

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



Document Prepared By

LGAI Technological Center S.A. (Applus+ Certification)

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Summary:

Verification purpose: The project activity solar based power generation is a grouped project activity having 11 project activity instance with one (1) small scale project activity and 10 large scale project activity with combined installed capacity of 381.5 MW. The details of project instance and location is as underneath -

Project Activity instance	PP (SPV) Name	MW
1	Mihit Solar Power Private Ltd. 25 MW	74
	Mihit Solar Power Private Ltd. 25 MW	
	Mihit Solar Power Private Ltd. 24 MW	
2	ACME Jaisalmer Solar Power Pvt. Ltd.	20
3	Aarohi Solar Pvt. Ltd.	50
4	Dayanidhi Solar Power Pvt. Ltd.	40
5	Niranjana Solar Energy Pvt. Ltd.	20
6	Vishwatma Solar Energy Pvt Ltd.	30
7	Acme Raipur Solar Power Pvt. Ltd.	30
8	Dayakara Solar Power Pvt Ltd	30
9	Grahati Solar Energy Pvt Ltd	50
10	Acme Odisha Solar Power Pvt Ltd	25
11	Eminent Solar Power Pvt Ltd.	12.5
	Total Capacity	381.5

The technology envisaged for this project is solar PV technology. The project promoter ACME Group is involved into many businesses such as housing, pharma and power. The purpose of the project activity is to generate energy electricity by the utilization of solar energy and further selling the generated energy to the Indian grid. In this process there is no consumption of any fossil fuel and hence it does not lead to any greenhouse gas emissions. Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

The technology employed by the project activity converts solar energy to electrical energy using photovoltaic modules. In this process, there are no greenhouse gas emissions or burning of any fossil fuels. The electricity is generated through sustainable means without causing any negative effect to the environment and therefore the technology is environmentally safe and sound.

The project activity helps to reduce the supply demand gap in India and also helps in contributing to the sustainable development by using Solar energy as the source of power generation and reduction of GHG Emissions.

The total emission reductions for the current monitoring period i.e. 1-October-2018 to 31-August-2019 (inclusive of both days) are 626,114 tCO₂e.

This is the fourth monitoring under VCS and covers the activity from 1-October-2018 to 31-August-2019 (inclusive of both dates). The project activity adopts crediting period of 10 years which can be renewed twice.

Start date of crediting period for VCS verification: 22-June-2015.

The GHG credits from 22-June-2015 to 21-June-2025 will be claimed under VCS only. An undertaking dated 06– October-2019 from the project participant confirms that project will not claim any other scheme benefits for the concerned monitoring period.

A risk based approach has been followed to perform this verification activity. In the course of verification, 06 Corrective Action requests (CAR), 00 Clarification Requests (CLs) and 00 Forward action requests (FARs) were raised and successfully closed. 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 DOE with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “ACME Group” to perform the 4th periodic verification of the “Solar Grouped project by ACME Group (EKIESL-VCS-Aug-16-01)” under VCS standard and guideline version 3.7. 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 “AMS. I.D. of version 18.0” & “ACM0002 version 17”.

- the project's monitoring plan is assessed against "AMS. I.D. of version 18.0 " & "ACM0002 version 17".
- the projects 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 and standard version 3.7
- CDM Validation and Verification Standard version 02 for the project activity
- CDM Project Standard version 02for the project activity
- CDM Project Cycle Procedure version 02for the project activity
- VCS standard v3.7
- VCS program guideline v3.7

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 verified emission reductions (VERs).

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 version 02 for the project activity, review against registered PD and Final Validation report, CDM Project Standard version 02 for the project activity, CDM Project Cycle Procedure version 02 for the project activity and VCS program guideline and standard version 3.7.

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 site visit or document verifications. The entire documents checked/solar plant verification conducted to arrive at positive verification conclusions.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “ACME Group” to perform the 4th periodic verification of the “Solar Grouped project by ACME Group (EKIESL-VCS-Aug-16-01)” under VCS standard and guideline version 3.7. 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 “AMS.I.D, Version 18.0” & “ACM0002 version 17”.
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- CDM Validation and Verification Standard version 02 for the project activity
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- CDM Project Cycle Procedure version 02 for the project activity
- VCS standard v3.7
- VCS program guideline v3.7

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 verified emission reductions (VERs).

1.2 Scope and Criteria

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 1.1) 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 version 02 for the project activity, review against registered PD and Final Validation report, CDM Project Standard version 02 for the project activity, CDM Project Cycle Procedure version 02 for the project activity and VCS program guideline and standard version 3.7.

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.

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. No sampling procedure applied for site visit or document verifications. The entire documents checked & verification conducted to arrive at positive verification conclusions.

