% PLF during the current monitoring period which is 16.2% higher than the estimation of PLF in the VCS PD (19.0%). As per VCS PDD, sensitivity analysis stated that an increase of 59.40% in PLF would breach the IRR benchmarking values, the observed percentage PLF values in current monitoring period is 16.02% which is less. Therefore, the increase in PLF/generation doesn't impact the additionality. Also, there is neither technological nor design changes in the project activity. The values from JMRs issued by state utility have been checked with the invoice values and found to be perfectly aligned. The high PLF is due to seasonal variation during current monitoring period and not in control of PP. The project activity is otherwise operated according to its description in VCS PD and no changes observed during the monitoring period. Hence acceptable to VVB.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the documents review of VCS PD and grievance register etc. The project is renewable energy project and thus no negative impact observed due to project activity.

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation. The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013¹. This report clearly mentioned that solar/Wind power project activity operations do not result in direct air pollution, noise pollution. Moreover, also as per the Central Pollution Control Board of India notification² solar/wind project falls under White Category and are practically non-polluting

4.2.2 Local Stakeholder Consultation

As a part of ongoing communication with stakeholders, a dedicated Visitor register cum grievance register has been placed at the project site and accessible to stakeholders to provide their feedback on the project which is appropriate publicly accessible location at which local stakeholders can provide their feedback on the project. This is in line with clause 3.16.17 of VCS Standard, ver. 4.2. Further, For the global stakeholders, the suggestion and the grievance

¹ <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

² http://envfor.nic.in/sites/default/files/Latest_118_Final_Directions.pdf

can be submitted to susten@mahindra.com . During the current monitoring period, no any grievances received the same is verified with the grievance registered submitted to VVB.

4.3 AFOLU-Specific Safeguards

Not applicable

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the MR. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD and MR.
Findings	CAR 03 and CAR 03 were raised on this section and closed successfully. Please refer Appendix 2 for further details
Conclusion	Baseline emission: The baseline Emissions for a given year is calculated by multiplying the energy baseline (EB) with the regional grid emission factor of the grid. Formula Used:- $BE_y = EG_{PL,y} \times EF_{grid,CM,y}$ BE_y - baseline emissions in year y (tCO₂) $EG_{PJ,y}$ - Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh) $EF_{grid,CM,y}$ - Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO₂/MWh) Since project activity is greenfield project, Hence, $EG_{PJ,y} = EG_{PJ,facility,y}$ Where; $EG_{PJ,facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) $EF_{grid,CM,y}$: Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂e/MWh) Ex-ante parameters The $EF_{grid,OM,y}$; $EF_{grid,BM,y}$ and $EF_{grid,CM,y}$ emission factors are fixed ex-ante and sourced from the registered Joint PD and MR. Combined margin CO₂ emission factor ($EF_{grid,CM,y}$) is equal to 0.9368 tCO₂/MWh. The calculation approach was in line with the Joint PD and MR. Values of ex-ante parameters are as follows: $EF_{grid,OM,y} = 0.9610 \text{ tCO}_2/\text{MWh}$ (Calculated as generation-weighted average using 3 year (2015-16, 2016-17, 2017-18), The data are sourced from Baseline CO₂ Emission Database, Version 14.0, published by Central Electricity Authority (CEA), Government of India)

$EF_{grid,BM,y} = 0.8644 \text{ tCO}_2/\text{MWh}$ (Calculated as per “Tool to calculate the emission factor for an electricity system, version 07”.as per the latest data available for the year 2016-17. The value is directly sourced from “CO₂ Baseline Database for Indian Power Sector” version 14.0 published by the Central Electricity Authority, Ministry of Power, and Government of India)

The combined margin emissions factor was calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$$

Where:

$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh)

$EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh)

W_{OM} = Weighting of operating margin emissions factor (%) = 75%

W_{BM} = Weighting of build margin emissions factor (%) = 25%

Calculated as per “Tool to calculate the emission factor for an electricity system, version 07.0.0”

After calculation, the Combined Emission factor is obtained as 0.9368 tCO₂/MWh

Monitored Parameter:

$EG_{facility,y}$ - Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid during the monitoring period (MWh)

Electricity exported by the project to the grid at project site switch yard is the actual generation recorded and monitored by the metering system installed at the PGCIL substation. The meter readings are taken jointly on a fixed day of every month for the preceding month at the delivery point and signed by the representatives of SBE and PP representative.

