



VCS GROUPED PROJECT FOR RENEWABLE POWER GENERATION BY ESSEL MINING AND INDUSTRIES LIMITED

Document Prepared By



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Summary:

VKU Certification Pvt. Ltd. (hereafter referred as VKU) commissioned by **Infinite Environmental Solutions Limited** (hereafter referred as Client) and **Essel Mining and Industries Ltd.** (hereafter referred as PP), has verified the greenhouse gas emission reductions reported for the project Activity **“VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited (VCS ID 1497)”**. This is the **fifth** verification of the **first crediting period** from **12-March-2014 to 11-March-2024** (Inclusive of both dates) and covering monitoring period from **01-September-2022 to 31-October-2023** (Inclusive of both dates) with regard to the relevant requirements for VCS Standard; Version 4.4 and 4.5/5/.

Purpose of Verification: The purpose of the verification is to have an independent review of ex-post determination of the monitored reductions in GHG emission reductions and verify that the monitoring methodology has been implemented according to the monitoring plan and monitoring data used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner from **01-September-2022 to 31-October-2023** (Inclusive of both dates) under first crediting period from **12-March-2014 to 11-March-2024** (Inclusive of both dates).

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS PD/3/
- To assess the project's compliance with other relevant rules including the host country legislation (India).
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.

Verification has been conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide; Version 4.4/4/, VCS Standard; Version 4.4 and 4.5 /5/, VCS Validation and Verification Manual; Version 3.2/21/, and applying standard auditing techniques.

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

VKU followed the rule-based approach to perform this verification. During course of verification, records related to operation, monitoring, and GHG emission reduction calculation of the VCS project activity are verified in relation to all relevant VCS requirements, and the applied baseline and monitoring methodology. A total of **06** findings were raised, which includes: **04** Corrective Action Request (CAR); **02** Clarification Request (CL) and **00** Forward Action Requested (FAR). All the findings were successfully resolved by the PP. The same has been discussed in **Appendix-B** of this verification report.

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified therefore, the verification team has detected no further uncertainties.

The GHG emission reductions have been calculated on the basis of the monitoring plan included in the registered **VCS PD; Version 04 dated 15-December-2018/3/** and following approved methodologies:

AMS.I.D: "Grid-connected Renewable Electricity Generation", Version 18.0/7/ for small scale Project Activity Instances (including instance 2 to 5 and instance 7)

AMS.I.F: "Renewable Electricity Generation for Captive-use and Mini-grid" Version 03.0/7/ for small scale Project Activity Instances (including instance 8 to 11)

ACM0002: "Grid-connected electricity generation from renewable sources" Version 16.0/7/ for large scale Project Activity Instances (including 1 and 6)

The project has also referred to following documents.

- VCS: VCS Program Guide; Version 4.4 dated 29-August-2023/4/
- VCS:VCS Standard; Version 4.5 dated 11-December-2023 /5/
- Tool 7: Tool to calculate emission factor for an electricity system (Version 05.0) /8/
- Tool 3: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02) /8/
- Tool 10: Tool to determine the remaining lifetime of equipment (Version 01) /8/
- Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (Version 03.0.1) /8/
- Tool 01: Tool for the demonstration and assessment of additionality (Version 07.0.0) /8/
- Tool 02: Combined tool to identify the baseline scenario and demonstrate additionality (Version 06.0) /8/

Summary of the verification conclusion;

In conclusion, it is VKU's opinion that the project activity "VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited" (**VCS ID 1497**), meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology: **AMS.I.D: "Grid-connected Renewable Electricity Generation", Version 18.0/7/** for small scale Project Activity Instances (including instance 2 to 5 and instance 7);

AMS.I.F: "Renewable Electricity Generation for Captive-use and Mini-grid" Version 03.0/7/ for small scale Project Activity Instances (including instance 8 to 11);

ACM0002: "Grid-connected electricity generation from renewable sources" Version 16.0/7/ for large scale Project Activity Instances (including 1 and 6).

The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the fifth monitoring period from **01-September-2022 to 31-October-2023** (Inclusive of both dates) under the first crediting period from **12-March-2014 to 11-March-2024** (Inclusive of both dates) amounts to **285,158 tCO₂e**.

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1 INTRODUCTION

1.1 Objective

Infinite Environmental Solutions Limited (hereafter referred as Infinite Solutions) commissioned VKU Certification Pvt Ltd (here after referred as VKU) to carry out the fifth verification of project VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” (VCS ID 1497) in India for the period from **01-September-2022 to 31-October-2023** (Inclusive of both dates) under the **first crediting period** from **12-March-2014 to 11-March-2024** (Inclusive of both dates) for a period of **14 months (426 days)**. The project activity follows a renewable crediting period of 10 years, which can be extended a maximum of two times, as outlined in **section 1.6** of VCS Project Description Version 04 dated 15-December-2018/3/.

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- To have an independent evaluation of project activity by an accredited validation and verification body against the requirements of the VCS Program Guide; Version 4.4/4/, VCS standard; Version 4.5/5/and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting, on the basis of the registered VCS PD /3/
- The project activity has been implemented and operated as per the registered VCS PD/3/ and it's all physical features (technology, project equipment, and monitoring) of the project are in place;
- Monitoring report/1/ and other supporting documents submitted by PP are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting/16/
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

The verification process is conducted with the goal of smooth execution and complete operational effectiveness of the monitoring system, assuring the precise generation of Verified Carbon Units (VCUs) without encountering any double counting/16/. Furthermore, a thorough examination of the monitoring records and emissions reduction calculations has been performed to ensure the comprehensiveness, coherence, transparency, and absence of significant errors or omissions in the data, all in pursuit of establishing the trustworthiness and credibility of the data.

1.2 Scope and Criteria

The scope of this verification is the independent, objective review and ex-post determination of the monitored reductions in GHG emissions from the VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” (VCS ID 1497) in India for the period from **01-September-2022 to 31-October-2023** (Inclusive of both dates). The verification of this project is based on the registered and validated VCS PD/3/ and monitoring report/1/ along with supporting documents submitted by the project proponent to the VKU Assessment team. The documents thus submitted to the VKU Assessment team were reviewed against the following guidance & protocols:

- VCS Programme Guide; Version 4.4 /4/
- VCS Standard; Version 4.4 and 4.5 /5/
- AMS.I.D: “Grid-connected Renewable Electricity Generation”, Version 18.0/7/ for small scale Project Activity Instances (including instance 2 to 5 and instance 7)
- AMS.I.F: “Renewable Electricity Generation for Captive-use and Mini-grid” Version 03.0/7/ for small scale Project Activity Instances (including instance 8 to11)
- ACM0002: “Grid-connected electricity generation from renewable sources” Version 16.0/7/ for large scale Project Activity Instances (including 1 and 6)
- Tool 7: Tool to calculate emission factor for an electricity system (Version 05.0) /8/
- Tool 3: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02) /8/
- CDM Validation and Verification Standard; Version 3.0 dated 09-September-2021/9/

The steps involved are as follows:

- To verify that the project is implemented as described in the registered VCS PD/3/
- To assess the project’s compliance with other relevant rules applicable under Indian legislation
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units (VCUs) without any double counting /16/.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation/2/.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification method and criteria encompassed several phases including:

- Desk review of the MR/1/, ER/2/, registered VCS PD/3/ and other supporting documents listed in Table No. 04;
- Onsite visit and interviews with PP representative and local stakeholders documented in VKU.F46W. Attendance Sheet for Audit_VKU.VER.159.23_VCS_1497/19/;
- Resolution of outstanding issues and issuance of final verification report and applicable VCS Verification Deed of Representation.

Verification is not meant to provide any consultancy to the project proponents. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring and reporting of the project.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a **Reasonable level of assurance**, as per **section 04 clause 4.1.2 and 4.1.10** of the VCS Standard version 4.5/5/.

The threshold for quantitative materiality with respect to the aggregate of errors, omissions, and misrepresentations, relative to the total reported GHG emission reductions and/or removals was 5% percent, as required by clause 4.1.10 of the VCS Standard version 4.5/5/. As the project is small scale project, the materiality of the project activity based on actual emission reduction achieved is **5% of 285,158 tCO₂e**. which is equal to **14,257.90 tCO₂e**. The verification report is based on the Monitoring report/1/, registered VCS PD /3/ and supporting documents /22//23//24//26//27//28//29//30//31/ which were made available to the assessment team and further information is also collected through performing interviews/24/ and site visit/19/.

The technical review was performed by a technical reviewer qualified in accordance with VKU's qualification procedure.

The following individuals were part of the Verification Team as presented in **Table No.- 01** below:

Role/Qualification of Assessment Team	Last Name	First Name
Team Leader, Technical Expert (T.A 1.2)	Chauhan	Shivani
Project Trainee	Chaudhury	Priya

The following individuals were part of the Technical Reviewer Team as presented in **Table No.- 02** below:

Role/Qualification of Technical Reviewer Team	Last Name	First Name

Technical Reviewer & Technical Expert (T.A 1.2)	Kathuria	Sunil
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1.4 Summary Description of the Project

The purpose of the project activity VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited and their group companies (hereafter referred as “project proponent) at **various locations across India** listed in **Table No.-03 below**. Electricity is generated through solar energy sources and supplied to the regional/national grid system which is under the purview of the Indian Electricity Grid of India. This is a grid connected project activity which supports the development of new grid-connected renewable energy power plants in India for Instance 1 to Instance 7 and for Instance 8 to Instance 11 electricity generated is used for captive consumption in cement and caustic soda manufacturing units.

This is a greenfield project activity i.e., there was no renewable energy-based electricity generation facility in site of this project activity. Electricity generated by this small-scale project activity displaces an equivalent amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel-based power plants. The project activity ensures the reduction of Greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

The start date of project activity is **12-March-2014** (which is the commissioning date of first instance included in project activity i.e., at Bhadla in District Jodhpur). This project activity is running satisfactorily since it’s commissioning. During site visit assessment team has verified Plant capacity against the registered VCS PD/3/, Individual capacity of all PV modules was confirmed during physical verification, Previous verification reports were checked to cross verify along with Commissioning certificates/14/. Above documents have been submitted by PP in response to the feedback raised during assessment. This is in line with section **3.26 and clause 3.26.3** of the VCS Standard version 4.5/5/ where it is an obligation for the project proponent to make available to the validation/verification body the required supporting documents.

Hence VKU in adherence to the section **3.1, clause 3.1.8** of the VCS Standard version 4.5/5/ conforms that the capacity of the project has been verified from the commissioning certificates/14/ and PPA (Power purchase Agreement)/28/. This is also verified during on site visit and remote audit/33/, while interviewing the site personnels, Local stakeholders and hence declare that the project capacity is in line with the defined methodology AMS-I.D version 18, AMS.I.F version 03, ACM0002 version 16/7/ & registered VCS PD /3/

The commissioning details of the project, their respective Project owners and locations of installation are mentioned in **Table No.- 03** below: -

Project activity instances	Project Owner	Title of the project activity	Location	Date of Commissioning as per commissioning certificates of the plant sites /14/
Instance – 1	Essel Mining and Industries Limited ¹	VCS Project for Solar Power Plant at Bhadla, Rajasthan	Bhadla Solar Park, Village – Bhadla, Tehsil – Bap, District- Jodhpur, State: Rajasthan, India	12-March-2014
Instance – 2		VCS Project for Solar Power plant at Achampet, Telangana	5 MW Solar Power Plant, Achampet Village and Mandal, Dist. Mehaboob Nagar, State: Telangana, India.	07-July-2014
Instance – 3		VCS Project for Solar Power Plant at Kalwakurthy, Dist. Mehaboob Nagar, Telangana	Ternikal Village, Kalwakurthy Mandal, Dist. Mehaboob Nagar, State: Telangana, India.	30-June-2014
Instance – 4		VCS Project for Solar Power Plant at Salakpur, Telangana	Village: Salakpur District: Warangal State: Telangana, India	17-September-2014
Instance – 5		VCS Project for Solar Power Plant at Alladurg, Telangana	Village: Bharamdhibba District: Medak Sitate: Telangana, India	28-July-2014
Instance – 6			Village: Bellatti, Shirahatti District: Gadag	11-May-2017

¹ This organization is acting as PP for all project activity instances. However the owner of each project activity instances is mentioned in the PD. Along with Essel Mining & Industries Limited, the other owners are Aditya Birla Solar Limited, Aditya Birla Renewables Limited and Aditya Birla Renewables SPV 1 Limited.