1.4 Summary Description of the Project

The project activity solar based power generation is a grouped project activity having 11 project activity instances with one (1) small scale project activity and 10 large scale project activity with combined installed capacity of 381.5 MW. The details of project instance and location is as underneath -

Project Activity instance	PP (SPV) Name	MW
1	Mihit Solar Power Private Ltd. 25 MW	74
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4	Dayanidhi Solar Power Pvt. Ltd.	40
5	Niranjana Solar Energy Pvt. Ltd.	20
6	Vishwatma Solar Energy Pvt Ltd.	30
7	Acme Raipur Solar Power Pvt. Ltd.	30
8	Dayakara Solar Power Pvt Ltd	30
9	Grahati Solar Energy Pvt Ltd	50
10	Acme Odisha Solar Power Pvt Ltd	25
11	Eminent Solar Power Pvt Ltd.	12.5
	Total Capacity	381.5

The technology envisaged for this project is solar PV technology. The project promoter ACME Group is involved into many businesses such as housing, pharma and power. The purpose of the project activity is to generate energy electricity by the utilization of solar energy and further selling the generated energy to the Indian grid. In this process there is no consumption of any fossil fuel and hence it does not lead to any greenhouse gas emissions. Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

The renewable energy generation technologies proposed employed under the project activity instances is single technology i.e Solar projects. In case of photovoltaic (PV) plant/unit, the project activity instances would use solar energy to generate direct current from photovoltaic modules that will be converted into alternating current by inverters.

The project activity instances under grouped project activity are grid connected and the generated electricity is supplied to grid or uses grid network for captive or third party sale.

The timeline for Commission of the project activity is also checked by the assessment team. Assessment team checked the Commission of all the project instances via the commissioning Certificates and found correct. The project is implemented as per the description in the registered PD. No event observed during the current monitoring period which can alter or deviate from the methodology requirement. The details are as below:

PP Name	MW	COD	State	Project Location	Latitude (N)	Longitude (E)
Mihit Solar Power Private Ltd.	25	21/03/2016	Punjab	Kherakhurd	29.66	75.26
Mihit Solar Power Private Ltd.	25	21/03/2016	Punjab	Mankhera	29.59	75.24
Mihit Solar Power Private Ltd.	24	28/02/2016 (for 11.5 MW) 30/03/2016 (for 12.5 MW)	Punjab	Jandekalan	29.62	75.20
ACME Jaisalmer Solar Power Pvt. Ltd.	20	12/05/2016	Andhra Pradesh	Raichotti	14.11	78.78
Aarohi Solar Pvt. Ltd.	50	29/03/2016	Andhra Pradesh	Hindupur	13.98	77.48
Dayanidhi Solar Power Pvt. Ltd.	40	01/04/2016	Andhra Pradesh	Shantipuram	12.88	78.38
Niranjana Solar Energy Pvt. Ltd.	20	31/03/2016	Andhra Pradesh	Patthikonda	15.36	77.49
Vishwatma Solar Energy Pvt Ltd.	30	02/04/2016 (for 10 MW) 30/04/2016 (for 20 MW)	Andhra Pradesh	Yemmiganur	15.67	77.47
Acme Raipur Solar Power Pvt. Ltd.	30	09/01/2016 (for 23 MW)	Chattishgarh	Bagbera	21.12	82.48

		15/03/2016 (for 7 MW)				
Dayakara Solar Power Pvt Ltd	30	21/06/2016	Telangana	Maddur	16.88	77.58
Grahati Solar Energy Pvt Ltd	50	20/07/2016 (for 20 MW) 03/08/2016 (for 30 MW)	Telangana	Balanagar	16.93	78.13
Acme Odisha Solar Power Pvt Ltd	25	22/06/2015	Odisha	Balongir,	20.54	83.38
Eminent Solar Power Pvt Ltd.	12.5	09/02/2017	Uttarakhand	Uddham Singh Nagar	29.2	79.1

There was no activity at the site prior to implementation of the project activity (Greenfield). The electricity generated by the project is exported to the Indian grid. The project activity will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. Since Solar power is Greenhouse Gas (GHG) emissions free, the power generated will prevent the anthropogenic gas emissions generated by fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas.

Assessment team confirms following during the verification site visit:

1. Start date of the project activity is 22-June-2015 as mentioned in the registered VCS PD.
2. An undertaking letter dated 06- October -2019 has been submitted by PP for 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. Assessment team also checked that the projects are not registered under the REC mechanism of India and the same can be cross-checked at <https://recregistryindia.nic.in>. PP has given a written declaration that the credit claimed under VCS for the current monitoring period is not claimed under any other GHG mechanism. Hence the assessment team considers there is no risk for double counting as per the given evidences and the traceability of the project issuances in the GHG programs.
3. Assessment team confirms that this is the fourth monitoring under VCS and covers the activity from 01-October-2018 to 31-August-2019 (inclusive of both dates). Project activity has Renewable crediting period of 10 years which can be renewed twice. The project activity adopts crediting period of 10 years which can be renewed twice. Start date of creditingperiod for VCS verification: 22-June-2015 (Date of commissioning of first project instance by Acme Odisha Solar Power Pvt Ltd under ACME group having installed capacity of 25 MW). The GHG credits from 01-October-2018to 31-August-2019 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	Mihit Solar Power Private Ltd.
Contact person	Gursharan Jassal
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	ACME Jaisalmer Solar Power Pvt. Ltd.
Contact person	Gursharan Jassal
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Aarohi Solar Pvt. Ltd
Contact person	Jyoti Arora
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Dayanidhi Solar Power Pvt. Ltd.
Contact person	Manish Karna
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Niranjana Solar Energy Pvt. Ltd.
Contact person	Yudhvir Singh Gulia
Title	Director

Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Vishwatma Solar Energy Pvt Ltd.
Contact person	Ashish K. Saxena
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Acme Raipur Solar Power Pvt. Ltd.
Contact person	Rajesh Sodhi
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Dayakara Solar Power Pvt Ltd
Contact person	Rajesh Sodhi
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Grahati Solar Energy Pvt Ltd
Contact person	Jyoti Arora
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Acme Odisha Solar Power Pvt Ltd
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Contact person	Gursharan Jassal
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

Organization name	Eminent Solar Power Pvt. Ltd
Contact person	Gursharan Jassal
Title	Director
Address	Plot No.152, Sector – 44, Gurgaon -122 002, Haryana, India
Telephone	-
Email	-

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

Organization name	EKI Energy Services Ltd.
Role in the project	Project Consultant
Contact person	Mr. Kingshuk Das
Title	Manager - Operations
Address	EnKing Embassy, Office No. 201, Plot 48, Scheme 78, Part 2 Vijay Nagar, Near brilliant Convention Centre, Indore- 452010 Madhya Pradesh, India
Telephone	T: +91 731 42 89 086, M: +91 9589899647
Email	kingshuk@enkingint.org

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that actual emission reductions are 626,414 tCO₂ which is 3.32% lower than estimated. This is due to low PLF factor during current monitoring period. The PLF is not under control of PP. It is to be noted that there is no change in design of project activity as checked by the assessment team

during the onsite visit and all the parameters has been monitored as per the Monitoring Plan mentioned in the Registered PD, hence there is no any post registration changes applicable. The current monitoring period involves huge variation in sun days and this is nature dependent and not in control of PP. It is to be noted that PLF is dependent on solar radiation availability, which is not under control of PP. Assessment team however analysed the impact of low PLF on additionality.

As per Registered PD (tCO ₂ e)/annum	705,971
Monitoring period start	01/10/2018
Monitoring period end date	31/08/2019
Total number of days	335
Estimated VERs(tCO ₂ e)	647,946
Actual VERs(tCO ₂ e)	626,414
Difference (Negative)	3.32%

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Scope: 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 ACM0002, ver. 17 & AMS.I.D version 18.0. 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 standard and guideline version 3.7, including the approved baseline and monitoring methodology ACM0002, ver. 17 & AMS.I.D version 18.0. The verification was based on the requirements in the CDM Validation and Verification Standard (VVS version 02 for the project activity), CDM project standard version 02 for the project activity, CDM project cycle procedure version 02 for the project activity and VCS program guideline and standard version 3.7

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.

Verification Process: The project assessment is based on the “Clean Development Mechanism Validation and Verification Standard” version 02 for the project activity and “VCS standard and program guideline version 3.7” 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:

1. A desk review of the Monitoring report against the registered PD and final validation report;
2. Follow-up interviews with project participant;
3. 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. 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 validating the identified criteria.

Appointment of the assessment team

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

The composition of audit team shall be approved by the 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
Mr. Pankaj Kumar	LA/TE	YES	YES	NA	YES

Mr. Simon Shen	TR	YES	YES	NA	NA
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The detail regarding the assessment team is provided below in this report as Appendix 3.

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 site visit is conducted by Applus+ Certification performed interviews, telephone conferences, and physical site inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report.

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 02 submitted by PP on 30/10/2019 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 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 PP the positive verification opinion and relevant documents are submitted to the VCS board 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

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Jassal	Mr. Gursharan	PP Representative	10/11/2019 to 15/11/2019	Implementation of the project and monitoring. Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	Mr. Pankaj Kumar
2	Singh	Rajiv		10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar
3	Thakur	Sanjiv	Villager	10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar
4	Seth	Ambrish	Villager	10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar
5	Rai	Sundar	Villager	10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar
6	Rao	Raghvendra	Villager	10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar
7.	Udar	Pendyala	Villager	10/11/2019 to 15/11/2019	Local Stakeholder Consultations	Mr. Pankaj Kumar

2.4 Site Inspections

Duration of on-site inspection: 10/11/2019 to 15/11/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring. Assessment team also checked that whether the monitoring plan as described in the VCS PD is actually practised onsite. Also assessment team checked any change in host country criteria which may affect the baseline of the project activity. Assessment team also had a discussion with Local stakeholders and checked grievance register placed onsite as per the continuous improvement measure of PP for the Local villagers.	The detail address of the power plant is as below: This is a grouped project and is located in several states across India details are provided in earlier section of the report.	10/11/2019 to 15/11/2019	Mr. Pankaj Kumar

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 from validation which need to be clarified for Applus+ Certification's 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 2 submitted by PP on 30/10/2019 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 validation and verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	00	00
Description of project activity	00	01	00
Application of selected baseline and monitoring methodology and selected standardized baseline			
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	01	00
Calibration details	00	01	
Monitoring plan	00	00	00
No Net harm assessment	00	00	
Local stakeholder consultation	00	01	
Others (please specify)-Matter related to breakdown details	00	02	00
PP declaration – Related to participation in other GHG program for the monitoring period			
Total	00	06	00

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

2.5.1 Forward Action Requests

This is 4th periodic verification of the project activity and no FAR raised from previous 3rd verification.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

This section is not applicable for present verification.

