

# Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises



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| <b>Project Title</b> | Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises |
| <b>Version</b>       | 01                                                                  |
| <b>Report ID</b>     | 3119                                                                |

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|----------------------|---------------------------------------------------------------------|
| <b>Report Title</b>  | Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises |
| <b>Client</b>        | Giriraj Enterprises                                                 |
| <b>Pages</b>         | 37                                                                  |
| <b>Date of Issue</b> | 18/05/2019                                                          |
| <b>Prepared By</b>   | LGAI Technological Center S.A. (Applus+ Certification)              |

|                            |                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| <b>Work Carried Out By</b> | Mr. Pankaj Kumar - Lead Auditor/Technical expert                                                                                                                                                                                                                                                                                                                         |

**Summary:**

**Verification purpose:** The project activity involves an installation of 56.25 MW in district of Telengana and Tamil Nadu.

| Project Investors   | Project Type | Project Capacity in AC | Date of Commissioning | Project Location                                                        | State      |
|---------------------|--------------|------------------------|-----------------------|-------------------------------------------------------------------------|------------|
| M/s. D. J. Malpani  | Solar        | 16.25 MW               | 31-03-2015            | Village- Hoti<br>Tehsil- Zaheerabad<br>Mandal, District- Medak          | Telangana  |
| Giriraj Enterprises | Solar        | 40 MW                  | 23-09-2015            | Village- Sengottai,<br>Tehsil- Virudhunagar,<br>District- Virudhunagar, | Tamil Nadu |

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 NEWNE Grid of India. 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 solar PV technology. 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 the state 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. 26/03/2018 to 25/03/2019 (inclusive of both days) are is 100,718 tCO<sub>2</sub>e.

This is the third monitoring under VCS and covers the 26/03/2018 to 25/03/2019 (inclusive of both dates). The project activity adopts crediting period of 10 years which can be renewed twice

The GHG credits from 26/03/2018 to 25/03/2019 will be claimed under VCS only. An undertaking 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 "Giriraj Enterprises" to perform the 3<sup>rd</sup> periodic verification of the "Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises" 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 "ACM0002, Version 17"
- the project's monitoring plan is assessed against "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 02 for the project activity
- 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).

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 “Giriraj Enterprises” to perform the 3<sup>rd</sup> periodic verification of the “Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises” 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 “ACM0002, Version 17”
- the project's monitoring plan is assessed against “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 02 for the project activity
- 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/ site verification conducted to arrive at positive verification conclusions.

### 1.4 Summary Description of the Project

The project activity involves an installation of solar PV modules of total generating capacity of 56.25 MW in district of Telengana and Tamil Nadu.

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 NEWNE Grid of India. 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 solar PV technology. 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 the state 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 details of the project are mentioned in the table:-

| Project Investors   | Project Type | Project Capacity in AC | Date of Commissioning | Project Location                                                        | State      |
|---------------------|--------------|------------------------|-----------------------|-------------------------------------------------------------------------|------------|
| M/s. D. J. Malpani  | Solar        | 16.25 MW               | 31-03-2015            | Village- Hoti<br>Tehsil- Zaheerabad<br>Mandal, District- Medak          | Telangana  |
| Giriraj Enterprises | Solar        | 40 MW                  | 23-09-2015            | Village- Sengottai,<br>Tehsil- Virudhunagar,<br>District- Virudhunagar, | Tamil Nadu |

The timeline for Commission of the project activity is also checked by the assessment team. Assessment team checked the Commission of all the solar plant 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.