	Aditya Birla Solar Limited	VCS Project for Solar Power Plant at Karnataka	State: Karnataka, India	
			Village: Chandargi, Kaktol, Ramadurg Taluk District: Belagavi, State: Karnataka, India	12-May-2017
			Village: Mulbangal, District: Kolar State: Karnataka, India	13-October-2017
			Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India	26-March-2018
Instance – 7	Aditya Birla Renewables SPV 1 Limited	VCS Project for Solar Power Plant at Vijayapura	Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India	26-March-2018
Instance – 8		VCS Project for Solar Power Plant at Hotgi, Maharashtra	Village: Hotgi, South Solapur District: Solapur State: Maharashtra, India	20-June-2018
Instance – 9		VCS Project for Solar Power Plant at Gotan, Rajasthan, India	Village: Kharia Khangar, Tehsil:Bhopalgarh District: Jodhpur State: Rajasthan, India	01-February-2018
Instance – 10		VCS Project for Solar Power Plant at Sevagram, Gujrat	Village: Sevagram, Tal- Abdasa District: Kutch State: Gujarat, India	14-August-2018

Instance - 11		VCS Project for Solar Power Plant at Pune, Maharashtra	Village: Peth, Taluka:Haveli, District: Pune, State: Maharashtra, India	01-February-2018
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As per MR/1/, the electricity generated from the project activity Instance 1 to 7 is supplied to the Indian Grid and for Instance 8 to 11 it is used for captive consumption in cement and caustic soda manufacturing units. This is confirmed by means of registered VCS PD version 04 dated 15-December-2018/3/, Joint Meter Reading issued by state utility/11/, previous verification reports/18/ and interview with PP/24/. This information is verified during on site assessment and found to be in line with the details provided in the registered VCS PD/3/.

The net electricity of **290,794.97 MWh** has been generated by the project activity and out of that **267,302.91 MWh** was evacuated to the grid and **23,492.06 MWh** was used by cement and caustic soda manufacturing industries for captive consumption, during the current monitoring period from **01-September-2022 to 31-October-2023** (Inclusive of both start and end dates). This resulted in total emission reductions of **285,158 tCO_{2e}**, which is **1.13%** lower than the estimated value of **288,423 tCO_{2e}**. This information has been verified by document review and interview with PP representative's present onsite of the project activity. The verification team confirms that all the components of installed technology are fully functional and found to be in line with the details provided in the registered VCS PD Version 05 dated 15-December-2018 /3/.

The project activity follows approved small scale CDM methodology **AMS I.D Version 18.0, AMS.I.F Version 03.0 and ACM0002 Version 16.0** /7/ for quantification of GHG emission reductions. The total emission reductions achieved by the project activity under the current verification period from **01-September-2022 to 31-October-2023** (Inclusive of both days) amount to **285,158 tCO_{2e}**.

2 VERIFICATION PROCESS

The registered VCS project is undergoing fifth verification under first renewable crediting period under VCS. The approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide version 4.4/4/, VCS standard version 4.4 and 4.5 /5/. The GHG emission reductions are on the basis of the approved Baseline **and monitoring methodology**

- AMS.I.D: "Grid-connected Renewable Electricity Generation", Version 18.0/7/ for small scale Project Activity Instances (including instance 2 to 5 and instance 7),
- AMS.I.F: "Renewable Electricity Generation for Captive-use and Mini-grid" Version 03.0/7/ for small scale Project Activity Instances (including instance 8 to 11)
- ACM0002: "Grid-connected electricity generation from renewable sources" Version 16.0/7/ for large scale Project Activity Instances (including 1 and 6)

Scope: 01 Energy Industries (renewable- and non-renewable sources) Title: "Grid Connected Renewable Electricity Generation" (version 18) /7/.

Tools used for GHG Calculations are as follows as per registered VCS PD /3/:

- Tool 7: Tool to calculate emission factor for an electricity system (Version 05.0) /8/
- Tool 3: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02) /8/
- Tool 10: Tool to determine the remaining lifetime of equipment (Version 01) /8/
- Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (Version 03.0.1) /8/
- Tool 01: Tool for the demonstration and assessment of additionality (Version 07.0.0) /8/
- Tool 02: Combined tool to identify the baseline scenario and demonstrate additionality (Version 06.0) /8/

During onsite visit/19/ verification team **reviewed 100% data for all the PV Modules, Inverters and Transformers** involved in this project **and hence no sampling is involved.**

The verification consisted of the following phases:

1. **Planning and Intimation to VERRA about site visit:** The assessment team plans the GHG-programme site visit and starts with a desk review of MR/1/ and ER calculation

spreadsheet/2/. Assessment team also shared a NOVS Form 15 business days before the initial meeting with the project proponent.

2. **Strategic Analysis:** The assessment team conducted a strategic analysis to gain insights into the organization's, project's, or product's activities. This analysis was aimed at determining the scope and scale of the verification activities and will be utilized in the risk assessment process.
3. **Risk Assessment;** The assessment team carried out a risk assessment of the GHG statement to identify the likelihood of a substantial error or noncompliance with the established criteria.
4. **Evidence Gathering Activities;** Using a risk-based approach assessment team prepared the evidence gathering activities to collect sufficient and appropriate evidence upon which to base the conclusion & determine whether the GHG statement conforms to the criteria, taking into account the principles of the standards that apply to the GHG statement.
5. The requirement for a site visit is recognized, and subsequently, the planning for the site visit is undertaken. Decision to take onsite visit and remote visit was based on independent risk assessment, as defined in section 4.1.13 of VCS standard version 4.5/5/
6. **Audit and Sampling Plan:** An audit plan is prepared, including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance, and materiality.
7. **Evidence Gathering Plan:** The evidence-gathering plan is formulated in accordance with the risk assessment conducted by VKU Assessment Team. This plan is structured to reduce the verification risk to a level considered acceptable. As a result, the evidence-gathering plan outlines the specific nature and scope of the evidence collection activities.
8. **Client Confirmation and Approval:** The audit plan for the site visit is shared with the client for their confirmation, and it has received their approval,
9. **Document Review:** Relevant documents, such as the verification report, monitoring plan, methodology, VCS PD/3/, and QA/QC procedures, are thoroughly reviewed.
10. **On-Site Assessment:** This includes interviews and evaluation of the actual project scenario and this is line with the VCS standard version 4.4 and 4.5/5/
11. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved and documented in Appendix-B of this report.
12. **Independent Review:** A technical reviewer provides an independent assessment of the project.
13. **Final Verification:** After completeness checks, the verification report and certification are issued.

The following sections outline each step involved in verification in more detail.

2.2 Document Review

During the document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report (MR) version **01** dated **02-December-2023**, MR version **02** dated **17-January-2024** and final MR version **03** dated **26-February-2024**. The emission reduction calculations spreadsheet version **01** dated **02-December-2023**, ER version **02** dated **17-January-2024** and final ER version **03** dated **26-February-2024** received from PP /2/ were assessed also along with the monitoring reports as part of the verification. In addition, the registered VCS PD/3/ in particular the baseline estimations and the monitoring plan for the project was reviewed. The following table lists the documentation that were reviewed during the verification. As per section 3.26 and clause 3.26.3 of the VCS Standard version 4.5/5/ it is an obligation for the project proponent to make available to the assessment team the required supporting documents and data needed to support statements and data as documented in the monitoring report/1/. Thus, the assessment team reviewed the following documents during verification:

Table no 04: Control of Documents referred during the Assessment for the 5th Verification under 1st crediting period of VCS 1497

/1/	VCS monitoring report for “VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” - Version 01 dated 02-December-2023 - Version 02 dated 17-January-2024 - Version 03 dated 26-February-2024 - Version 04 dated 07-October-2024
/2/	Emission Reduction Calculation Spreadsheet for “VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” - Version 01 dated 02-December-2023 - Version 02 dated 17-January-2024 - Version 03 dated 26-February-2024 - Version 04 dated 07-October-2024
/3/	Registered VCS PD- “VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” Version 04 dated 15-December-2018
/4/	VCS: VCS Program Guide, version 4.4 dated 29-August-2023
/5/	VCS: VCS Standard, version 4.4 dated 17-January-2023 VCS: VCS Standard, version 4.5 dated 11-December-2023
/6/	VCS: Monitoring report Template VCS Version 4.2
/7/	Monitoring Methodology - AMS I.D. “Grid Connected Renewable Electricity Generation” Version 18.0 - AMS.I. F “Renewable electricity generation for captive use and mini-grid” Version 03 - ACM0002 “Grid-connected electricity generation from renewable sources” Version 16.0
/8/	<u>Tool 7: Tool to calculate emission factor for an electricity system (Version 05.0)</u> <u>Tool 3: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion (Version 02)</u>

	• <u>Tool 10: Tool to determine the remaining lifetime of equipment (Version 01)</u> • <u>Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (Version 03.0.1)</u> • <u>Tool 01: Tool for the demonstration and assessment of additionality (Version 07.0.0)</u> • <u>Tool 02: Combined tool to identify the baseline scenario and demonstrate additionality (Version 06.0)</u>
/9/	Previous Monitoring Reports: • <u>1st Verification (MP 12-March-2014 to 20-October-2018) Version 02 dated 15-December-2018</u> • <u>2nd Verification (MP 21-October-2018 to 20-February-2020) Version 03 dated 23-May-2020</u> • <u>3rd Verification (MP 21-February-2020 to 31-March-2021) Version 02 dated 06-August-2021</u> • <u>4th Verification (MP 01 April 2021 to 31-August-2022) Version 02 dated 26-December-2022</u>
/10/	CO ₂ Baseline Database for the Indian Power Sector User Guide Version 14.0
/11/	JMRs issued by the state utility for the current monitoring period 01-September-2022 to 31-October-2023
/12/	Calibration Certificates for meters installed at site
/13/	Invoice issued by PP to state utility
/14/	Commissioning certificates of all the solar panels of the project activity issued by state electricity authority
/15/	<u>VCS Validation Report version 02 dated 05-March-2016</u>
/16/	Letter of declaration from PP regarding not having created or sought any other form of environmental credit for the same period
/17/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 <u>No. 502/6/2009/DP&D/D-I</u>
/18/	Previous Verification report VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” • <u>1st Verification (MP 12-March-2014 to 20-October-2018) Version 02 dated 01-February-2019</u> • <u>2nd Verification (MP 21-October-2018 to 20-February-2020) Version 01 dated 27-May-2020</u> • <u>3rd Verification (MP 21-February-2020 to 31-March-2021) Version 02 dated 19-August-2021</u> • <u>4th Verification (MP 01 April 2021 to 31-August-2022) Version 02 17-January-2023</u>
/19/	Site Visit Photographs videos and attendance sheet dated 27-December-2023 to 30-December-2023 and 03-January-2024 to 06-January-2024
/20/	VERRA: https://registry.verra.org/app/projectDetail/VCS/1497
/21/	VCS Validation and verification manual version 3.2 dated 19-October-2016
/22/	Technical Specifications of solar panels