3.2 Methodology Deviations

This section is not applicable for present verification.

3.3 Project Description Deviations

This section is not applicable for present verification.

3.4 Grouped Project

This is a grouped project. The project instances are observed to be meeting requirement of grouped project as per capacity and baseline defined in registered PD. There are no deviations observed in baseline scenario of the project instance as defined in registered PD.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the verification site visit it was concluded that the project is implemented as per the requirement of the registered PD and Final Validation report. During the current monitoring period it was observed that no unforeseen incident/event evolved which can impact the operation of the project activity. The project undergone continuous operation and only scheduled maintenance is observed as per the manufacturer's

specification which is acceptable to the assessment team. No events or situations happened during the reported monitoring period that can alter the applicability of the applied methodology as confirmed by the assessment team during the verification site visit.

CAR 01 is however raised regarding details of the project activity timeline of each project activity instance and CAR 02 is raised for the details of downtime/breakdown records.

Commissioning certificates (third party, Govt. source), Power purchase agreement, O&M agreements and other technical documents, have been confirmed by the assessment team during the verification sites visit. The timeline details are included in the MR and thus the CAR is closed.

Breakdown log sheets for individual power project i.e. plant breakdown log sheets are submitted by PP. There were multiple breakdowns during the monitoring period. Scheduled maintenance was carried out as per the instruction of the manufacturer and the same is acceptable to the assessment team. CAR 02 is thus closed.

Project location is confirmed by the assessment team during the sites visit. Assessment team also checked with the GPS meter regarding the latitude and longitude of the project sites and confirms that the details as mentioned in the registered PD are correct. The details are as below:

SPV Name	MW	State	Project Location /Sub Station	Village	Tehsil	District
Mihit Solar Power Private Ltd.	25	Punjab	Kherakhurd	Khaira Khurd	Sardulgarh	Mansa
Mihit Solar Power Private Ltd.	25	Punjab	Mankhera	Mankhera	Sardulgarh	Mansa
Mihit Solar Power Private Ltd.	24	Punjab	Jandekalan	Jhande Kalan	Sardulgarh	Mansa
ACME Jaisalmer Solar Power Pvt. Ltd.	20	Andhra Pradesh	Rayachoti	Pothukur upalli	Ramapuram Mandal	Kadapa
Aarohi Solar Pvt. Ltd.	50	Andhra Pradesh	Hindupur	Kalipi	Roddam Mandal	Anathapur
Dayanidhi Solar Power Pvt. Ltd.	40	Andhra Pradesh	Shanthipuram	Gunjarlapalle & Morasana palle	Shanthipuram Mandal	Chittoor
Niranjana Solar Energy Pvt. Ltd.	20	Andhra Pradesh	Pathikonda	Puchakayalamanda	Pathikonda Mandal	Kurnool
Vishwatma Solar Energy Pvt Ltd.	30	Andhra Pradesh	Yemmiganur	Kadivella	Yemmiganur	Kurnool
Acme Raipur Solar Power Pvt. Ltd.	30	Chattishgarh	Bagbera	Bhikapali	Bagbahara	Mahasamund
Dayakara Solar Power Pvt Ltd	30	Telangana	Maddur	Damkanpur	Maddur	Mehbubnagar
Grahati Solar Energy Pvt Ltd	50	Telangana	Balanagar	Narellapalli	Balanagar	Mehbubnagar

Acme Odisha Solar Power Pvt Ltd	25	Odisha	Balongir	Mursing & Sikuan	Deogaon	Bolangir
Eminent Solar Power Pvt Ltd.	12.5	Uttarakhand	Udham Singh Nagar	Ratanpur Bazpur	Bajpur	Udham Singh Nagar
Total (MW)	381.5					

The technical details are checked by the assessment team during the field visit and also cross checked with manufacturers technical manual and found correct.

Assessment team checked the commissioning certificates and confirmed that the date of Commission for each instance is correct.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period. The project design as mentioned in the registered PD is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment and procedures as mentioned in the registered PD are available and implemented in an appropriate manner.

The organisational role and responsibility as mentioned in the registered PD is followed onsite. All the monitoring equipment was calibrated as per the specified interval in the registered PD. No delay in Calibration is observed. All the emergency preparedness as mentioned in the registered PD is followed onsite and no discrepancies were found regarding the same.