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 NEWNE 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 31/03/2015 is mentioned as start date of VCS project on basis of earliest commissioning date. Thus for VCS, start date of project activity is 31/03/2015.
2. An undertaking letter 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.
3. Assessment team confirms that this is the third monitoring under VCS and covers the activity renewable crediting period of 10 years. Start date of crediting period for VCS verification: 31/05/2015 (Date of commissioning first solar unit). The GHG credits from 26/03/2018 to 25/03/2019 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 | Giriraj Enterprises                                                                  |
| Contact person    | Mr. Prafulla Khinvasara                                                              |
| Title             | CEO - Renewable Power Projects                                                       |
| Address           | Malpani House, New Nagar Road, Tal- Sangamner, Dist – Ahmednagar, Maharashtra, India |
| Telephone         | --                                                                                   |
| Email             | --                                                                                   |

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Organization name | D J Malpani                                                                          |
| Contact person    | Mr. Prafulla Khinvasara                                                              |
| Title             | CEO - Renewable Power Projects                                                       |
| Address           | Malpani House, New Nagar Road, Tal- Sangamner, Dist – Ahmednagar, Maharashtra, 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 Limited                                                                              |
| Role in the project | Project Consultant                                                                                       |
| Contact person      | Mr. Manish Dabkara                                                                                       |
| Title               | MD & CEO                                                                                                 |
| Address             | Office No. 201, EnKing Embassy, Plot No. 48, Scheme No. 78, Part II, Vijay Nagar INDORE – 452010, India. |
| Telephone           | +91-731-4289086                                                                                          |
| Email               | <a href="mailto:manish@enkingint.org">manish@enkingint.org</a>                                           |

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Emission reduction was calculated on basis of net electricity exported to connected grid and emission factor of grid calculated at the registration, which is fixed for entire crediting period. Every month grid and project representatives take a joint meter reading and a JMR report is issued to PP to raise financial invoice. The emission reduction calculation was checked with help of JMR (Joint Monitoring Report) and invoices for every month of each vintage with in this monitoring period. The total emission reduction is calculated at 100,718 . The calculation was found to be correct. The estimated annual emission reduction as per registered PD was 93,022 per year (365 days), hence the total estimated emission reduction for current monitoring period (365 days) should be 93,022. Assessment team also compared actual VER with the

estimated VER in registered PD and found that the actual VER is 8% higher than the estimated emission reduction. Increase in the emission reduction and is impacting additionality if the project. The current monitoring period involves variation in solar days availability and this is nature dependent and not in 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.

## 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 version 17. 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 version 17. 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<br>Coverage | TA<br>Coverage | Financial<br>aspect | Host country<br>experience |
|------------------|-------|----------------|----------------|---------------------|----------------------------|
| Mr. Pankaj Kumar | LA/TE | YES            | YES            | NA                  | YES                        |
| Mr. Simon Shen   | TR    | YES            | YES            | NA                  | NA                         |

The detail regarding the assessment team is provided below in this report as Appendix 3

### **Document review**

The Monitoring report version 01 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 17/05/2019 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. | Bankar | Mr. Kailash | PP Representative | 09/05/2019 | Implementation of the project and monitoring. Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite | Mr. Pankaj Kumar |
| 2  | Babu   | Mr. Chandra | Villager          | 09/05/2019 | Local Stakeholder Consultations                                                                                                                                        | Mr. Pankaj Kumar |
| 3  |        | Mr. Ashok   | Farmer            | 10/05/2019 | Local Stakeholder Consultations                                                                                                                                        | Mr. Pankaj Kumar |

## 2.4 Site Inspections

| Duration of on-site inspection: 09/05/2019 & 10/05/2019 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                               |                         |                  |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|
| No.                                                     | Activity performed on-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Site location                                                                                                                 | Date                    | Team member      |
| 1.                                                      | <p>Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring.</p> <p>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.</p> | <p>The detail address of project is as below:</p> <p>The project activity is located in state of Telengana and Tamil Nadu</p> | 09/05/2019 & 10/05/2019 | 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 02 submitted by PP on 17/05/2019 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 | 02 | 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 | 00 |    |
| Monitoring plan                                                                                | 00 | 00 | 00 |
| No Net harm assessment                                                                         | 00 | 01 |    |
| Local stakeholder consultation                                                                 | 00 | 01 |    |
| Others (please specify)-Matter related to breakdown details                                    | 00 | 01 | 00 |
| PP declaration – Related to participation in other GHG program for the monitoring period       |    |    |    |
| <b>Total</b>                                                                                   | 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 3<sup>rd</sup> periodic verification of the project activity and no FAR raised from previous 2<sup>nd</sup> 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

The project is not claiming and emission reduction benefits under any other schemes for this monitoring period hence, 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 not a grouped project.