The metering system comprises special energy meters (SEMs) installed at the substation station. Project Activity is connected via four transmission line of 220 kV, each having its own SEM meter (main and check meter) at the PGCIL Sub-station. Currently project activity is connected to PGCIL substation Badwar line. The details of meters are as follows:

Meter Serial No.	Make	Type	Accuracy class
5297256 (Line-1 Main Meter)	Elster	ABT	0.2s
5296427 (Line-1 Check Meter)	Elster	ABT	0.2s
5297266 (Line-2 Main Meter)	Elster	ABT	0.2s
5297271 (Line-2 Check Meter)	Elster	ABT	0.2s

The calibration frequency of meters is once in 5 years. Meters were not calibrated during current monitoring (01-April-2021 to 30-Septemeber-2021) The energy meters are not calibrated due to COVID-19 pandemic as informed by PP during interview which comes under purview of state utility. The recent calibration of meters was done on 22-Janaury-2022 and observed error are within permissible limit of accuracy class 0.2s. Further, Statements issued by Regional Energy Account Statement issued by Western Regional Power Committee (WRPC) i.e. JMRs contains only quantity of net electricity generation supplied to grid (actual values). Hence, PP as applied double of maximum permissible error i.e.0.4% (2x0.2%) to the net electricity supplied to grid for the complete monitoring period which is conservatives approach adopted by PP.

	The information of meters calibration and validity of calibration is provided in Section 4.5 of this report. During the current monitoring, the net electricity generation supplied by the project activity is 242,395.02 MWh which is sourced from the statements issued by Western Regional Power Committee (WRPC). The same has been verified with the monthly Statements issued by WRPC and found correct. Verification team also cross verified with invoice generated weekly DSM settlement statements receipt available at http://www.wrpc.gov.in. Baseline emissions are calculated as follows. $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ BE_y - baseline emissions in year y (tCO₂) $EG_{PJ,y}$ - Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh) $EG_{PJ,y} = EG_{facility,y}$ Where; $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) $EF_{grid,CM,y}$: Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_{2e}/MWh) Therefore, $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ $BE_y = 242,395.02 \text{ MWh} \times 0.9368 \text{ tCO}_2/\text{MWh}$ $= 227,075 \text{ tCO}_{2e} \text{ (rounded down value)}$ As per methodology ACM0002 Version 19.0, for renewable energy projects, there is no any project emissions occurred. Hence, $PE_y = 0$ Leakage: As per methodology ACM0002 Version 19.0, for renewable energy projects, there is no any leakage emissions occurred. Thus, Emission Reductions are: $ER_y = BE_y - PE_y$ $= 227,075 \text{ tCO}_2 - 0 = 227,075 \text{ tCO}_{2e}$ Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered Joint PD and MR. Verification Team also confirmed that GHG reductions and removals has been quantified correctly and in line with monitoring procedure in VCS Joint PD MR and applied methodology.
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4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the break down log for the monitoring period. During the verification of remote audit, the energy meters are also checked. The Calibration details of the monitoring meters are also checked with calibration certificates.
Findings	CAR 04 was raised on this section and closed successfully. Please refer Appendix 2 for further details.