/23/	External and Internal Grievance Register present on site
/24/	On site personnel interview with technical team and local stakeholders dated 27-December-2023 to 30-December-2023 and 03-January-2024 to 06-January-2024
/25/	GPS map camera version 1.4.34 used for location during onsite visit
/26/	Breakdown details for current verification period
/27/	REC website Renewable Energy Certificate Registry of INDIA https://www.recregistryindia.nic.in/index.php/publics/faqs
/28/	Power Purchase Agreement
/29/	Operation and Maintenance Agreements
/30/	Daily generation Log Book
/31/	Training records of Site personnels
/32/	VKU.F64W.Field Assessment Checklist for Onsite Visit
/33/	<u>Google Earth Pro software</u>

2.3 Interviews

Hybrid inspections has been performed by the assessment team. The representatives of the PP and O&M team were interviewed personally by assessment team from **27-December-2023 to 30-December-2023** and **from 03-January-2024 to 06-January-2024** i.e., Tables 05 & 06 provide a comprehensive overview of the onsite interview process/24/ conducted during the verification. These tables outline the personnel involved in the interviews, along with their respective roles. The interviews specifically targeted individuals responsible for monitoring of the project activity, data collection and management, as well as those involved in the quality assurance and quality control (QA/QC) procedures. The tables serve to identify the individuals interviewed and provide relevant information regarding their roles within the project. The details of the people interviewed are mentioned in the table below:

Table no: 05: Details of Personal Interview & /Focussed Group Discussion with Technical Team

S No.	Name	Gender	Designation	Topic
Instance-1: Bhadla, Jodhpur, Rajasthan, India (Onsite)				
1.	Deepak Sharma	Male	Aditya Birla Renewables Limited- Manager	• Data archiving, breakdown details. • Maintenance of generation records and Calibration of meters. • Project Implementation and technical details of the Project like breakdown details. • Training requirement of the personnels. • O&M of the plant site and personnel responsible for

S No.	Name	Gender	Designation	Topic
Instance-2 Achampet, Mehaboob Nagar, Telangana, India (Remote)				QA/QC Procedure.
1.	Irfan Shaik	Male	Aditya Birla Renewables Limited- Manager	• Data archiving, breakdown details. • Maintenance of generation records and Calibration of meters. • Project Implementation and technical details of the Project like breakdown details. • Training requirement of the personnels. • O&M of the plant site and personnel responsible for monitoring of required monitored parameters and implementation of QA/QC Procedure.
2.	A. Shiva Kumar	Male	Aditya Birla Renewables Limited- Senior Engineer	
Instance-3 Kalwakurthy Mehaboob Nagar, Telangana, India (Remote)				
1.	Venkatapathi Raju	Male	Aditya Birla Renewables Limited- Manager	
2.	Rajesh Gouda	Male	Aditya Birla Renewables Limited- Senior Engineer	
Instance-4 Salakpur/ Mutsyal, Warangal, Telangana, India (Remote)				
1.	Naveen Varanasi	Male	Aditya Birla Renewables Limited- Manager	
2.	Ajay Kumar	Male	Aditya Birla Renewables Limited- Senior Engineer	
Instance-5 Alladurg, Medak, Telangana, India (Remote)				

1.	Eswararao Avanigadda	Male	Aditya Birla Renewables Limited- Manager	
2.	Sagar Swain	Male	Aditya Birla Renewables Limited- Senior Engineer	

Instance – 6 &7 Karnataka (Including all Sites)

S No.	Name	Gender	Designation	Topic
Village: Mulbangal, District: Kolar State: Karnataka, India (Onsite)				• Data archiving, breakdown details. • Maintenance of generation records and Calibration of meters. • Project Implementation and technical details of the Project like breakdown details. • Training requirement of the personnels. • O&M of the plant site and personnel responsible for monitoring of required monitored parameters and implementation of QA/QC Procedure.
1	K.N. Janardhan	Male	Aditya Birla Renewables Limited- Manager	
2.	B. Venkat Rao	Male	Aditya Birla Renewables Limited- Senior Engineer	
3	Manejadar-T	Male	Aditya Birla Renewables Limited- Senior Engineer	
4	Dinesh R	Male	Aditya Birla Renewables Limited- Technician	
5	V. Yashwanth	Male	Aditya Birla Renewables Limited- Technician	
Village: Bellatti, Shirahatti District: Gadag State: Karnataka, India (Onsite)				
1.	Neelakanthappa	Male	Aditya Birla Renewables Limited- Senior Engineer	
2	Manjunath Hebbal	Male	Aditya Birla Renewables Limited- Plant Manager	
3	Bharat Kumar	Male	Mitursh Energy	
4	Mallesh	Male	Mitursh Energy	
5	Ramesh	Male	Mitursh Energy	
6	Shreedut	Male	Mitursh Energy	
Village: Chandargi, Kaktol, Ramadurg Taluk District: Belagavi, State: Karnataka, India (Onsite)				
1	Damodaran V	Male	Aditya Birla Renewables Limited- Plant Manager	
	Hanumant	Male	Mitursh Site Engineer	
3	Praveen	Male	Mitursh Technician	
Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India (Onsite)				
1.	Kumar Vatanwara	Male	Aditya Birla Renewables Limited- Senior Engineer	

2.	Bhima Shankar	Male	Aditya Birla Renewables Limited- Technician
Instance – 7 Devar Nimbargi, Vijayapura, Karnataka, India (Onsite)			
1.	Anil Patil	Male	Aditya Birla Renewables Limited- Site Manager
2.	Shivanad	Male	Aditya Birla Renewables Limited- Technician
3.	Manjunatha	Male	Aditya Birla Renewables Limited- Sr. Engineer

S No.	Name	Gender	Designation	Topic
Instance – 8 Hotgi, Solapur, Maharashtra, India (Remote)				• Data archiving, breakdown details. • Maintenance of generation records and Calibration of meters. • Project Implementation and technical details of the Project like breakdown details. • Training requirement of the personnels. • O&M of the plant site and personnel responsible for monitoring of required monitored parameters and implementation of QA/QC Procedure.
1.	Mahadev Ghurghure	Male	Aditya Birla Renewables Limited-Manager	
Instance – 9 Gotan, Bhopalgar,Jodhpur, Rajasthan, India (Onsite)				
1.	Vishal Dadhich	Male	Site Manager- Aditya Birla Group	
2.	Rambharosh Bhati	Male	Engineer – O&M	
3.	Shyam Lal	Male	Technician	
4.	Gajendra Singh	Male	Supervisor	
Instance – 10 Sevagram, Kutch, Gujarat, India (Remote)				
1.	Sandesh Ramlete	Male	Aditya Birla Renewables Limited-Plant Head	
Instance – 11 Peth, Haveli,Pune, Maharashtra, India (Remote)				
1	Sagar Sodanwa	Male	Aditya Birla Renewables Limited-Plant Manager	
2.	Aniket	Male	Aditya Birla Renewables Limited-Technician	

The topics covered during interview ranges from general features and implementation of project to technical details of the project like Meter calibration details, monitoring and measuring system, data collection, recording, emergency procedures, internal audit, Procedures for handling non-conformances with the validated monitoring plan, personal training and archiving procedures/31/. The assessment was based on the feedback received during onsite interview coupled with the documentation in **VKU.F62W.Field Assessment Checklist for Onsite Visit**.

During Onsite Visit/19/, Assessment team also interviewed the local stakeholders involved in the projects to verify the implementation and process of grievance resolution as claimed and mentioned in the Monitoring report/1/ (refer section 2.2 of MR) by the PP. The assessment team confirmed the sustainable development claims and assessed the socio-economic impact of the project on the local community. Assessment Team also checked the records and observed that the PP provided opportunities for the locals to express their opinions and grievances, with efforts to resolve any issues through consultation with stakeholders. Assessment team thus verified all the above statements via focussed group discussions and personal interview/24/ with stakeholders and was hence acceptable to VKU that PP has a well-defined procedure for involving local stakeholders in the project implementation and that their grievances are resolved appropriately, although no negative feedback was received during current monitoring period. as tabulated below:

Table no: 06: Details of Personnel Interview/Focussed Group Discussion with Stakeholders

S No.	Name	Gender	Category	Topic of Discussion
Instance-1: Bhadla, Jodhpur, Rajasthan, India				- Implementation of Project activity and its impact on the economic, social and environmental parameters around the located project activity and on the local people of the area. - The employment generation due to project activity implementation. - Salary and other facilities like safety equipment provided on site
1	Ramnaresh	Male	Security Guard	
2.	Vipin Singh	Male	Security Guard	
Instance-2 Achampet, Mehaboob Nagar, Telangana, India				
1	P.Suresh	Male	Security Guard	
2.	G. Saidolo	Male	Security Guard	
Instance-3 Kalwakurthy Mehaboob Nagar, Telangana, India				
1.	M. Pedhaiah	Male	Security Guard	

2.	R. Srinu	Male	Helper
Instance-4 Salakpur, Warangal, Telangana, India			
1.	A. Mogalian	Male	Helper
2	T. Raju	Male	Helper
Instance-5 Alladurg, Medak, Telangana, India			
1.	E. Bhaskar	Male	Helper
2.	A. Raju	Male	Helper
Instance - 6 Karnataka (Including all Sites)			
1.	Amsarish C.R	Male	Security Guard
2	Anand C	Male	Security Guard
3	Ramesh Harlapur	Male	Security Guard
4	Parasaraddi Soppiraddi	Male	Security Guard
5	Manjunath Jalimorad	Male	Security Guard
6	Rakesh B Mayadum	Male	Security Guard
Instance - 7 Devar Nimbargi, Vijayapura, Karnataka, India			
1.	Sidram	Male	Security Guard

2.	Viresh	Male	Helper	
Instance – 8 Hotgi, Solapur, Maharashtra, India				
1.	Vikram Mansore	Male	Security Guard	
Instance – 9 Gotan, Bhopalgar,Jodhpur, Rajasthan, India				
1.	Bhavani Singh	Male	Security Guard	
2.	Maharam	Male	Security Guard	
Instance – 10 Sevagram, Kutch, Gujarat, India				
1.	Hemaraj Thakur	Male	Security Guard	
Instance – 11 Peth, Haveli,Pune, Maharashtra, India				
1.	Deepak Padole	Male	Security Guard	
2.	Vithal Biradar	Male	Helper	

The VKU Assessment Team meticulously documented the information obtained during the interview with site personnel/24/. This data was recorded using VKU's dedicated form, specifically VKU.F46W, known as the Attendance Sheet of Onsite Audit/19/. Similarly, the interviews conducted with local stakeholders. Through a comprehensive process involving documentation, desk review, document verification, and interviews with site personnel the VKU Assessment Team affirms that no negative comments were received during the on-site interviews conducted by the team. For further details, please refer to [section 4.2.2](#) below.