## 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 Feeder location of the individual project location and CAR 02 is raised for the details of downtime/breakdown records.

Feeder details are provided which is confirmed by the assessment team during the verification site visit and also from the individual joint meter statement by state electricity board (third party, Govt source) in where the feeder details are mentioned. The Feeder 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 is submitted by PP. There was no breakdown 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 site visit. Assessment team also checked with the GPS meter regarding the latitude and longitude of the project site and confirm that the details as mentioned in the registered PD is correct.

The technical details are checked by the assessment team during the field visit and also cross checked. Some of the details are as below:

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

CSUN 255-60P- Polycrystalline Solar PV modules

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

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

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

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

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

AC output capacity – 40 MW

Assessment team checked the commissioning certificate and confirmed that the date of Commission are 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 equipments 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 is not rejected by any other GHG program around the world. CAR 04 however is raised for the same. Please refer Appendix 2 of this report for the detail closure of the CAR.

Ministry of Environment, Forests and climate change of India, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development on all four indicators i.e Social, Economical, Technical and Environmental well being. The project activity will generate power using zero emissions solar based power generation which helps to reduce GHG emissions and specific pollutants like SO<sub>x</sub>, NO<sub>x</sub>, and SPM associated with the conventional thermal power generation facilities.

The present monitoring period is 26/03/2018 to 25/03/2019 (inclusive of both days) and no credit is claimed from other mechanism in the present monitoring period except from VCS therefore avoiding any double counting. 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 3<sup>rd</sup> periodic verification. The following web sites were checked to confirm the same:

1. [https://www.vcsprojectdatabase.org/#/project\\_details/1670](https://www.vcsprojectdatabase.org/#/project_details/1670)

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.

## 4.2 Accuracy of GHG Emission Reduction and Removal Calculations

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Means of verification</b> | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Findings</b>              | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Conclusion</b>            | <p>Baseline emissions are calculated by multiplying the Net electricity exported to the grid with net baseline emission factor, as given in the VCS PD.</p> $BE_y = \text{Baseline Emission Factor (EF}_{\text{Grid,CM,y}}) \times (EG_{\text{facility,y}}) \text{ Where,}$ <p>BE<sub>y</sub> = Baseline Emissions (tons/year)<br/> EG<sub>facility,y</sub>: Net Electricity exported to grid (MWh)</p> $BE_y = (EF_{\text{Grid,CM,y}}) \times (EG_{\text{BL,y}})$ $= 0.9777 \text{ tCO}_2 / \text{MWh} \times 103,014.76 \text{ MWh}$ $= 100,718 \text{ tCO}_2 \text{ (Rounded Down)}$ <p><u>Ex ante Parameters:</u></p> <p>Baseline emission factor is fixed and calculated ex-ante for the project activity as per the registered PD.</p> <p>The Baseline emission factor is calculated in the registered VCS PD as per <b><i>“Tool to calculate the emission factor for an electricity system”, Version 05, EB 87 (Annex 9: Methodological Tool)</i></b>.</p> <p>Thus as per the VCS PD , the calculated Baseline emission factor is EF = 0.9777 tCO<sub>2</sub>/MWh</p> <p>The Baseline Emission Factor thus calculated is fixed.</p> <p><u>Ex-post parameter:</u></p> <p><b>EG<sub>facility,y</sub></b>: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)</p> <p>Net electricity supplied to grid will be calculated as the difference of the measured values of “export” and “import” of electricity through the dedicated SEB energy meter installed at the delivery point (i.e. the connected substation). Monthly meter readings are taken from the main and check meter installed at the substation and certified by the representatives of SEB Officials and the representatives of the project proponent.</p> |