Conclusion	The project activity has installed a special energy meter sealed by the Power Grid Corporation of India. The metering system includes the main system and a back-up system that measure, record and control the various monitoring parameters. The back-up system would be used in case of failing of the main meter. Latest state -of art monitoring and control equipment that measure, record and control the various monitoring parameters. These meters record parameters including electricity exported & imported. Moreover, the meters are located at the grid connected point are of accuracy class of 0.2s for project activity applied for verification. These electricity meters are being used by Power grid corporation of India for preparing electricity generation statements. The calibration details of the meters are as follows:		
	Meter Serial No.	Calibration date	Validity of calibration
	5297256 (Line-1 Main Meter)	25-November-2015	24-Novemeber-2020
		22-January-2022	21-January-2027
	5296427 (Line-1 Check Meter)	25-November-2015	24-Novemeber-2020
		22-January-2022	21-January-2027
	5297266 (Line-2 Main Meter)	25-November-2015	24-Novemeber-2020
		22-January-2022	21-January-2027
	5297271 (Line-2 Check Meter)	25-November-2015	24-Novemeber-2020
		22-January-2022	21-January-2027
The calibration frequency of meters is once in 5 years. Meters were not calibrated during current monitoring (01-April-2021 to 30-Septemeber-2021) The energy meters are not calibrated due to COVID-19 pandemic as informed by PP during interview which comes under purview of state utility. The recent calibration of meters was done on 22-Janaury-2022 and observed error are within permissible limit of accuracy class 0.2s. Further, Statements issued by Regional Energy Account Statement issued by Western Regional Power Committee (WRPC) only quantity of net electricity generation supplied to grid (actual values) is given. Hence, PP as applied double of maximum permissible error i.e.0.4% (2x0.2%) to the net electricity supplied to grid for the complete monitoring period which is conservatives approach adopted by PP. It is reported that the data will be kept for 2 years following the end of the crediting period or till the last issuance of VERs for the project activity whichever occurs later. The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the remote audit. Remote audit and interview with site personnel through Zoom also confirms that the operational and organizational chart as mentioned in the VCS Joint PD & MR is as per the remote audit practice and thus assessment team confirms that the details are correct. The break down log is checked and found that the plant undergone scheduled maintenance and break down. VVB checked the breakdown and routine			

	maintenance log book which also provided in Appendix 2 of MR and confirmed that it does not have any impact on project design and monitoring procedures. No unforced error observed. VVB confirmed that data/ information used for determining GHG reductions and removals was sufficient in quantity and of appropriate quality. Calibration certificates of meters/ QA/QC procedure checked and found to be appropriate. Thus, assessment team concluded that the evidences are sufficient in quantity, and appropriate for the quality, to determine the GHG reductions and removals.
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4.6 Non-Permanence Risk Analysis

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Not applicable	Not applicable	Not applicable	Not applicable

5 VERIFICATION CONCLUSIONS

Applus+ Certification has been engaged by Mahindra Renewables Private Limited to perform the verification of the “Renewable Solar Power Project by Mahindra Renewables Private Limited”

The management of the project participant/owner is responsible for the preparation of the GHG emissions data and the reported/estimated GHG emissions reductions on the basis set out within the project’s monitoring plan in the VCS Joint PD and MR and the approved methodology ACM0002: Grid-connected electricity generation from renewable sources –Version 19.0

Our Verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and VCS Standard version 4.2. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the PD
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A reasonable level of assurance was achieved during the verification.
- No limitation observed for the present verification

Verification period: From 01-April-2021 to 30-Septemeber-2021 (first and last date included).

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

Year	Baseline emissions removals (tCO ₂ e)	or	Project emissions removals (tCO ₂ e)	or	Leakage emissions (tCO ₂ e)	Net emission reductions removals (tCO ₂ e)	GHG or
01-April-2021 to 30- Septemeber-2021	227,075		0		0	227,075	
Total	227,075		0		0	227,075	