It was also observed during the verification process that project has not participated or rejected by any other GHG program around the world. CAR 05 however is raised for the same. Please refer Appendix 2 of this report for the detail closure of the CAR. A written declaration is also checked by the assessment team which confirms that PP will not claim any GHG emission for the present monitoring period from any other mechanism.

It was also observed during the verification process is that project is not rejected by any other GHG program around the world. The project is registered by VCS board and the registered PD and registered FVR is used to assess the present 4th periodic verification. The following web site was checked to confirm the same:

1. https://www.vcsprojectdatabase.org/#/project_details/1580

Assessment team hereby also confirms from the declaration made by PP the projects are not registered under the REC mechanism of India and the same is cross-checked at <https://recregistryindia.nic.in>. Moreover as per state tariff policy the project is not eligible to receive REC benefits as it is selling power to State electricity grid.

Sustainable development indicators

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forests & Climate Change (MoEF&CC), has mentioned four indicators for the sustainable development in the interim approval guidelines for

Clean Development Mechanism (CDM/VCS) projects from India¹. Thus the project's contribution towards sustainable development has been addressed based on the following sustainable development aspects:

Social well-being

The project activity provided / provides job opportunity to local people during erection, commissioning and maintenance of the solar project. Frequency of visiting villages and nearby areas by skilled, technical and industrialist increase due to installation /site visit/operation and maintenance work related to solar plant. This directly and indirectly positively effects the economy of villages and nearby area.

Environmental well-being

Solar power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

Economic well-being

The VCS project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

Technological well-being

The project activity is step forward in harnessing the untapped solar potential and further diffusion of the solar PV technology in the region. The project activity leads to the promotion and demonstrates the success of solar projects in the region which further motivate more investors to invest in solar power projects. Hence, the project activity leads to technological well-being.

The assessment team observed that the project is in line with the registered PD, FVR and approved methodology and thus no clarification/deviation is sought.

4.2 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 VCS PD. 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
Findings	CAR 03 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR
Conclusion	The baseline Emissions for a given year is calculated by multiplying the energy baseline (EB) with the regional grid emission factor. Formula Used:-

¹http://www.cdmindia.gov.in/approval_process.php

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

Where,

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

Ex ante Parameters:

Baseline emission factor is fixed and calculated ex-ante for the project activity as per the registered PD.

$$EF_{\text{grid},\text{CM},y} = \text{CO}_2 \text{ emission factor of the grid in year } y; \text{ tCO}_2/\text{MWh}$$

:

The data for the EF_y is calculated by the Central Electricity Authority, Govt of India every year. Thus, the data would reflect the updated existing generation mix for the Indian grid and used ex-ante. The conservative of the weighted average and the combined margin as calculated by CEA version 11 is taken as emission factor. As the data is sourced from third party no further assessment is required. The value of EF_y is 0.9777 tCO₂e/MWh.

Ex-post parameter:

As per the registered monitoring plan and requirement of the registered methodology following parameters needs to be monitored:

The Net electricity supplied to the grid by the project activity is calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from joint meter reading certificates/credit notes issued by state electricity board as per below equation:

$$EG_{\text{facility},y} = EG_{\text{Export}} - EG_{\text{Import}}$$

The joint reading at metering point is carried out once in a month in presence of O&M officials and state electricity board personnel.

The calculations/measurement of net electricity supplied to grid is under purview of state electricity board and the PP/Project activity Instance owner has no role on it. PP/Project activity Instance owner gets value of net electricity supplied to grid and hence this parameter is mentioned as a part of monitoring plan.

	EG(import):Electricity imported by the project in year y (MWh). The electricity import from each plant is recorded by an energy meter installed in the sub-station. Electricity imported by the project is calculated as the sum of values of electricity imported and forms the part of JMR sheets and invoices. The primary source of data for the parameter is JMR sheet. The invoices can also be used to cross check the value. All the energy meters of accuracy class 0.2s are under the purview of state boards. EG_(export): Electricity exported by the project in year y (MWh). The electricity export from each plant is recorded by an energy meter installed in the sub-station. Electricity export by the project is calculated as the sum of values of electricity imported and forms the part of JMR sheets and invoices. The primary source of data for the parameter is JMR sheet. The invoices can also be used to cross check the value. All the energy meters of accuracy class 0.2s are under the purview of state boards. The project activity involves in harnessing Solar Power. So the emissions from the project are zero. Leakage emission is zero as per the registered PD. As per the applied methodology, emission reductions are calculated as follows: $ER_y = BE_y - PE_y - LE_y$ $= 626,414 \text{ tCO}_2\text{e} - 0 - 0 = 626,414 \text{ tCO}_2\text{e} \text{ (rounded down)}$ Where: ER_y = Emission reductions in year y (tCO₂e/yr) BE_y = Baseline emissions in year y (tCO₂e/yr) PE_y = Project emissions in year y (tCO₂e/yr)=0 LE_y = Leakage emission in Year y (tCO₂e/yr)=0 Hence, ER_y= BE_y Therefore, Baseline Emissions: $BE_y = 640702 \times 0.9777 = 626,414 \text{ tCO}_2 \text{ (Round down)}$
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4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
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Findings	CAR 04 was raised during the verification process. The description of the CAR and its closure is described below in Appendix 2 of this report
Conclusion	The metering arrangement is bi-directional energy meters (main and check) at the State Electricity Board (SEB) substation. These meters record several parameters including electricity exported & imported. These electricity meters are being used by state electricity board for Share certificate statements. Assessment team found that since metering arrangement, monitoring practice, accuracy class, calibration interval is under control of state electricity board, the PP does not have all calibration certificates available with them. The details of the Calibration is presented in Appendix 5 Assessment team confirms that all the energy meters (both main and check meter) installed at the substation are of accuracy class of 0.2s and are calibrated as per the national standards followed by the electricity board, but they are calibrated at least once in a year. There were no delay in calibration for the current monitoring period. The calibration of the energy meters installed at HT side of the transformer were carried out by Meter and testing division of the electricity board which is 3rd party organization and the same is acceptable to the assessment team. The Meter and testing division of the electricity board is accredited by NABL (National Accreditation Board for Laboratory, Govt of India) to carry out the testing of the meters which is as per the national regulation and thus traceability of the Calibration is also confirmed by the assessment team.