2.4 Site Visits

An Onsite and Remote visit was undertaken for all the project activity instances in the grouped project activity which are located within geographical boundaries of Republic of India and presented in Table No.-7 below: -

S. No.	Date of Visit	Instance Number & Type of Audit	Location of the Instance
1	27-December-2023	Instance-1 (Onsite)	Bhadla, Jodhpur, Rajasthan, India
2	27-December-2023	Instance – 9 (Onsite)	Gotan, Bhopalgar, Jodhpur, Rajasthan, India
3	29-December-2023	Instance–2 (Remote)	Achampet, Mehaboob Nagar, Telangana, India
4	29-December-2023	Instance–3 (Remote)	Kalwakurthy Mehaboob Nagar, Telangana, India
5	29-December-2023	Instance–4 (Remote)	Salakpur, Warangal, Telangana, India
6	29-December-2023	Instance–5 (Remote)	Alladurg, Medak, Telangana, India
7	30-December-2023	Instance – 8 (Remote)	Hotgi, Solapur, Maharashtra, India
8	30-December-2023	Instance – 10 (Remote)	Sevagram, Kutch, Gujarat, India
9	30-December-2023	Instance – 11 (Remote)	Peth, Haveli, Pune, Maharashtra, India
10	03-January-2024	Instance – 6 (Onsite)	Village: Mulbangal, District: Kolar State: Karnataka, India
	04-January-2024	Instance – 6 (Onsite)	Village: Bellatti, Shirahatti District: Gadag State: Karnataka, India
	05-January-2024	Instance – 6 (Onsite)	Village: Chandargi, Kaktol, Ramadurg Taluk District: Belagavi, State: Karnataka, India

11	06-January-2024	Instance – 6 & Instance – 7 ² (Onsite)	Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India
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An Onsite and Remote visit was undertaken by the verification team to the project locations identified in the MR in India to carry out the following;

- A review of the operation and implementation of the registered project activity in accordance with the VCS PD version 04 dated 15-December-2018 /3/ and VCS MR/1/approved documents;
- An analysis of the information flows used to generate, aggregating and reporting the monitoring parameters;
- Interviews/24/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS PD version 04 of 15-December-2018/3/.
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, Online monitoring system,
- A check of the monitoring equipment including their calibration, performance and records of monitoring practices against the requirements of registered PD, applied methodology including applicable tool(s), and, wherever applicable & the applied standardized baseline;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three situations in tables; the different columns in these tables are described below.

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

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;

² Instance-6 and Instance-7 are located at same location.

- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during previous assessment i.e., in validation or verification report to be cross verified during verification have not been resolved by the project participants.

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

A forward action request (FAR) is also raised in cases where any required deviation/information is not fulfilled in current verification and thus needs to be taken up in consequent verification for better transparency thus holding the applicability of the methodology eligible to the project activity and there is no impact of the same on additionality, baseline scenario & emission reduction calculation of project.

In summary, **02 CL and 04 CARs and 00 FAR** were raised during this verification which were closed successfully and details are provided under **Appendix B** of this report.

2.5.1 Forward Action Requests

Based on the review of the registered PD and Previous VCS Verification Report, no FAR was raised during previous verification/18/ which needs to be closed during this verification and no FAR has been raised during current verification.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any relevant sectoral scope. Hence this section is not applicable. It is to further conclude that during current verification there is no validation assessment undertaken either by VKU itself or parallelly by other certification bodies, as the same was confirmed with focussed group discussions and interview with the PP /24/ during site visit.

Assessment team assessed the VERRA's website on **28-February-2024**: <https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs> wherein the scope of services of VKU certification Pvt. Ltd. is mentioned as verification and not validation. Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program except VCS for current monitoring period, **01-September-2022 to 31-October-2023 (inclusive of both dates)**. The project is registered under VCS only with project ID 1497 by checking VERRA registry website. Simultaneously other registry websites were also checked such as CDM, GS, CR-I, UCR and GCC with similar project title/capacity and Project Proponents but the assessment team could not find any such project registered on these registries thus it could be confirmed that the project does not claim any emission reduction from other registries. This was supported from the declaration submitted by PP mentioning that they will not be claiming same GHG emission reductions of the project from any other GHG program except VCS. Thus it ensures that the emission reduction generated from the project activity for current monitoring period from **01-September-2022 to 31-October-2023** (Inclusive of both start and end dates) will not be double counted. Assessment team also did the exercise of independently searching for such project registration or claim for current monitoring period was performed for other GHG related benefits such as REC/27/ and I-REC/27/ benefits and based on both independent assessment and declaration submitted by PP/16/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period from **01-September-2022 to 31-October-2023** (Inclusive of both days).

Assessment team has also verified the issuance of VCUs claimed in previous verification against the VCU issuance record registry. Thus, ensuring emission reduction generated from the project activity will not be double counted hence accepted by the assessment team.

The details of the registries checked are as follows:

1. <https://www.recregistryindia.nic.in/>
2. <http://cdm.unfccc.int/>
3. <http://www.goldstandard.org/>
4. [I-REC Standard - The International REC Standard Foundation \(irecstandard.org\)](http://www.irecstandard.org/)
5. <https://cri.nccf.in/>
6. [International Carbon Registry - International Carbon Registry](http://www.internationalcarbonregistry.org/)
7. [GCC PROJECTS PORTAL \(globalcarboncouncil.com\)](http://www.globalcarboncouncil.com/)
8. <https://verra.org/verra-standards-and-programs/>
9. <https://www.ucarbonregistry.io/>

10. Bio Carbon registry (<https://biocarbonregistry.com/en/projects/>)
11. Social Carbon registry (https://wilder.earth/social_carbon)
12. Cercarbono registry (<https://www.ecoregistry.io/>)
13. VCU Issuance Records

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/16/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries. The details of the registries checked are as follows:

1. <https://www.recregistryindia.nic.in/>
2. <http://cdm.unfccc.int/>
3. <http://www.goldstandard.org/>
4. I-REC Standard - The International REC Standard Foundation ([irecstandard.org](http://www.irecstandard.org/))
5. <https://cri.nccf.in/>
6. International Carbon Registry - International Carbon Registry
7. GCC PROJECTS PORTAL (globalcarboncouncil.com)
8. <https://www.ucarbonregistry.io/>
9. <https://www.ucarbonregistry.io/>
10. Bio Carbon registry (<https://biocarbonregistry.com/en/projects/>)
11. Social Carbon registry (https://wilder.earth/social_carbon)
12. Cercarbono registry (<https://www.ecoregistry.io/>)

In conclusion, the project's exclusive registration under VCS for the current monitoring period, along with its absence from rejection lists of other GHG programs, has been comprehensively verified, ensuring the integrity and credibility of its GHG benefits claims.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period 01-September-2022 to 31-October-2023 (Inclusive of both days). Also, no methodology deviation was identified during the validation/15/ and previous verification/18/.

3.3 Project Description Deviations

Following deviation was applied during previous monitoring period from 01-April-2021 to 31-August-2022:

- Deviation 1 – In Section 4.3 Apportioning procedure added to the monitoring plan in case of mis-match between dates of the JMRs of first & last months and start & end dates of this monitoring period. This is approved by VERRA and hence accepted.

Following two Deviations are requested in current monitoring period-

- Deviation-2: PP has requested the deviation with regard to change in the geo coordinates of some sites which were mentioned incorrectly in the MR and hence corrected in section 1.7 in the revised MR/1/ submitted by PP to VVB in this monitoring period and it is found to be correct while cross checking it with google earth pro hence it is acceptable to the assessment team. This does not affect the applicability of the methodology and additionality and baseline scenario of the project.
- The details of corrections is mentioned below-

Project activity instances	Location	Geo coordinates as per registered PD	Corrected Geo Coordinates
Instance – 1 Bhadla	Bhadla Solar Park, Village –Bhadla, Tehsil – Bap, District – Jodhpur, Rajasthan India	Latitude: 27.561 ⁰ N Longitude: 71.929 ⁰ E	Latitude: 27°31'10"N Longitude: 71°55'47"E
Instance – 2 Achampet	5 MW Solar Power Plant, Achampet Village and Mandal, Dist. Mehaboob Nagar, Telangana, India.	Latitude: 16.4 ⁰ N Longitude: 78.6 ⁰ E	Latitude: 16°23'28.0"N Longitude: 78°39'45.0"E
Instance – 3 Kalwakurthy	Ternikal Village, Kalwakurthy Mandal, Dist. Mehaboob Nagar, Telangana, India.	Latitude: 16.7 ⁰ N Longitude: 78.5 ⁰ E	Latitude: 16°37'23.0"N Longitude: 78°28'26.0"E
Instance – 4 Salakpur	Village: Salakpur District: Warangal State: Telangana, India	Latitude: 17.89 ⁰ N Longitude: 79.05 ⁰ E	Latitude: 17°54'09.0"N Longitude: 79°01'47.0"E

Instance – 5 Alladurg	Village: Bharamdhibba District: Medak State: Telangana, India	Latitude: 17.94° N Longitude: 77.92° E	Latitude: 17°56'48.0"N Longitude: 77°55'39.0"E
Instance – 6 Karnataka	Village: Bellatti, Shirahatti District: Gadag State: Karnataka, India	Latitude 15.09° N , Longitude: 75.623° E	Latitude: 15° 5'12.19"N Longitude:75°37'45.37"E
Instance – 8 Hotgi	Village: Hotgi, Tal South Solapur District: Solapur State: Maharashtra, India	Latitude:17.55953712° N Longitude:76.0021 4484°E	Latitude: 17°33'40.33"N Longitude:75°59'56"E
Instance – 11 Pune	Village: Peth, Tal Haveli, Dist Pune, Maharashtra, India	Latitude: 18.494475°N , Longitude:74.0970 218°E	Latitude: 18°29'40.1712" N Longitude:74°5'59.8128"E

- Deviation -3: PP has requested the deviation with regard to change in the inverter details for Vijayapura site (both instance 6 and instance 7) in section 3.1 which were mentioned incorrectly in registered VCS PD and those have been corrected as per actual project scenario at the site. This have been verified by VVB through the commissioning certificates/14/ of the instances in Karnataka (Instance 6 & 7) and interview with the site person during onsite visit and photographs of the technical specification for these 2 instances and same is found to be correct hence it is acceptable to the assessment team. This does not affect the applicability of the methodology and additionality and baseline scenario of the project.

3.4 Grouped Project

No new instances have been added for this grouped project activity during the current verification period, hence no assessment on grouped project is done in current verification

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

Based on the hybrid audit conducted with the project proponent (PP) representative, it was determined that the project has been implemented in accordance with the requirements outlined in the registered VCS Project Description Version 04 dated 15-December-2018/3/ and the approved monitoring plan. As described in section 1.4 of this report this is a greenfield renewable project which generates electricity from solar PV modules hence reduces the emissions from the coal based Indian grid.

The installation and commissioning of the project has been done as mentioned in Table No.-03 in section 1.4 of this report. Since commissioning the project activity is running continuously. -

Below Table No. 08 presents the breakdown and operational hours percentage of the plant site for the current monitoring period.

Table no 08: Breakdown Details of the project activity divided into Scheduled and Unscheduled hours

Plant Site	Project site	Total Operational Hours	Net Operational Hours	Scheduled and Unscheduled Breakdown hours	% decrease
Instance – 1: Bhadla	Bhadla, Rajasthan	10,224	9,566.77	657.23	6.4%
Instance – 2: Achampet	Achampet, Telangana	10,224	10,209	15	0.14%
Instance – 3: Kalwakurthy	Kalwakurthy, Telangana	10,224	8,110.75	2113.25	20.66%
Instance – 4: Salakpur/Mutsyal	Mutsyal, Telangana	10,224	10,095	129	1.26%
Instance – 5: Alladurg	Alladurg, Telangana	10,224	10,222	02	0.01%
Instance – 6: Karataka	Shirahatti, Karnataka	10,224	10,114.82	109.18	1.06%
	Ramadurg, Karnataka	10,224	10,134.88	89.12	0.87%
	Mulbangal, Karnataka	10,224	10,097.05	126.95	1.24%
	Vijayapura, Karnataka	10,224	9,969.8	254.20	2.48%

Instance – 7: Vijayapura	Vijayapura, Karnataka	10,224	10,096.8	127.20	1.24%
Instance – 8: Hotgi	Hotgi, Maharashtra	10,224	10,221	03	0.02%
Instance – 9: Gotan	Gotan, Jodhpur	10,224	10,222	02	0.01%
Instance – 10: Sevagram	Sevagram, Gujarat	10,224	10,119.64	104.36	1.02%
Instance – 11: Pune	Pune, Maharashtra	10,224	8,959.92	1264.08	12.36%
Total		143,136 hrs	138,137 hrs	4,997 hrs	3.49%

The project activity was operational for a total 138,137 hours (96.51%). However, during the monitoring period from 01-September-2022 to 31-October-2023, the project experienced breakdowns for a duration of 4,997 hours (3.49%), as detailed in section 3.1 of the monitoring report (MR). It is important to note that the plant was not entirely shut down during these breakdown hours/26/; only the affected parts were temporarily taken out of operation. The verification process involved review of generation log book records/30/ and breakdown excel sheet/26/ provided by the project proponent (PP). Additionally, an onsite & remote visit to the project site/24/ was conducted, where it was confirmed that only the affected parts were shut down while the rest of the plant remained operational. This information is consistent with the details mentioned in Section 3.1 and Appendix 3 of the MR/1/. The assessment team also conducted interviews with key personnel from the PP, including Site In charge, Senior engineers/Junior engineer/Assistant manager /24/. These interviews took place from **27-December-2023 to 30-December-2023** and from **03-January-2024 to 06-January-2024** during the hybrid audit conducted by the verification team/19/.