The actual emission reduction achieved from the project activity for the current monitoring period is 227,075 tCO₂e, whereas estimated emission reductions achieved are 195,490 tCO₂e (389,911/365 days *183 days), which is 16.2%lower than the estimated emission reductions. This is due to climatic conditions and more PLF attained by the plant during the current monitoring period. The project activity has achieved 22.08% PLF during the current monitoring period which is 16.2% higher than the estimation of PLF in the VCS PD (19.0%). As per VCS PDD, sensitivity analysis stated that an increase of 59.40% in PLF would breach the IRR benchmarking values, the observed percentage PLF values in current monitoring period is 16.02% which is less. Therefore, the increase in PLF/generation doesn't impact the additionality. Also, there is neither technological nor design changes in the project activity. The values from JMRs issued by state utility have been checked with the invoice values and found to be perfectly aligned. The high PLF is due to seasonal variation during current monitoring period and not in control of PP. The project activity is otherwise operated according to its description in VCS PD and no changes observed during the monitoring period. Hence acceptable to VVB.

APPENDIX 1: DOCUMENTS REVIEWED DURING VERIFICATION

No.	Author	Title	References to the document	Provider
1.	NA	Commissioning certificate	Commissioning of the solar plants	Project participant
2.	NA	Contract of the other entity with the DOE	Contract of the other entity with the DOE	Project participant
3.	NA	Technical specifications	Technical specifications of Solar Power projects manufactured	Project participant
4.	NA	Power Purchase agreement for the project activity	Dated: 17-April-2017	Project participant
5.	NA	Joint VCS PD & MR	Version 02, Dated: 18-Decemeber - 2019	VERRA
6.	NA	VCS validation report	Version 01, 23-December-2019	VERRA
7.	NA	Initial Monitoring report Final Monitoring report	Version 01, dated 04-October-2021 Version 03, dated 21-February-2022	Project participant
8.	NA	Emission Calculation sheet	Version 1, dated 04-October-2021	Project participant
9.	NA	Emission Calculation sheet	Version 03, dated 21-february-2021	Project participant
10.	NA	Tools/ guidelines used in the project activity - UNFCCC Methodology: ACM0002 version 19 - VCS verification report template Version 4.1 - VCS Standard, version 4.2	UNFCCC CDM web site VERRA website	UNFCCC & VERRA
11.	NA	Calibration details of the project activity undergoing verification	Calibration certificates	Project participant
12.	NA	JMR records+ Invoices for the complete monitoring period	Joint balance sheet copies Sales Invoices for the complete Monitoring period	Project participant
13.	NA	Break down details of the complete monitoring period	Log Sheet	Project participant
14.	NA	VCS Declaration	Declaration dated 27-Septemeber-2021 from PP for Participation under Other GHG Programs	Project participant
15.	NA	Site Photographs/remote audit records	-	Project participant

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)

Project Implementation Status

CL ID	01	Section no.	4.1	Date: 21-October-2021
Description of CL				
During remote audit, PP informed that O & M services including metering is provided to another agency. PP is requested to submit the O & M agreement signed with service provider for verification.				
Project participant response				Date: 27-October-2021
O&M Agreement is being shared.				
Documentation provided by project participant				
O&M Agreement				
DOE assessment				Date: 11-November-2021
PP has submitted O&M agreement signed between Mahindra renewables Pvt Ltd. and Mahindra TEQO Pvt Ltd. effective from 01-October-2021. Assessment team is thus accepted and CAR is closed.				

CAR ID	01	Section no.	4.1	Date: 21-October-2021
Description of CAR				
- Font Size of information mentioned in title page is not in line with the guidelines to complete VCS MR version v.4.0. thus, corrective action sought. - Weblink for applied methodology ACM0002 version 19 mentioned in footnote of section 1.2 of MR is not correct. Thus, corrective action sought.				
Project participant response				Date: 27-October-2021
- Font size has been revised. - Weblink has been updated.				
Documentation provided by project participant				
MR V2				
DOE assessment				Date: 11-November-2021
- PP has rectified font size of title page as per the guidelines to complete VCS MR version 4.0 template. Hence OK. - PP has provided correct weblink for the applied methodologies in section 1.2 of revised MR. found operational. Hence OK. CAR is closed.				