4.4 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	
NA	NA	NA	NA	NA

5 SAFEGUARDS

5.1 No Net Harm

No potential environment or socio-economic matter was found during the site visit. The project is renewable energy project and thus no negative impact observed onsite. CAR 06 is raised during the process and please refer Appendix 2 for the closure of the CAR.

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 2013. This report clearly mentioned that Solar 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 project falls under White Category and are practically non-polluting.

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

However, assessment team still conducted the No net harm assessment for some of the parameters and the result is described below.

SL.NO	Indicator	Assessment team opinion
1	Air quality	The project generates clean energy which replaces the fossil fuel intensive electricity generation. Also report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that Solar plant operations do not result in direct air pollution. Adequate measures were taken to mitigate the envisaged impacts like spraying water on the road side to reduce dust level, etc. This was confirmed by the local stakeholders. Therefore, it is validated that mitigation measures were robustly implemented on ground for air quality issues project will have a positive impact on air quality.
3	Soil condition	There are negligible impacts envisaged during operation of the project activity. For mitigating the impacts during construction, various mitigation measures were taken which is validated from the plant records of PP and the interview with local villagers. The top soil excavated during construction, was stockpiled and used for compaction. The roads were not paved and soling was done with excavated earth & rock material, so land disturbance could be minimized.

		It was also confirmed that, the vegetation done at site helps for soil erosion. The same is confirmed during the stakeholder meetings during onsite visit. Therefore, it can be concluded that the project has no effect on soil conditions during its operation because it has no waste coming out.
4	Biodiversity	During the validation site visit it was observed that the condition of ground vegetation will be gradually improved; No rare species has been found in the around area. With the implementation of Project, the greening water will be increased significantly; the biodiversity in the vicinity will be improved with the vegetation improvement. No negative impact envisaged.
5	Employment Generation	The project activity employed local population as skilled workers as well as security guards which were envisaged during the validation site visit. The personnel employed by the project activity are also provided trainings and exposed to various awareness programs therefore a positive indicator has been accepted.
6	Livelihood of the poor	The project is associated with infrastructure development like roads in the nearby areas and promoting economic activities like grants to local school and communities temples etc. Also, project employed local villagers as guards for the security of power project. Positive impact envisaged. .

5.2 Local Stakeholder Consultation

All the stakeholders are happy with the implementation and operation of the project activity and no negative comments envisaged for the project activity. There was no change in technical project description from the registered VCS PD. Assessment team confirmed the same during the verification site visit. However CAR 06 is raised during the verification process. Please refer Appendix 2 for the detail closure of the CAR. Also, as best practice method PP also placed a grievance register onsite to record any grievance from the stakeholders during and after the implementation of the project activity. Assessment team checked the grievance register maintained onsite and no negative comments were observed for the project activity. Local people are happy as the project generated employment opportunities and thus the living standards in and around the vicinity of the project is increased and thus assessment team confirms that local stakeholders have no issue with this project activity after implementation and continuous operation.

The interaction with some of the stakeholders during the site visit are presented below:

Name of the stakeholder	Rajiv Singh
Occupation	Villager
DOE QUESTION: Did PP promised employment opportunity? Answer: Yes, PP told us that employment will be generated and the locals will be given priority. DOE also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work. DOE also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.	

Name of the stakeholder	Ranjan Prasad
Occupation	Villager
DOE questions: Did the power plant discharge any harmful pollutants? Answer: NO the plant does not discharge any harmful pollutants. DOE questions: Did the power plant destroy any crop fields? Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged.	