The breakdown occurred only for a total of 3.49% for all plant sites and it is beyond the control of PP. Therefore, due to this minor percentage variations of breakdown identified in the current monitoring period it does not have major impact on the GHG emissions reductions. The summary of breakdown details in the current monitoring period has been described in detail in Appendix 03 of MR/1/.

During the current monitoring period, the solar modules generated 290,794.97 MWh electricity. The electricity is then evacuated through Grid Sub-station. This electricity is subsequently supplied to the Indian Grid or used for captive consumption as per the instance applicability.

This information has been verified and confirmed through the registered VCS PD/3/, Validation report/15/, previous Verification report/18/, as well as through onsite interviews conducted with the site personnel/24/.

During the current monitoring period, all the solar power plants of 11 instances were operational and the project activity has supplied **290,794.97 MWh** of electricity, and thus contributing to **285,158 tCO₂e** GHG emission reductions. The ex-ante emission reduction for this monitoring period as per registered VCS PD/3/ were **288,423 tCO₂e**, whereas actual emission reductions achieved are **285,158 tCO₂e**, which is **1.13%** lower than the estimated emission reductions. Further explanation is provided section 4.5 of this report.

The assessment team has concluded that the breakdowns and the resulting partial shutdown of the project activity do not have a significant impact on the calculation of emission reductions (ER). The project underwent continuous operation, with only the affected parts being temporarily shut down. This approach is deemed acceptable by the assessment team and is verified to align with the methodology. Furthermore, no unforeseen incidents were identified that would affect the applicability of the methodology.

During the hybrid audit/19/, the assessment team confirmed that there were no changes in the project design. The capacity of the solar panels remained the same, and the project is implemented in accordance with the details provided in the registered VCS PD/3/, which was verified by the assessment team during onsite visit/19/. Thus this confirmation was further supported by reviewing the registered validation Report/15/ and previous verification reports/18/.

The assessment team also conducted a verification of the project location. This was accomplished through a desk review using google earth and during the onsite visit using GPS map camera software/25/. The latitude and longitude coordinates specified in the registered VCS PD/3/, VCS validation Report/15/, and VCS MR/1/ were confirmed to be accurate but some SPV's geo co-ordinates were found to be incorrect and this was raised as finding and changed by PP through Deviation -2, and same has been assessed in Table no.09 of this report which shows the entire location of SPVs installed at the site.

The commissioning dates for project activity instance included in the grouped project activity along with the longitude and latitude are mentioned in below table:

Table no: 09 The commissioning dates along with the longitude and latitude

Project activity instances	Project Owner	Location	Date of Commissioning	Geo coordinates
Instance - 1	Essel Mining and	Bhadla Solar Park, Village - Bhadla, Tehsil - Bap, District- Jodhpur, Rajasthan India	12-March-2014	Latitude: 27°31'10"N Longitude: 71°55'47"E
Instance - 2		Solar Power Plant, Achampet Village and Mandal, Dist. Mehaboob Nagar,	07-July-2014	Latitude: 16°23'28.0"N Longitude: 78°39'45.0"E

	Industries Limited	Telanganaa, India.		
Instance - 3		Ternikal Village, Kalwakurthy Mandal, Dist. Mehaboob Nagar, Telanganaa, India.	30-June-2014	Latitude: 16° 37'23.0"N Longitude: 78° 28'26.0"E
Instance - 4		Village: Salakpur District: Warangal State: Telangana, India	17-September-2014	Latitude: 17° 54'09.0"N Longitude: 79° 01'47.0"E
Instance - 5		Village: Bharamdhibba District: Medak State: Telangana, India	28-July-2014	Latitude: 17° 56'48.0"N Longitude: 77° 55'39.0"E
Instance - 6	Aditya Birla Solar Limited	Village: Bellatti, Shirahatti District: Gadag State: Karnataka, India	11-May-2017	Latitude: 15° 5'12.19"N Longitude: 75° 37'45.37"E
		Village: Chandargi, Kaktol, Ramadurg Taluk District: Belagavi, State: Karnataka, India	12-May-2017	Latitude: 16° 1'15.60"N Longitude: 75° 7'37.20"E
		Village: Mulbangal, District: Kolar State: Karnataka, India	13-October-2017	Latitude:13° 05'04.4" N, Longitude:78° 17'28.8" E
		Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India	26-March-2018	Latitude: 17° 15'1.53"N, Longitude:75° 39'38.69 "E

Instance - 7	Aditya Birla Renewables SPV 1 Limited	Village: Devar Nimbargi, District: Vijayapura State: Karnataka, India	26-March-2018	Latitude: 17° 15' 1.53"N Longitude: 75° 39' 38.69"E
Instance - 8		Village: Hotgi, Tal: South Solapur District: Solapur State: Maharashtra, India	20-June-2018	Latitude: 17° 33' 34.33"N Longitude: 75° 39' 46.79 "E
Instance - 9		Village: Kharia Khangar, Tehsil: Bhopalgarh District: Jodhpur State: Rajasthan, India	01-February- 2018	Latitude: 26° 36' 25" N, Longitude: 73° 41' 33"E
Instance - 10		Village: Sevagram, Tal: Abdasa District: Kutch State: Gujarat, India	14-August-2018	Latitude: 23° 25' 44.55" N, Longitude: 68° 42' 13.17 "E
Instance - 11		Village: Peth, Tal: Havelim Dist Pune, Maharashtra, India	01-February- 2018	Latitude: 18° 29' 40.1712" N Longitude: 74° 5' 59.812 8"E

Assessment team checked the commissioning certificates /14/ and confirmed that the date of commissioning for the Project is correct. Assessment team also confirmed during the onsite audit that there is no change in project design viz., capacity of the solar panels remained the same and the project is implemented as per the description provided in the registered VCS PD /3/. This has been further verified from the registered VCS Validation report and previous verification reports.

The verification team conducted a thorough assessment of the implementation status of the project activity and the installed instrumentation. This evaluation included an onsite visit/19/ to verify the technical specifications/22/. The team examined the nameplates and confirmed that the installed modules matched the provided specifications. Additionally, the project proponent (PP) submitted supporting documents detailing the salient features of the solar technology. The relevant information from these documents has been compiled and presented in the **Table 10** below:

Solar Power Project Technology Details

The adopted technology for the project activity involves the conversion of solar energy into electrical energy. It is important to note that this technology is environmentally friendly, as it does

not generate any greenhouse gas (GHG) emissions during the electricity generation process. Furthermore, there is no transfer of technology associated with the implementation of the project activity.

Technical Specifications of above project activity instances are as follows:

Table no: 10 The key technical specifications of principal components

Project activity instances	Capacity	PV Modules	Inverters
Instance – 1 Bhadla	20 MW	36,288 nos. (245 Wp each) 52,488 nos. (250 Wp each) Manufactured by CSun	30 nos. (680 KVA each) Manufactured by Schneider
Instance – 2 Achampet	5 MW	18,340 nos. (300 Wp each) Manufactured by CSun	7 nos, (860 KVA each) Manufactured by Schneider Electric
Instance – 3 Kalwakurthy	10 MW	37,940 nos. (290 Wp each) Manufactured by CSun	14 nos, (680 KVA each) Manufactured by Schneider Electric
Instance – 4 Salakpur	10 MW	36,680 nos. (300 Wp each) Manufactured by YINGLI	14 nos, (680 KVA each) Manufactured by Schneider Electric of capacity
Instance – 5 Alladurg	10 MW	36,680 nos. (300 Wp each) Manufactured by CSUN	14 nos, (680 KVA each) Manufactured by Schneider Electric
Instance – 6 Karnataka	20 MW	69,800 nos. (320/315 Wp each) Make Seraphim	30 nos. (680 KVA each) Schindler make
	20 MW	69,760 nos. (320/315 Wp each) Make Seraphim	30 nos. (680 KVA each) Schindler make
	20 MW	70,040 nos. (320/315 Wp each) Make Seraphim	30 nos. (680 KVA each) Schindler make
	17 MW	87,120 nos. (78,360- 320 Wp each) Make Znshine Solar	14 nos. (1250 KVA each) Schindler make
Instance – 7 Vijayapura	6.8 MW	8,760-315 Wp each, Make Znshine Solar	06 nos. 1250 KVA each) Schindler make

Instance – 8 Hotgi	0.8 MW	3,000 nos. (320 Wp each) Make Canadian solar	10 Invertors (800 KVA each), Delta make
Instance – 9 Gotan	5 MW	Total 18,320, 8090- 325 Wp/ 10250- 330 Wp), Make- Canadian Solar	5 Invertors (1 MW each) - ABB Ltd make
Instance – 10 Sevagram	5 MW	Total 15,520 nos. (7,820- 320 Wp and 7,700-325 Wp) Make Emmvee	4 Invertors (1 MW each) - TMEIC make
Instance – 11 Pune	0.8 MW	3,000 nos. (320 Wp each) Make Canadian solar	10 Invertors (800 KVA), Delta make

Based on the interviews conducted with site personnel and the verification team's onsite visit, it has been confirmed that all quality assurance and quality control (QA/QC) procedures specified in the registered VCS PD/3/ have been followed during the operation of the project activity. The monitoring plan outlined in the registered VCS PD /3/ and the applied methodology/7/ have been effectively implemented, mentioned all the specified parameters in the current monitoring report.

During the onsite visit and discussions with the project proponent (PP) representative. It was observed that the monitoring plan has been implemented as per the registered VCS PD /3/ and applied methodologies AMS-I.D version 18, AMS.I.F version 03, ACM0002 version 16/7/. The organizational role and responsibility as mentioned in the registered VCS PD/3/ is followed onsite. Meters are calibrated as per calibration frequency mentioned in registered VCS PD /3/. The baseline emission parameters specified in the registered VCS PD /3/ have been verified, ensuring their accuracy and compliance. PP has provided a declaration to ensure that there is no possibility of double counting.

Overall, based on the interviews, onsite visit, and verification of documents, it can be concluded that the project activity has adhered to the necessary procedures, monitoring parameters, emergency preparedness, and baseline emission parameters outlined in the registered VCS PD version 04/3/.

Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description provided in the registered VCS PD Version 04 dated 15-December-2018/3/.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate as per the registered monitoring plan in VCS PD /3/ and MR/1/.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/7/.