|  |                                                                                                                                                                                                                          |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | The value of net electricity generation supplied to the grid as per Joint Meter Reading Report forms the basis for calculation of the emission reductions; which can be cross checked from the invoice raised to DISCOM. |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Means of verification</b> | The verification team checked the Calibration details of the monitoring meters with the calibration certificates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Findings</b>              | All meters were calibrated as per requirement stated in PD .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Conclusion</b>            | <p>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 &amp; imported. These electricity meters are being used by state electricity board for Share certificate statements.</p> <p>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.</p> <p>The details of the Calibration is presented in Appendix 5</p> |

### 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 05 is raised during the process , 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 notification<sup>1</sup> solar project falls under White Category and are practically non-polluting.

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    | <p>The project generates clean energy which replaces the fossil fuel intensive electricity generation.</p> <p>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.</p> <p>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.</p> |
| 2     | Soil condition | <p>There are negligible impacts envisaged during operation of the project activity.</p> <p>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</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

<sup>1</sup> [http://envfor.nic.in/sites/default/files/Latest\\_118\\_Final\\_Directions.pdf](http://envfor.nic.in/sites/default/files/Latest_118_Final_Directions.pdf)

|   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                        | <p>villagers.</p> <p>The top soil excavated during construction, was stockpiled and used for compaction. The roads were not paved and soling was done with excavated earth &amp; rock material, so land disturbance could be minimized.</p> <p>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.</p> <p>Therefore, it can be concluded that the project has no effect on soil conditions during its operation because it has no waste coming out.</p> |
| 3 | Biodiversity           | <p>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.</p> <p>With the implementation of Project, the greening water will be increased significantly; the biodiversity in the vicinity will be improved with the vegetation improvement.</p> <p>No negative impact envisaged.</p>                                                                                                                                                          |
| 4 | Employment Generation  | <p>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.</p>                                                                                                                                                                                                                              |
| 5 | Livelihood of the poor | <p>The project is associated with infrastructure development like roads in the nearby areas and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|  |  |                                                                                                                                                                                                                       |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>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.</p> <p>Positive impact envisaged. .</p> |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mr. Chandra Babu |
| Occupation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Villager         |
| <p>DOE QUESTION: Did PP promised employment opportunity?</p> <p>Answer: Yes, PP told us that employment will be generated and the locals will be given priority.</p> <p>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.</p> <p>DOE also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.</p> |                  |

|                                                                                                                                                                                                                                                                                                                                           |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Name of the stakeholder                                                                                                                                                                                                                                                                                                                   | Mr. Ashok |
| Occupation                                                                                                                                                                                                                                                                                                                                | Farmer    |
| <p>DOE questions: Did the power plant discharge any harmful pollutants?</p> <p>Answer: NO the plant does not discharge any harmful pollutants.</p> <p>DOE questions: Did the power plant destroy any crop fields?</p> <p>Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged.</p> |           |

## 6 VERIFICATION CONCLUSION

Appplus+ Certification has been engaged by Giriraj Enterprises to perform the 3<sup>rd</sup> periodical verification of the “Bundled Solar Power Project by D.J. Malpani and Giriraj Enterprises”

The management of Giriraj Enterprises 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 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: 26/03/2018 to 25/03/2019 (inclusive of both days)

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

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

|       |         |   |   |         |
|-------|---------|---|---|---------|
| 2018  | 75,015  | 0 | 0 | 75,015  |
| 2019  | 25,703  | 0 | 0 | 25,703  |
| Total | 100,718 | 0 | 0 | 100,718 |

## APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

| No. | Author | Title                                                                                                                                                                     | References to the document                                 | Provider            |
|-----|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------|
| 1   | NA     | Commissioning certificates of the solar plant implemented in the project site.                                                                                            | 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 panel and inverters from manufacturers                                                                                                  | Manufacturer technical specifications                      | Project participant |
| 4   | NA     | Registered PD<br><a href="https://www.vcsprojectdatabase.org/#/project_details/1670">https://www.vcsprojectdatabase.org/#/project_details/1670</a>                        | NA                                                         | Project participant |
| 5   | NA     | Final and second Verification report<br><a href="https://www.vcsprojectdatabase.org/#/project_details/1670">https://www.vcsprojectdatabase.org/#/project_details/1670</a> | NA                                                         | Project participant |
| 6   | NA     | Emission Calculation sheet version 01<br><br>Emission Calculation sheet version 02                                                                                        | ER sheet Dated 02/05/2019<br><br>ER sheet Dated 17/05/2019 | 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<br><a href="http://www.rbi.org.in">www.rbi.org.in</a><br><br>Ministry of Environment and forest:                                               | Reference link is provided.                                | Independent Search  |

|    |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                    |        |
|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------|
|    |    | <a href="http://www.envfor.nic.in">www.envfor.nic.in</a><br>UNFCCC<br><a href="http://www.cdm.unfccc.int">www.cdm.unfccc.int</a><br>CEA: Central electricity authority<br><a href="http://www.cea.nic.in">www.cea.nic.in</a><br>Income tax act 1961<br><a href="http://law.incometaxindia.gov.in/DIT/">http://law.incometaxindia.gov.in/DIT/</a><br>VCS: Verified Carbon Standard<br><a href="http://www.v-c-s.org">www.v-c-s.org</a>                                               |                                                                    |        |
| 09 | NA | Tools/ guidelines used in the project activity <ul style="list-style-type: none"> <li>• Tool to determine the remaining lifetime of the project activity in line with Annex 15 EB 50</li> <li>• Tool to calculate the emission factor for an electricity system (Version 05)</li> <li>• Tool for the demonstration and assessment of additionality (Version 07.0.0)</li> <li>• Glossary of CDM terms version 09.1</li> <li>• VCS verification report template version 03</li> </ul> | UNFCCC CDM/VCS web site                                            | UNFCCC |
| 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<br>MR version 02                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 02/05/2019<br>17/05/2019                                           | PP     |
| 12 | NA | Invoices for the complete monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                | Invoice                                                            | PP     |

|    |    |                                                                                                                              |                   |    |
|----|----|------------------------------------------------------------------------------------------------------------------------------|-------------------|----|
|    |    | period                                                                                                                       |                   |    |
| 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 | PP |
| 15 | NA | Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013 | Report by MNRE    | PP |

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                         |
| <p>During the site visit and subsequent document review it was observed that the details of feeder wise location of the solar plant is missing in the MR. Corrective action is sought in the respective section of the MR.</p> <p>The details supporting documents such as Commissioning certificates, Power purchase agreement and O&amp;M agreements are missing.</p> <p>The technical details supporting documents are not submitted to the assessment team.</p> <p>Corrective action is sought for the same.</p> |    |                         |
| <b>Project participant response</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    | <b>Date:</b> 17/05/2019 |
| <ol style="list-style-type: none"> <li>1. The feeder wise location of the solar plants are now provided in the MR.</li> <li>2. The supporting documents like Commissioning Certificates, Power Purchase Agreement and O&amp;M Agreement are now provided.</li> <li>3. The technical details of the solar plant has been taken from the DPR, which is now provided.</li> </ol>                                                                                                                                        |    |                         |
| <b>Documentation provided by project participant</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |                         |
| <ol style="list-style-type: none"> <li>1. Revised MR</li> <li>2. Commissioning Certificates, Power Purchase Agreement and O&amp;M Agreement.</li> <li>3. DPR</li> </ol>                                                                                                                                                                                                                                                                                                                                              |    |                         |
| <b>DOE assessment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    | <b>Date:</b> 18/05/2019 |
| <ol style="list-style-type: none"> <li>1. Feeder wise location of Solar plant has now been included in MR.</li> <li>2. All supporting documents has now been submitted.</li> <li>3. Supporting for technical details are provided.</li> </ol> <p>CAR is closed.</p>                                                                                                                                                                                                                                                  |    |                         |