Accuracy of GHG Emission Reduction and Removal Calculations

CAR ID	02	Section no.	4.4	Date: 21-October-2021
Description of CAR				
PP has submitted the Regional Energy Account statement issued by WRPC. Assessment team has checked the same and confirms that schedule value and actual values are correct. However, assessment team observed that PP has provided the invoice value in ER sheet for cross check which is not in line with the registered Joint PD and MR. Also, invoice values in ER sheet are not consistent with the supporting evidences submitted by PP. PP is requested to clarify the same.				
Project participant response				Date: 27-October-2021
Proper invoice is being provided. Electricity is being sold to two off-takers. Both the parties invoices are being provided.				
Documentation provided by project participant				
Electricity sold invoices				
DOE assessment				Date: 11-November-2021
PP has submitted all copies of invoices relevant to the project activity and current monitoring period. Found consistent with the ER sheet. However, as per registered joint PD and MR, Cross check mechanism is monthly generation report and PP has mentioned the invoice value in ER sheet for cross check. PP is requested to clarify the same. CAR is Open				
Project participant response				Date: 21-February-2022
A deviation regarding cross checking of values is being applied. ER sheet have been revised for the measured values.				
Documentation provided by project participant				
ER V2 and MR V3				
DOE assessment				Date: 22-February-2022
PP has requested deviation 2. As per QA/QC procedures of section 4.2 of registered PD, "Generation data may be cross checked with the Monthly Generation Reports". The deviation is regarding the crosschecking of scheduled data and actual injections. The scheduled data can be crosscheck through the invoice generated and the actual data can cross checked with weekly DSM settlement statements receipt over http://www.wrpc.gov.in. This project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. The nature of deviation is permanent. Thus acceptable to VVB. CAR closed.				

CAR ID	03	Section no.	4.4	Date: 21-October-2021
Description of CAR				
PP requested to round down the value of achieved baseline emission reduction in section 5.1 of MR and also in ER sheet. Corrective action sought.				
Project participant response				Date: 27-October-2021
Values are round down at ER sheet and MR V2.				

Documentation provided by project participant	
Revised ER and MR V2.	
DOE assessment	Date: 11-November-2021
PP has calculated round down value for the achieved emission reduction in section 5.1 of revised MR and ER sheet. Thus, accepted and CAR is closed.	

Quality of evidence to determine GHG emission reduction and removals

CAR ID	04	Section no.	4.5	Date: 21-October-2021
Description of CAR				
PP has mentioned the details of energy meters in Appendix I of monitoring report. PP has also submitted the calibration certificates and found that calibration certificate of Meter Sr. No. 5297257 is still not submitted. Further, during the remote audit, PP informed that check meter is also installed. But details of check meters are not mentioned in monitoring report, Thus corrective action sought.				
Project participant response				Date: 27-October-2021
During the remote visit, PP confirmed metering done in two lines. Each line having a main and check meter. Details are updated over MR V2. Certificates are being provided.				
Documentation provided by project participant				
MR V2 and the meter calibration reports.				
DOE assessment				Date: 11-November-2021
PP has now added the details of check meter in Appendix 1 of revised MR which includes the calibration date and validity of calibration and also submitted the calibration certificate. However, Sr. No of meter (5297427) is not consistent with calibration certificate. Further it has been observed that validity of calibration of meters were up to 24-November-2020. Calibration does not cover the current monitoring period (01-April-2021 to 30-September-2021). PP is requested to clarify. CAR open.				
Project participant response				Date: 21-February-2022
Latest calibration report is being provided and conservatively error factor of 0.4s applied on the net values. (Export and import values are not available in the new version of JMRs, therefore conservatively 0.4% error factor is applied to the net values) Latest calibration report mentioned that the readings are within permissible limit.				
Documentation provided by project participant				
ER V2 and MR v3				
DOE assessment				Date: 22-February-2022
The calibration frequency of meters is once in 5 years. Meters were not calibrated during current monitoring (01-April-2021 to 30-September-2021) The energy meters are not calibrated due to COVID-19 pandemic as informed by PP during interview which comes under purview of state utility. The recent calibration of meters was done on 22-January-2022 and observed error are within permissible limit of accuracy class 0.2s. Further, Statements issued by Regional Energy Account Statement issued by Western Regional Power Committee (WRPC) i.e. JMRs contains only quantity of net electricity generation supplied to grid (actual values). Hence, PP as applied double of maximum permissible error i.e.0.4% (2x0.2%) to the net electricity supplied to grid for the complete monitoring period which is conservatives approach adopted by PP. This acceptable to VVB. CAR closed.				