- d) Materiality threshold applied is 5% as per 4.1.10 of VCS Standard v4.5/5/, It was concluded that the materiality threshold applicable to the project activity based on the type of project i.e., Project is 5%. This effectively means that there is uncertainty inherent in the estimation of emission reduction of 5%. This is consistent with the section 4.1.10 of VCS standard v4.5 which is equal to 14,476.9 tCO₂e.
- e) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading.
- f) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/15/ and previous verification/18/.
- g) The project is registered under VCS only; however, PP has submitted the declaration/16/stating, they will not claim same GHG emission reductions of the project from CDM or any other GHG programme for the current monitoring period when project is seeking to get GHG emission reduction from VCS. Assessment team also checked the REC/27/ Mechanism database of India and I-REC/27/ mechanism database found that the project activity is not accredited / registered under REC or I-REC mechanism which was verified from the (Renewable Energy Certificate Registry of India ³ /27/REC)/(International-Renewable Energy Certificate Standard Standard) I-REC⁴/27/ website and same was verified by checking in other GHG programs including GS Registry, CDM, GCC, UCR & CR-I, however PP has submitted the declaration/16/ for the same which is in line with set guidelines of section 3.24 clause 3.24.4 of VCS Standard version 4.5/5/.
- h) The project activity complies with indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR/1/. Assessment team has verified the same during on site visit and remote audit/19/ and found all the indicators to be effective and applicable for the project activity.
- i) According to clause 3.24.7 of VCS Standard Version 4.5/5/, specific guidelines are applicable when the producer(s) or retailer(s) of the impacted good or service are identified but not involved in the project or do not possess a website. The project Activity is a solar power project and does not involve any supply chain in the project such as manufacturers, wholesalers, distributors and retailers. So, no indirect upstream and downstream GHG emissions are involved in the project activity. Thus, the Scope 3 emissions are not applicable in this project activity.
- j) The project activity complies with 3 indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR/1/. Assessment team has verified the same during on site visit and remote audit and found all the indicators to be effective and applicable for the project activity.

The Project activity has implemented activities that results in 3 SDG Contributions; 7.2 13.0 and 8.0.

1. 7.2.1 i.e. (Renewable energy share in the total final energy consumption)

As a part of this project activity lifetime, a total of **1,832,298.90 MWh** of renewable electricity, has been supplied to the Indian grid by the project activity till the end of the current monitoring period. During current monitoring period the renewable electricity supplied is **290,794.97 MWh** VVB has referred previous verification reports/18/ approved by VERRA, JMRs/11/, Invoices/13/ submitted by PP for current monitoring period and thus VKU found the above claimed renewable electricity supplied to Indian grid to be correct and deemed satisfactory.

2. 13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)

Due to installation of this project activity PP has prevented the release of the emission of **1,797,463 tCO₂e** in the atmosphere till the end of the current monitoring period. During current monitoring period the project has prevented the release of the emission of **285,158 tCO₂e**. Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region. VVB has referred previous verification reports /18/, JMRs/11/, Invoices/13/ submitted by PP for current monitoring period and thus VKU found the above claimed **Tonnes of greenhouse gas emissions avoided or removed** to be correct.

3. 8.0 i.e. (Employment of local men and women)

As a part of SDG 8.0. there is no new employment generated during current monitoring period due to this project activity. However, due to the installation of this project, it has provided employment to 66 employees including technical and non-technical staff at the site which is confirmed by VVB through the attendance register available at the site and interviews with the site personnel/24/. 14 trainings were conducted on each site during current monitoring period as per the training schedule of PP for the plant site which is confirmed by assessment team during onsite visit and hence these claims are acceptable to VKU assessment team.

All the above stated information has been verified by VKU assessment team during hybrid audit at the project site by interviewing the site personnel and by conducting focussed group discussion with them /24/. There are no potential harmful socio-economic and environmental effects in the project activities. The project activity does not have any major adverse impacts on environment during its construction or operational phase. VKU assessment team has assessed the project activity on site and confirms that there were no negative environmental and socio-economic impacts observed during current monitoring period as this is a solar power project and all necessary measures were found in place which was confirmed during site visit.

- As per the section 1.1 of the MR/1/, PP has provided the audit history as below

Table no: 11 Audit History Table

Audit Type	Period (Inclusive of both start and end dates)	Program	VVB Name	Numbers of Years	Conclusion

Validation	12-March-2014 to 11-March-2024 (including both days)	VCS	URS VERIFICATION PRIVATE LIMITED	10 years, 00 months, 00 days	VKU's assessment team has conducted a cross-verification with the Validation Report/15/ and found the period of the crediting period correct.
1st Verification	12-March-2014 to 20-October-2018 (including both days)	VCS	Applus	04 years, 07 months, 09 days	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report/9/ for 1 st MP with the Verification Report/18/ for 1 st MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record on the project's web page/20/
2nd Verification	21-October-2018 to 20-February-2020 (including both days)	VCS	4K Earth Science Private Limited	1 year, 04 months	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report/9/ for 2 nd MP with the Verification Report/18/ for 2 nd MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record on the project's web page/20/
3rd Verification	21-February-2020 to 31-March-2021 (First and last dates included)	VCS	Earthood Services Private Limited	01 year, 01 months, 11 days	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report/9/ for 3 rd MP with the Verification

					Report/18/ for 3 rd MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record on the project's web page/20/
4th Verification	01-April-2021 to 31-August-2022 (including both days)	<u>VCS</u>	<u>Applus</u>	1 year, 5 months, 00 days	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report/9/ for 4 th MP with the Verification Report/18/ for 4 th MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record on the project's web page/20/
5th Verification	01-September-2022 to 31-October-2023 (Including both the days)	<u>VCS</u>	<u>VKU Certification</u>	1 year, 2 months, 00 days	VKU assessment team conducted the verification for current monitoring period (5 th MP) and verified the emission reductions reported in the ER Sheet and MR via supporting documents.
Total	12-March-2014 to 31-October-2023 (Including both the days)			Total validations - 10 years Total verifications - 9 years, 7 months 20 days	The Total emission Reduction prevented by the project activity since commissioning was verified by VKU's Assessment team via previous verification reports and other supporting documents.

The project has demonstrated a positive impact on various aspects of sustainable development, aligning with the criteria set by the Ministry of Environment, Forest and Climate Change (MoEF&CC). These impacts include economic, social, environmental, and technological benefits.

In terms of social well-being, they contribute to local economic development and improves the livelihoods of individuals in the surrounding communities. Additionally, the project may have facilitated the improvement of local infrastructure, further enhancing the social well-being of the area.

In terms of environmental impact, the project's utilization of solar energy as a renewable source of power has significant advantages. By eliminating reliance on fossil fuels, the project reduces greenhouse gas (GHG) emissions, helping to mitigate climate change. The use of solar energy conserves limited resources and promotes sustainable energy practices.

In summary, the project's positive impact on economic development, social well-being, environmental preservation, and technological advancement aligns with the key components of sustainable development as identified by the Ministry of Environment and Forests.

The project has implemented comprehensive training programs to ensure that staff members are equipped with the necessary skills and knowledge to carry out their roles effectively and ensure the proper monitoring of emission reductions. The training activities have been conducted in accordance with the monitoring plan and have been organized for the current monitoring period. The training programs cover a range of topics to address various aspects of the project's operations/31/. Plant helpers have received training in equipment operation, data recording, report writing, operation and maintenance, and emergency procedures, aligning with the requirements outlined in the monitoring plan/29/.

In addition to the core training, additional programs have been organized during the monitoring period. These include Environment Awareness, First-Aid Box items Awareness, Information Security Management System, Grievance Management, Defensive Driving, and road safety training. These programs aim to raise awareness among employees regarding environmental concerns, ensure preparedness for emergencies, and promote safety practices. Furthermore, technical trainings such as electrical safety, workplace risk management, and fire and safety training have been conducted/31/. These trainings address specific technical aspects related to the project's operations and contribute to the overall safety and risk management protocols.

In view of the information as verified above the assessment team is able to conclude that the project has been implemented as described in the project description/3/. All the above stated information was verified by VVB during onsite visit and site personnel interviews/24/.

4.2 Safeguards

4.2.1 No Net Harm

Solar power is one of the cleanest sources of renewable energy, with no associated emissions and waste products. As per the Schedule 1 of Ministry of Environment, Forests and Climate Change (Government of India) notification dated 14-September-2006, solar power projects do not require an Environmental Impact Assessment.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013 clearly mentioned that solar project

activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same.

Thus, there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

Hence it can be concluded that there are no negative impacts associated with the Project.

4.2.2 Local Stakeholder Consultation

The project proponents organized stakeholders meeting in order to take into account the concerns of the nearby villagers regarding the project implementation. As a part of continuous feedback from stakeholders, there were no other major comments or protest raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region. For the VCS grouped project activity under consideration, stakeholder consultation was held at each of the project activity instance site. Relevant outcomes from respective stakeholder consultations for each of the eleven-project activity instance are provided as follows:

Instance – 1: Bhadla: The stakeholder meeting for the VCS project activity instance -1 at Bhadla was held at the plant site on 12-September- 2015. Stakeholders were invited for the meeting by sending invitations in the form of notification in newspapers (public notice was published in Dainik Bhaskar on 28-August-2015) and by personalized invitations to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Newspaper notification was published in local newspaper in local language and in English. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 2: Achampet: The stakeholder meeting for the VCS project activity instance 2 at Achampet was held at the plant site on 14-September-2015. Stakeholders were invited for the meeting by sending invitations in the form of notification in newspapers and by personalized invitations to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Newspaper notification was published in newspaper – The Hindu on 26-August-2015 in local language and in English. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 3: Kalwakurthy: The stakeholder meeting for the VCS project activity instance-3 at Kalwakurthy was held at the plant site on 14-September-2015. Stakeholders were invited for the meeting by sending invitations in the form of notification in newspapers and by personalized invitations to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Newspaper notification was published in newspaper – The Hindu on 26-August-2015 in local language and in English. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 4: Salakpur: The stakeholder meeting for the VCS project activity instance -4 at Salakpur was held at the plant site on 15-September-2015. Stakeholders were invited for the meeting by sending invitations in the form of notification in newspapers and by personalized invitations to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Newspaper notification was published in newspaper - The Hindu on 26-August-2015 in local language and in English. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 5: Alladurg: The stakeholder meeting for the VCS project activity instance -5 at Alladurg was held at the plant site on 16-September-2015. Stakeholders were invited for the meeting by sending invitations in the form of notification in newspapers and by personalized invitations to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Newspaper notification was published in newspaper - The Hindu on 26-August-2015 in local language and in English. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

Instance – 6: Karnataka: The stakeholder meeting for the VCS project activity instance -6 at Karnataka site was held at the plant site on 22-September-2016. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 15-September-2016) to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 7: Vijayapura: The stakeholder meeting for the VCS project activity instance -6 at Vijayapura site was held at the plant site on 23-September-2016. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 15-September-2016) to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

Instance – 8: Hotgi: The stakeholder meeting for the VCS project activity instance -8 at Hotgi site was held at the plant site on 13-January-2017. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 05-January-2017) to key stakeholders such as government officials, panchayat representatives and other relevant organizations. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document. There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 9: Gotan: The stakeholder meeting for the VCS project activity instance -9 at Gotan site was held at the plant site on 10-November-2016. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 05-November-2016) to key stakeholders such as government officials, panchayat representatives and other relevant

organizations. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions.

Instance – 10: Sevagram: The stakeholder meeting for the VCS project activity instance - 10 at Sevagram, Gujrat site was held at the plant site on 20-March-2018. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 12-March-2018) to key stakeholders such as government officials, panchayat representatives and local villagers. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document.

Instance – 11: Pune: The stakeholder meeting for the VCS project activity instance -11 at Pune site was held at the plant site on 30-April-2018. Stakeholders were invited for the meeting by means of public notice and sending personal invitations on 25-April-2018) to key stakeholders such as government officials, panchayat representatives and local villagers. Comments received from stakeholders during the meeting have been documented in the minutes of meeting document. There were no negative comments received during the meeting and stakeholders appreciated proactive efforts taken by project proponent towards reducing emissions. The PP also placed a grievance register onsite in where the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately.