|                                                                                                                                                                                                                      |    |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                                                                        | 02 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b>                                                                                                                                                                                            |    |                         |
| <p>The breakdown details of the Solar plants are missing in the MR. The supporting document regarding the breakdown details are not provided to the assessment team. Corrective action is sought in this regard.</p> |    |                         |
| <b>Project participant response</b>                                                                                                                                                                                  |    | <b>Date:</b> 17/05/2019 |
| <p>The breakdown details of the solar plant have now been provided in Appendix-2 of the revised MR. The supporting document for the breakdown details are also provided to the DOE assessment team.</p>              |    |                         |
| <b>Documentation provided by project participant</b>                                                                                                                                                                 |    |                         |
| <ol style="list-style-type: none"> <li>1. Revised MR</li> </ol>                                                                                                                                                      |    |                         |

|                                                                                    |                         |
|------------------------------------------------------------------------------------|-------------------------|
| 2. Breakdown details                                                               |                         |
| <b>DOE assessment</b>                                                              | <b>Date:</b> 18/05/2019 |
| Breakdown details has now been included in version 2 of MR, hence issue is closed. |                         |

## Accuracy of GHG Emission Reduction and Removal Calculations

|                                                                                                                                                                                                                                                                                                                                                                                             |    |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                                                                                                                                                                                                                                               | 03 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b>                                                                                                                                                                                                                                                                                                                                                                   |    |                         |
| <p>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.</p> <p>The comparison of actual VER and estimated VER is available in the MR, however the difference of actual vs estimated VERs differs from MR. Also JMR for Dhar site is not made available.</p> |    |                         |
| <b>Project participant response</b>                                                                                                                                                                                                                                                                                                                                                         |    | <b>Date:</b> 17/05/2019 |
| <ol style="list-style-type: none"> <li>1. The JMR and Invoices for the complete Monitoring Period has been provided to the DOE assessment team.</li> <li>2. The comparison of actual VER and estimated VER is now corrected in both ER sheet and in MR.</li> <li>3. The JMRs of Zaheerabad site has already been submitted to the DOE assessment team.</li> </ol>                           |    |                         |
| <b>Documentation provided by project participant</b>                                                                                                                                                                                                                                                                                                                                        |    |                         |
| <ol style="list-style-type: none"> <li>1. JMR and Invoices for the complete monitoring period.</li> <li>2. Revised MR</li> <li>3. ER Sheet</li> </ol>                                                                                                                                                                                                                                       |    |                         |
| <b>DOE assessment</b>                                                                                                                                                                                                                                                                                                                                                                       |    | <b>Date:</b> 18/05/2019 |
| <ol style="list-style-type: none"> <li>1. JMR sheet and invoices for all project site has been provided. Same are checked and found to be in order.</li> <li>2. Comparison of actual and estimated VER is now corrected.</li> <li>3. JMR submitted for Zaheerabad Site.</li> </ol> <p>CAR is closed.</p>                                                                                    |    |                         |

## Quality of Evidence to Determine GHG Emission Reductions and Removals

|                           |    |                         |
|---------------------------|----|-------------------------|
| <b>CAR ID</b>             | 04 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b> |    |                         |

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

Also, PP needs to justify whether REC benefits is taken for the present Monitoring period covered under VCS. Corrective action is sought for the same.

**Project participant response**
**Date:** 17/05/2019

1. The declaration letter from PP is now provided to the DOE assessment team.
2. The Project is not registered under the REC mechanism and hence, the PP is not claiming any REC benefits during the current monitoring period.