6 VERIFICATION CONCLUSION

Applus+ Certification has been engaged by ACME group to perform the 4th periodical verification of the “Solar Grouped project by ACME Group (EKIESL-VCS-Aug-16-01)”

The management of ACME group is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered VCS PD and the applied methodology AMS.I.D version 18.0& ACM0002 Version 17.

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. 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 team 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 installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

Verification period: 01-October-2018 to 31-Aug.-2019 (inclusive of both days)

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2018	165,529	0	0	165,529
2019	460,886	0	0	460,886
Total	626,414	0	0	626,414

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1	NA	Commissioning certificates of the plants	NA	Project participant
2	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
3	NA	Technical specifications of solar module from manufacturers	Manufacturer technical specifications	Project participant
4	NA	Registered PD version 01 dated 17/07/2017 https://www.vcsprojectdatabase.org/#/project_details/1580	NA	Project participant
5	NA	Final Verification report (1st and 2nd periodic) https://www.vcsprojectdatabase.org/#/project_details/1580	NA	Project participant
6	NA	Emission Calculation sheet version 01 Emission Calculation sheet version 02	ER sheet Dated 01/10/2019 ER sheet Dated 30/10/2019	Project participant
7	NA	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	Project participant
8	NA	RBI: Reserve Bank of India www.rbi.org.in	Reference link is provided.	Independent Search

		Ministry of Environment and forest: www.envfor.nic.in UNFCCC www.cdm.unfccc.int CEA: Central electricity authority www.cea.nic.in Income tax act 1961 http://law.incometaxindia.gov.in/DIT/ VCS: Verified Carbon Standard www.v-c-s.org		
09	NA	Tools/ guidelines used in the project activity • Tool to calculate the emission factor for an electricity system (Version 05) • Tool for the demonstration and assessment of additionality (Version 06.0.0) • Glossary of CDM terms version 07 • VCS verification report template version 03.4	UNFCCC CDM/VCS web site	UNFCCC VCS
10	NA	Share reports/Monthly statement for the complete monitoring period	Share reports/Monthly statement for the complete monitoring period	PP
11	NA	MR version 01 MR version 02	01/10/2019 30/10/2019	PP
12	NA	Invoices for the complete monitoring period	Invoice	PP
13	NA	Break down details of the complete monitoring period	Log sheet	PP

14	NA	Declaration regarding no participation in other GHG program for the concerned monitoring period	Declaration dated 06-October -2019	PP
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APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)

CAR ID	01	Date: 19/10/2019
Description of CAR		
The details implementation of the project activity timeline is available in the MR, however, supporting documents such as Commissioning certificates, Power purchase agreement and O&M agreements are missing. The technical details supporting documents are not submitted to the assessment team.		
Project participant response		Date: 30/10/2019
The supporting documents like Commissioning Certificates, PPA and O&M agreements are now provided to the DOE assessment team. The technical details supporting is also now submitted to the DOE assessment team.		
Documentation provided by project participant		
1. Commissioning Certificate 2. PPA 3. O&M Agreements 4. Technical detail supporting		
DOE assessment		Date: 07/11/2019
Supporting documents for commissioning of plants in all states included in this verification, PPA, O&M agreements and technical details of technology provided by PP checked and found to be appropriate. CAR closed.		

CAR ID	02	Date: 19/10/2019
Description of CAR		
The breakdown details of the plants are missing in the MR. Also the supporting document regarding the breakdown details are not provided to the assessment team. Corrective action is sought in this regard.		
Project participant response		Date: 30/10/2019
The breakdown details are now included in the appendix-2 of the MR. Also, the supporting document of the same has been submitted to the assessment team.		
Documentation provided by project participant		
1. Break down details 2. VCS MR		
DOE assessment		Date: 07/11/2019
The breakdown log details are checked and found correct. Power Plant went through scheduled maintenance as per the manufacturer's specification and no unforeseen incident found for the monitoring period. Breakdown details included in revised MR, ver. 02 dated 30/10/2019 and found to appropriate. CAR is thus closed.		

CAR ID	03	Date: 19/10/2019
Description of CAR		
The JMR sheets and Invoice for the complete monitoring period is missing. Emission reduction value is thus reserved and will further be analysis on the submission of the documents. Corrective action is sought.		
Project participant response		Date: 30/10/2019

The JMRs and Invoices for the complete monitoring period are now provided to the assessment team. Also, the actual ER sheet is now submitted to the assessment team.

Documentation provided by project participant

1. JMRs & Invoices for the complete monitoring period.
2. Actual ER sheet

DOE assessment

Date: 07/11/2019

PP has provided JMRs and invoices for entire monitoring period along with revised ER sheet ver. 02. Verification team checked JMRs and invoices and found that values are correct in ER sheet. CAR closed.

CAR ID 04

Date: 19/10/2019

Description of CAR

The calibration certificates for the complete monitoring period have not been submitted for assessment. Corrective action sought for the same

Project participant response

Date: 30/10/2019

The calibration certificates are now submitted to the DOE assessment team.