Table No: 12 Grievance Mechanism

Site	Grievance Register
Instance -1	The grievance register is maintained at security guard room at entrance of each site in which no grievance has received from stakeholders during the current monitoring period. If any grievance is received it will be addressed by the head of the plant site.
Instance -2	
Instance -3	
Instance -4	
Instance -5	
Instance -6	The grievance register is kept at security guard room maintained at entrance of each site of “VCS Project for Solar Power Plant located at Karnataka” and in “VCS Project for Solar Power Plant located at Vijaypura”. There are two grievances register one for internal which helps the employees an opportunity to o raise a problem or complaint to their employer and another one for external which collects the any grievance from stakeholder aspects. If any grievance is received it will be addressed by the head of the plant site.
Instance -7	

Instance -8	The grievance register is maintained at entrance of the site in security guard room in which no grievance has received from stakeholders during the current monitoring period. If any grievance is received it will be addressed by the head of the plant site.
Instance -9	The grievance register is maintained at entrance of the site in security guard room for VCS Project for “Solar Power Plant located at Gotan”. Two grievance register are there in order to get the grievances and complaints from both the internal workers and external stakeholders. If any grievance is received it will be addressed by the head of the plant site.
Instance -10	The grievance register is maintained at entrance of the site in security guard room in which no grievance has received from stakeholders during the current monitoring period. If any grievance is received it will be addressed by the head of the plant site.
Instance -11	The grievance register is maintained at entrance of the site in security guard room in which no grievance has received from stakeholders during the current monitoring period. If any grievance is received it will be addressed by the head of the plant site.

A suggestion box is also maintained at plant entrance for all sites for seeking suggestion of stakeholders.

4.3 AFOLU-Specific Safeguards

The project activity deals with generation of electricity using solar power plant and not from AFOLU projects. Hence not applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

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

The monitoring parameters in the project activity are:

- **EG_{PJ, facility, y}** (MWh): “Net electricity supplied to the grid by the project activity instance during the year y (for AMS I.D and ACM002 component)”
- **EG_{BL, y}** (MWh): “Net electricity displaced by the project activity instance during the year y (for AMS I.F component)”

These parameters are monitored through the reading of energy meters installed.

The import and export value, which is jointly recorded on monthly basis in JMRs by respective power distribution company and project participants, is properly monitored by installed, calibrated metres of 0.2s accuracy class. The evaluation team has carefully analysed ER sheet /2/ that was provided by PP by cross-checking the values from the JMRs and invoices that PP submitted and it has determined that all of the equations, conversions, and aggregations are correct. There meters are installed at the metering location site for all sites and three-meter system (Main, Check and Standby) for Telangana site at Instance 2,3,4 and 5.

The Net Electricity generation is calculated after deducting the Imports from the Export i.e., Net Electricity supplied to the grid = Export–Import.

The current value for assessment is calculated based on the actual value of Net electricity supplied assessed each month and the value is sourced from the JMRs. Further the import value is also sourced from JMRs.

The assessment team has conducted a thorough verification of the entire information flow, starting from data generation and aggregation to recording, calculation, and reporting of the relevant parameters in the Monitoring Report /1/. The emission reductions are based on the net electricity generated and exported from the project.

The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/. The emission reductions are purely based on the net electricity generated and exported from the solar panels. PP has provided all the sufficient data for current monitoring period. The values of the parameter of net electricity generation supplied to the grid by each unit in deriving the GHG emission reductions. Exported values of electricity could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of each monitoring parameter has been discussed later in section 4.5.

Table No: 13 Data and Parameters Available at Validation or Ex-ante parameters

Parameter	Unit	Description	Value	MOV
EF_{grid,CM,y}	tCO ₂ /MWh	Combined Margin CO ₂ Emission Factor in year y	0.9770 tCO ₂ /MWh for NEWNE grid and 0.9817 tCO ₂ /MWh for Southern grid is	The values are verified through desk review of the MR submitted /1/ and registered VCS PD

			consistent with the registered VCS PD /3/ This is in accordance with applicable methodologies – AMS.I. D (version 18.0), ACM0002 (version 16.0) and AMS I.F (Version 03) along with Tool to calculate the emission factor for an electricity system (version 05.0).	/3/ which is found acceptable.
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In section 4.5 of this report and section 5.4 of MR /1/ calculations have been stated which can be further compiled in ER/2/. Values data has been verified by the assessment team from JMRs issued to PP by State utility /11/& further cross checked from the invoices issued by PP to state electricity authority /13/. Hence VKU states that the calculation method and formulae used in calculating baseline emission is in compliance to the methodology used/7/. The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., AM.I.D. version 18.0, AMS.I.F version 03.0, ACM0002 version 16.0 /7/. Since project activity is a solar power project, leakage emission and project emission have been considered as zero.

Applicable methodology AMS.I.D; Version 18.0, AMS.I.F version 03.0, ACM0002 version 16.0 confirms that since project activity is a Solar power project and no other kind of fossil fuel has been used in the current monitoring period on site thus no project emissions are considered according to the methodology used.

$$BE_y = EG_{PJ,y} * EF_{co2grid,y}$$

Where:

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

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

EF_{grid,CM,y}: Combined margin CO₂ emission factor for grid in connected power generation (tCO₂/MWh)

Plant had been in operation throughout the current monitoring period, and the project activity generated 290,794.97 MWh of net electricity, resulting in 285,158 tCO₂e GHG reductions

PP has submitted all the evidences like JMRs/11/ and Invoices/13/ to VKU Assessment Team for verification and assessment of ER Sheet/2/

Hence VKU Assessment Team states that the calculation method and formulae used in calculating baseline emission is following the methodology used i.e., AMS-I.D: “Grid-connected electricity generation - version 18”, AMS.I. F “Renewable electricity generation for captive use and mini-grid – version 03.0, and ACM0002 “Grid-connected electricity generation from renewable sources – version 16.0” /7/. The applied default values, emission factors, and assumptions in the calculations are all reasonable. The assumptions, emission factors and default values that were applied in the calculations are justified.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

The verification team reviewed the records required for monitoring, ensuring that they were archived in accordance with the registered monitoring plan. The purpose of this review was to confirm that the project had followed the prescribed procedures for data collection, storage, and reporting. No significant issues, lack of evidence, or missing data were identified during the verification process. This indicates that the project's monitoring system is effective in ensuring the quality of the monitored data. The verification team also confirmed that the project had implemented appropriate quality assurance and quality control measures for its internal data.

By conducting a comprehensive review of the relevant documents and data, the verification team ensures the integrity and accuracy of the project's monitoring system, providing confidence in the reported emission reductions.

The monitoring parameters in the project activity are:

- **EG_{PJ, facility, y} (MWh)** “Net electricity supplied to the grid by the project activity instance during the year y (for AMS I.D and ACM0002 component)” – for instances 1 to 7
- **EG_{BL, y} (MWh)** “Net electricity displaced by the project activity instance during the year y (for AMS I.F component)” - for instances 8 to 11

These parameters are monitored through controlled reading of meters installed at substation.

The table below describes how the parameters **EG_{PJ, facility, y}** and **EG_{BL, y}** is to be measured according to the monitoring plan and how the same has been verified to confirm, that the actual monitoring complies with the monitoring plan. It also details how monitored data has been thoroughly assessed and meeting of calibration requirements.: -

Table No: 14 Assessment of Parameter EG_{PJ, facility, y} (MWh), and EG_{BL, y} (MWh), that is to be measured: -

Parameter	EG _{PJ, facility, y} (MWh)- applicable for Instance -1 to Instance-7	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous monitoring and monthly reporting for net electricity generation. The quantity of net electricity generation supplied by the solar power plant to the grid is measured in megawatt-hours (MWh). The calculation of net electricity supplied to the grid is based on the measured values of "export" and "import" of electricity, which are obtained through the dedicated energy meter installed at the delivery point (i.e., the connected sub-station). To determine the net electricity supplied, Monthly meter readings are taken from the main and check meter installed at the substation and certified by state utility and the project participants. Net electricity supplied to the grid by project is estimated as below Net electricity = EG_{Export} – EG_{Import} This is a calculated value
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD /3/ and monitoring methodology/7/. This was verified by assessment team during desk review and by Assessment Team during onsite

		visit and interviews with site personnel. /24/
	Monitoring equipment	ABT Energy Meters of 0.2s accuracy class are used to monitor the electricity to the grid specifically the values of export” and “import” of electricity through the dedicated energy meter installed . The details of meters and calibration details are provided in APPENDIX 1 of MR/1/
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer’s specification?	Yes, the accuracy of the monitoring equipment (Energy Meters (EMs) used to measure the input values such as import and export to calculate net electricity generation value is of 0.2s accuracy class as stated in section 4.2 of the registered VCS PD Version 04 dated 15-December-2018/3/ and section 4.3 of MR /1/ and it is consistent as per the Power Purchase Agreement/28/. Also, the same was verified from the energy meters installed at the site during onsite visit/19/ to the Grid Sub Station. The assessment team also checked the calibration records under the Description of equipment that confirms the accuracy class as 0.2s.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment’s is valid for the entire range which is as per registered VCS PD /3/. This was assessed by checking the calibration certificates of the energy meters /12/. Thus, the assessment team based on the calibration certificates/12/ states that the

		accuracy is valid for the entire measuring range.
	Calibration frequency /interval:	The calibration frequency of the meters used for the monitoring of export, import shall be once in every five years as per section 4.2 & 4.3 of registered VCS PD/3/ The assessment team confirmed the frequency while interviewing /24/ the site personnel during onsite visit/24/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency of the meters used in the project activity is in accordance with the requirements specified in section 4.2 & 4.3 of the registered VCS PD Version 04 dated 15-December-2018/3/ is in accordance with the national standards/17/ i.e para 1 (b), Clause 18 of <u>Central Electricity Authority</u> (Installation and Operation of Meters ⁵) Regulations, 2006, all interface meters, including those used in the project activity, are required to be tested at least once in every five years. This was also confirmed during interview with onsite personnel /24/, which is in line with VCS Standard version 4.5/5/ calibrations requirements as well as the registered monitoring plan.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes. Calibration of the measuring equipment's is carried out by state utility and same has been verified through calibration

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

		records & onsite personnel interviews /24/. In accordance with the emergency procedure outlined in the registered VCS PD version 04/3/ and MR/1/, If an error is found in Main meter to be beyond the permissible limits, then check meter will be used.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration frequency mentioned in VCS PD Version 04 dated 15-December-2018/3/ once in five years is valid for the whole reporting period i.e., 01-September-2022 to 31-October-2023 (Inclusive of both the dates) and as per the selected frequency there are no delays in the calibration. Hence deemed satisfactory to the VVB.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. As per the calibration certificates, error variation observed is lesser than the error variation specified. Hence, it is within the measurable range. The calibration is carried out appropriately as per the registered monitoring plan and VCS standard version 4.5/5/.
	How were the values in the monitoring report verified?	Cumulative value of Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y EGPJ, facility, y for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. The monthly values are verified by VKU's assessment team from the JMRs/11/ and Invoices /13/ issued by state utility and found to be consistent.