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member:

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	OR	Singh	Jitendra Mohan	TQC-Outsourced entity	Yes	No	Yes	Yes

Technical reviewer and approver of the verification and certification report:

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR)	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

1. **Mr. Jitendra Mohan Singh**, has done Advanced MSc in Sustainable Energy Systems and Management from International Institute of Management, University of Flensburg, Germany and B.Tech. in Agricultural Engineering from Allahabad University. He has more than (20) years of working experience in different organisations like IARI, ICAR, IIT Delhi, CAPART, SMEC and Perenia Carbon India Pvt Ltd., M B Power (Madhya Pradesh) Ltd., under various categories of projects stating from Renewable to waste projects. Currently, he is associated with True Quality Certification Services Pvt Ltd and is empanelled with APPLUS certification to carry out GHG audit covering the sectoral scope 1, 3, 13 Technical Areas 1.2/1.1/13.1. Prior to this, Jitendra was validator and Verifier (Auditor) with Carbon Check covering the sectoral area 1,3,13 and Technical Expert with 4K Earth Science and EPIC Sustainability. He

was also RIT expert (ad hoc) at UNFCCC from 2010 to 2012 for assessment of projects submitted for registration and issuance.

2. **Mr. Denny Xue** , has a Bachelor's Degree on Thermal Energy Engineering and Master's Degree on Environmental Engineering. He has more than 10 years of experience on CDM project development. Before he joined Applus+ LGAI, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development. He is working with Applus+ since 2011 carrying out Validation and verification for CDM/GS/VCS project under scope 1 and 13 as auditor, lead auditor, technical expert and technical reviewer.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CMS	Central Monitoring system
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Participant
PGCIL	Power Grid Corporation of India Limited
SECL	Solar Energy Corporation of India
MPPMCL	M.P. Power Management Company Limited

APPENDIX 5: UNDERTAKING FOR NO DOUBLE COUNTING

Mahindra Renewables Private Limited
Mahindra Towers,
Dr. C. M. Bhole Marg,
P. K. Kurne Chowk, Worli,
Mumbai 400 018, India
CIN: U40300MH2010PTC205946
Tel: +91 22 6174 1500
Fax: +91 22 6174 1536

Date: 27/09/2021

Undertaking Letter

This undertaking is in reference to the current monitoring period i.e. 01-April-2021 to 30-September-2021 of VCS Project activity titled **"Renewable Solar Power Project by Mahindra Renewables Private Limited"** wherein M/s Mahindra Renewables Private Limited, hereby declares following:-

1. Projects is neither rejected nor seeking registration under Other GHG Programs.
2. The project is hosted in India, which is a Non-annex country and there is no compliance with an emission trading program or to meet binding limits on GHG emissions for this project activity.
3. Project ownership and right of use as per the VCS compliance rest with M/s Mahindra Renewables Private Limited.
4. Project activity does not result in creation of another form of environmental credit during the period for which VCU's are claimed.
5. The project is neither registered in Indian REC nor claiming any of the environmental credits.

Also it is to be noted that, M/s Mahindra Renewables Private Limited would not use net GHG emission reductions by this project for compliance with emission trading program to meet binding limits on GHG emissions.

For, M/s Mahindra Renewables Private Limited.
With Best Regards



Authorized Signatory