**Documentation provided by project participant**

Declaration Letter from the PP

**DOE assessment**
**Date:**18/05/2019

Declaration letter for not participating in any other GHG mechanism has been submitted, hence CAR is closed now.

|                                                                                                                                                                                                                                     |    |                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                                                                                       | 05 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b>                                                                                                                                                                                                           |    |                         |
| During the document review it is observed that “No net Harm” details are missing in the MR. Moreover, supporting documents are not shared with DOE. Corrective action is sought in this regard in the respective section of the MR. |    |                         |
| <b>Project participant response</b>                                                                                                                                                                                                 |    | <b>Date:</b> 17/05/2019 |
| The “No net Harm” section i.e. section 2.4.1 of the revised MR has now updated and the supporting web-links have also been provided.                                                                                                |    |                         |
| <b>Documentation provided by project participant</b>                                                                                                                                                                                |    |                         |
| Revised MR                                                                                                                                                                                                                          |    |                         |
| <b>DOE assessment</b>                                                                                                                                                                                                               |    | <b>Date:</b> 18/05/2019 |
| No net harm section has been updated. Information is checked by auditing team and found satisfactory, hence CAR is closed.                                                                                                          |    |                         |

|                                                                                                                                                                  |    |                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                    | 06 | <b>Date:</b> 10/05/2019 |
| <b>Description of CAR</b>                                                                                                                                        |    |                         |
| During the document review it is observed that “Local Stakeholder” consultation is said to be not applicable in MR. PP need to explain why it is not applicable. |    |                         |

|                                                                                                                                                 |                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Project participant response</b>                                                                                                             | <b>Date:</b> 17/05/2019 |
| The details of Local Stakeholder meeting details are now provided.                                                                              |                         |
| <b>Documentation provided by project participant</b>                                                                                            |                         |
| Local Stakeholder meeting documents (like Notice, meeting MOM and List of attendees)                                                            |                         |
| <b>DOE assessment</b>                                                                                                                           | <b>Date:</b> 18/05/2019 |
| Local stakeholder meeting details are now included and supporting are submitted. Same has been checked and found to be in order. CAR is closed. |                         |

## APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

## Verification team member

| No. | Role                          | Type of resource | Last name | First name | Affiliation<br>(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<br>(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<br>B.U. Managing Director                                   |

## Short CVs of the Team:

1. Mr. Pankaj Kumar, has done M. Sc in Environment Management from Forest Research Institute and B.Sc. Environment science and water management from A N College. He has more than Ten (10) years of working experience at MITCON/Agrinergy/ Carbon Check /APPLUS certifications under various categories of projects starting from Renewable to waste. He was JI/ CDM Lead Assessor in Carbon Check and was involved in more than 50 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer/ validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is empanelled with APPLUS certification to carry out GHG audit.
2. Meng (Simon) Shen (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project

assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD before he joined Applus+ for 3.5 years. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager.

**APPENDIX 4: ABBREVIATIONS**

| <b>Abbreviations</b> | <b>Full texts</b>               |
|----------------------|---------------------------------|
| 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 <sub>2</sub>      | Carbon dioxide                  |
| CO <sub>2</sub> 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**

Meter and Calibration details for current monitoring period:

**40 MW Project Activity by Giriraj Enterprises**

| Meter Type  | Meter Serial Number | Make  | Accuracy Class | Calibration Date | Validity   |
|-------------|---------------------|-------|----------------|------------------|------------|
| Main Meter  | 15196299            | L & T | 0.2s           | 10-08-2015       | 09-08-2020 |
| Check Meter | 15196298            | L & T | 0.2s           | 10-08-2015       | 09-08-2020 |

**16.25 MW Project Activity by D J Malpani**

| Meter Type    | Meter Serial Number at plant site | Make   | Accuracy Class | Calibration Date | Validity   |
|---------------|-----------------------------------|--------|----------------|------------------|------------|
| Main Meter    | 16538722                          | Elster | 0.2s           | 30-03-2015       | 29-03-2020 |
| Check Meter   | 16351162                          | Elster | 0.2s           | 30-03-2015       | 29-03-2020 |
| Standby Meter | 16538763                          | Elster | 0.2s           | 30-03-2015       | 29-03-2020 |

Based on once in five-year calibration frequency as per requested deviation, there is no any delay in calibration and no error factor is applicable for current monitoring period

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.