Documentation provided by project participant

Calibration Certificates

DOE assessment

Date: 07/11/2019

Calibration certificates provided by PP for all relevant energy meters for this monitoring period checked and found to be in line with registered PD and host country guidelines for calibration. Calibration details also provided in revised MR, ver. 02. CAR closed.

CAR ID 05

Date: 19/10/2019

Description of CAR

As per section 1.9 of the VCS MR, the project is not participated in other GHG program and has not intended to pursue credits from other GHG program for the concerned monitoring period. Supporting documents and details regarding the same is missing in the MR.

Project participant response

Date: 30/10/2019

The declaration from PP has now been provided.

Documentation provided by project participant

PP Declaration

DOE assessment

Date: 07/11/2019

Declaration regarding non participation of other GHG mechanism for the current monitoring period provided by PP checked and found to be appropriate. CAR closed.

CAR ID 06

Date: 19/10/2019

Description of CAR

During the document review it is observed that "Local Stakeholder" consultation are not conducted as it is not applicable, however a stakeholder feedback has been referred, same needs to be shared with DOE.

Project participant response

Date: 30/10/2019

As per VCS Guidelines, this section is not mandatory as the project is already registered and DOE Contract for validation was prior to 19/04/2017. As a part of continuous feedback from stakeholders, the PP also placed a grievance register onsite where-in, the stakeholder can put down his/her complain. The section in the VCS MR has been updated accordingly.

Documentation provided by project participant

VCS MR	
DOE assessment	Date: 07/11/2019
PP has made necessary amendments in section 2.4.2 of revised MR, ver. 02 and justification provided by PP seems to be appropriate and accepted. 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	Kumar	Pankaj	TQC-Outsourced entity	Yes	Yes	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	Sendin	Juan	Applus+ Certification B.U. Managing Director

Short CVs of the Team:

- 1. Mr. Pankaj Kumar** worked as team leader – Bihar for South Asia Climate Proofing and Growth Development (CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India, Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO (Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA as Team Leader for validation, verification of around 100 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1 & 13.1 by UNFCCC DoE (Designated Operational Entity), APPLUS, Spain. He is also member of task force on climate change & human health, Health Department, GoB and on roster of UNICEF's WASH experts.

He is an experienced, qualified and result oriented Environment Professional having more than 14 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and Carbon foot printing

Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).

2. Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 5 years

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
RBI	Reserve Bank Of India
PP	Project Participant

APPENDIX 5: CALIBRATION DETAILS OF THE METERS

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

PP Name	MW	State	Project Location	Main Meter serial number	Check Meter Serial Number	Stand By Meter if available	Calibration Date	Due Date of next Calibration
Mihit Solar Power Private Ltd.	25	Punjab	Kherakhurd	PBB48607	NA	NA	06-12-2016	05-12-2021
Mihit Solar Power Private Ltd.	25	Punjab	Mankhera	PBB48603	NA	NA	06-12-2016	05-12-2021
Mihit Solar Power Private Ltd.	24	Punjab	Jandekalan	PBB48610	PBB48609	PBB48611	10-12-2015	09-12-2020
ACME Jaisalmer Solar Power Pvt. Ltd.	20	Andhra Pradesh	Raichotti	APX00910 & APX00913	APX00911 & APX00914	APX00912 & APX00915	26-04-2016	25-04-2021
Aarohi Solar Pvt. Ltd.	50	Andhra Pradesh	Hindupur	APX00584	APX00585	APX00586	29-12-2015	28-12-2020
Dayanidhi Solar Power Pvt. Ltd.	40	Andhra Pradesh	Shantipuram	APX00604	APX00605	APX00600	28-03-2016	27-03-2021
Niranjana Solar Energy Pvt. Ltd.	20	Andhra Pradesh	Patthikonda	15196518 & 15196512	15196519 & 15196521	15196516 & 15197462	19-03-2016	18-03-2021
Vishwatma Solar Energy Pvt Ltd.	30	Andhra Pradesh	Yemmiganur	15197463	15197470	15196511	19-03-2016	18-03-2021
Acme Raipur Solar Power Pvt. Ltd.	30	Chattish-garh	Bagbera	MSP54469	NA	NA	07-12-2015	06-12-2020
Dayakara Solar Power Pvt Ltd	30	Telangana	Maddur	APX00907	APX00908	APX00909	31-05-2016	30-05-2021
Grahati Solar Energy Pvt Ltd	50	Telangana	Balanagar	APX00971	APX00972	APX00973	09-06-2016	08-06-2021
Acme Odisha Solar Power Pvt Ltd	25	Odisha	Balongir	OPTO1170	OPTO1399	NA	24-06-2016	23-06-2021
Eminent Solar Power Pvt Ltd.	12.5	Uttarakhand	Uddham Singh Nagar	UKD02407	UKD02412	NA	09-02-2017	08-02-2022

Assessment team found that since metering arrangement, monitoring practice, accuracy class, calibration interval is under control of state electricity board, the PP does not have all calibration certificates available with them.

As per the registered monitoring plan, the energy meters have to be calibrated once in 5 years. No delay in Calibration is observed.