		Value of this parameter for the current monitoring period was verified as 267,302.91 MWh .
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y EG_{PJ, facility, y} and EG_{BL, y} is recorded in an ER Sheet and were further cross checked from with monthly invoices raised by the PP/13/ to state utility and third party and was found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview/24/ with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable for the net electricity supplied by the project plant/unit to the grid in year y. The desk review of O&M agreement and register monitoring plan and its implementation in the current monitoring period is done to satisfactorily verify that the system is in place.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues were observed during current monitoring period.
Findings	CAR#02 and CL#01 were raised and resolved	
Conclusion	EG_{PJ, facility, y} (MWh) parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

	The emission reduction calculation for the project activity is estimated based on the electricity supplied by the Project activity. Since 100% data was verified, the team can ascertain that the values adopted for emission reduction calculation have minimum material errors.
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Parameter	EG _{BL, y} (MWh)- applicable for Instance 8 to Instance 11	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous monitoring and monthly reporting for net electricity generation. The quantity of net electricity generation supplied by the solar power plant to the grid is measured in megawatt-hours (MWh). The calculation of net electricity supplied to the grid is based on the measured values of “export” and “import” of electricity, which are obtained through the dedicated energy meter installed at the delivery point (i.e., the connected sub-station). To determine the net electricity supplied, Monthly meter readings are taken from the main and check meter installed at the substation and certified by state utility and the project participants. Net electricity supplied to the grid by project is taken from monthly “Joint Meter Reading” report or Monthly report which contains monthly energy meter reading This is a calculated value

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD /3/ and monitoring methodology/7/. This was verified by assessment team during desk review and by Assessment Team during onsite visit and interviews with site personnel. /24/
	Monitoring equipment	ABT Energy Meters of 0.2s accuracy class are used to monitor the electricity to the grid specifically the values of export” and “import” of electricity through the dedicated energy meter installed The details of meters and calibration details are provided in APPENDIX 1 of MR/1/
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer’s specification?	Yes, the accuracy of the monitoring equipment (Energy Meters (EMs) used to measure the input values such as import and export to calculate net electricity generation value is of 0.2s accuracy class as stated in section 4.2 of the registered VCS PD Version 04 dated 15-December-2018/3/ section 4.3 of MR /1/ and it is consistent with energy meters installed at the site during onsite visit/19/ The assessment team also checked the calibration records under the Description of equipment that confirms the accuracy class as 0.2s.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment’s is valid for the entire range which is as per registered VCS PD /3/. This was assessed by checking the calibration certificates of the energy meters

		/12/. Thus, the assessment team based on the calibration certificates/12/ states that the accuracy is valid for the entire measuring range.
	Calibration frequency /interval:	The calibration frequency of the meters used for the monitoring of export, import shall be once in every five years as per section 4.2 & 4.3 of registered VCS PD/3/ The assessment team confirmed the frequency while interviewing /24/ the site personnel during onsite visit/24/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency of the meters used in the project activity is in accordance with the requirements specified in section 4.2 & 4.3 of the registered VCS PD Version 04 dated 15-December-2018/3/. This was also confirmed during interview with onsite personnel /24/, which is in line with VCS Standard version 4.5/5/ calibrations requirements as well as the registered monitoring plan.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes. Calibration of the measuring equipment's is carried out by a third party agency and this has been verified through calibration records & onsite personnel interviews /24/. In accordance with the emergency procedure outlined in the registered VCS PD version 04/3/ and MR/1/, If an error is found in Main meter to be beyond the permissible limits, then check meter will be used.

	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration frequency mentioned in VCS PD Version 04 dated 15-December-2018/3/ once in five years is valid for the whole reporting period i.e., 01-September-2022 to 31-October-2023 (Inclusive of both the dates) and as per the selected frequency there are no delays in the calibration. Hence deemed satisfactory to the VVB.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. As per the calibration certificates, error variation observed is lesser than the error variation specified. Hence, it is within the measurable range. The calibration is carried out appropriately as per the registered monitoring plan and VCS standard version 4.5/5/. The Project Proponent (PP) adheres to the national standards for meter calibration, as per the Central Electricity Authority (CEA) order dated 17-March-2006, which requires testing of meters every five years.
	How were the values in the monitoring report verified?	Cumulative value of Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y EG_{BL, y} for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. The monthly values are verified by VKU's assessment team from the JMRs/11/ issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 23,492.06 MWh.

	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y $EG_{BL,y}$ is recorded in ER Sheet and were further cross checked with monthly invoices raised by the PP/13/ to state utility and third party and was found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview/24/ with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable for the net electricity supplied by the project plant/unit to the grid in year y. The desk review of O&M agreement and register monitoring plan and its implementation in the current monitoring period is done to satisfactorily verify that the system is in place.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues were observed during current monitoring period.
Findings	CAR#02 and CL#01 were raised and resolved	
Conclusion	$EG_{BL,y}$ (MWh) parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the Project activity. Since 100% data was verified, the team can ascertain that the values adopted for emission reduction calculation have minimum material errors.	

Calibration of meters /12/: During the verification assessment of project activity, accuracy of all the metering equipment have been checked and found appropriate. The installation and working conditions of the meters were checked during the site inspection and were found to be satisfactory. Details of meters are provided in below table:

Table No: 15 Calibration details of meters

Project activity instances	Project site	Main Meter	Check Meter	Standby meter	Make	Accuracy Class	Previous Calibration Date	Validity	New Calibration
Instance – 1:Bhadla	Bhadla, Rajasthan	13194946	13194947	No standby meter	L&T	0.2s	31-July-2019	30-July-2024	No new calibration done
Instance – 2:Achampet	Achampet Telangana	2781573	2781574	2781575	Elster	0.2s	5–August-2020	4–August-2025	10-May-2023
Instance – 3: Kalwakurthy	Kalwakurthy, Telangana	2781577	2781578	2781579	Elster	0.2s	5–August-2020	4–August-2025	18-October-2023
Instance – 4: Salakpur/ Mutsyal	Mutsyal, Telangana	13194257	13193555	13194245	L&T	0.2s	4-July-2019	3-July-2024	No new calibration done
Instance – 5:Alladurg	Alladurg, Telangana	2781621	2781631	2781630	Elster	0.2s	15–April-2019	14–April-2024	24-January-2023
Instance – 6:Karnataka	Shirahatti, Karnataka	16102125	16102130	No standby meter	L&T	0.2s	03–October-2020	02–October-2025	No new calibration done
		23007054(new meter installed on 20-June-2023)	2307055(new meter installed on 20-June-2023)				New meters are precalibrated	New meters are precalibrated	No new calibration done
	Ramadurg, Karnataka	16102135	16102133	No standby meter	L&T	0.2s	16–May-2020	15–May-2025	No new calibration done
		23007138(new	23007139(new				New	New meters	No new calibration

		meter installed on 02-November-2023)	meter installed on 02-November-2023)				meters are precalibrated	are precalibrated	done
	Mulbangal, Karnataka	14194780	14194782	No standby meter	L&T	0.2s	27-February-2019	26-February-2024	No new calibration done
		23004476(new meter installed on 24-April-2023)	2300499(new meter installed on 24-April-2023)				New meters are precalibrated	New meters are precalibrated	No new calibration done
	Vijayapura, Karnataka	X0488422	X0488423	No standby meter	Secure	0.2s	4-November-2019	3-November-2024	No new calibration done
Instance – 7:Vijayapura	Vijayapura, Karnataka	X0488419	X0488421	No standby meter	Secure	0.2s	4-November-2019	3-November-2024	No new calibration done
Instance – 8:Hotgi	Hotgi, Maharashtra	XD434209	XD434210	No standby meter	Secure	0.2s	18-April-2018	17-April-2023	No new calibration done
Instance – 9:Gotan	Gotan, Jodhpur	RJB90318	RJB90317	No standby meter	Secure	0.2s	17-January-2018	16-January-2023	No new calibration done
Instance – 10:Sevagram	Sevagram, Gujarat	HT01180175	HT01180176	No standby meter	EDMI	0.2S	17-July-2018	16-July-2023	No new calibration done
Instance – 11:Pune	Pune, Maharashtra	Y0355612	Y0355568	No standby meter	Secure	0.2S	28-May-2021	30-January-2023	No new calibration done

Assessment on calibration:

The energy meter calibration certificates/12/ are checked and found that the calibration details provided in the MR /1/ are correct. From the verification of above table, verification team also

confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-September-2022 to 31-October-2023(inclusive of both the dates).

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel and Power Purchase Agreement signed by the PP with state utility/28/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph **3.4.2** of VCS Validation and Verification Manual version 3.2.

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

Further the Monitoring of the project activity is performed by PP as per the following established procedure:

Data Measurement

For each of the project activity instance to be included in the grouped project activity, the meters are installed which monitors the net electricity supplied to grid or net electricity displaced by project activity.

Net electricity supplied to grid will be calculated as the difference of the measured values of “export” and “import” at the metering point. The energy import and export readings are recorded on monthly basis in the form of Joint Meter Readings (JMR). The readings are taken in presence of representative from project proponent and representative from power purchasing party. The JMR document is signed by all these representatives.

This net electricity supplied is utilized for the purpose of GHG emission reductions by the project activity. Same monitoring plan is followed at each project activity instance.

QA/QC Procedure:

All main and back up meters installed at each of the project activity instance sites calibrated as described in Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006. Currently the regulations describe of calibration of meters to be done at least once in five years.

Further, the net electricity exported to the grid can be cross verified with sales invoices raised in the name of power purchaser.

Data Management and Data Archiving:

Copies of, monitored data sheet and monthly energy meter reading reports will be maintained for the entire crediting period plus two years by the project proponent. Central GHG information system and controls will be maintained by owner. Data for all the project activity instances will be maintained. This data will be maintained in electronic format for entire crediting period plus two years.

Apportioning Procedure:

In case if monitoring period differs from billing cycle, then in order to align the monitoring start date and end date with billing cycle, various start and end date of billing cycle will be apportioned using Daily Generation Report. The apportioning is done on the basis of generation ratio (Generation ratio: DGR's generation for the period covered in the monitoring period/ DGR's Total

The following steps will be applied to carry out the apportioning:

- i) $\text{Apportioning Ratio} = \frac{\text{Generation at controller for apportioning period}}{\text{Generation at controller for period covered under generation statement}}$
- ii) $\text{Apportioned Electricity Export} = \text{Apportioning Ratio} \times \text{Electricity Export as per Generation statement}$
- iii) $\text{Apportioned Net Electricity exported} = \text{Apportioned Electricity Export} - \text{Electricity Import}$

Following electricity generation apportioning procedure is followed, if the crediting period date of the project activity falls in-between the billing cycle of state electricity utility.

The option presented below will be adopted for arriving at the partial day's electricity generation of the month. Based on average generation per day calculated from state electricity utility generation report for the month: Apportioned days of operation of month: A, Total days of operation of month: B, Generation as per state electricity utility generation report per month: C

Electricity generation for apportioned days as per state electricity utility Generation statement used for emission reduction calculations (MWh): $(A/B) \times C$

For Instance, 5- Alladurg site, the JMR for September 2022 is issued from 1-September-2022 to 19-September-2022 whereas the monitoring period starts from 01-September-2023, hence value is apportioned. Also, for October 2023 JMR is issued for 03-October-2023 to 02-October-2023 whereas end date of monitoring period is 31-october-2023.

Reading and Corrections of Meters:

1. Project proponent, representative from GSS and representative from the power purchaser shall jointly read the metering system on every month at the delivery point.
2. In the event that the main metering system is not in service as a result of maintenance, repairs or testing, then the back-up metering system shall be used during the period the main metering system is not in service.
3. Meter reading taken jointly at the appointed date and time will be signed by the representative of project proponent, representative from GSS and representative from the power purchaser. If representative from project proponent is not present, then the power purchaser shall provide the project participant with a signed copy of the meter reading of the Main Metering System and check Metering System for all sites and standby metering system reading for the Telangana site at Instance 2,3,4 and 5. Such meter readings shall be treated as the accurate and final measurement of the energy supplied to grid by the power producer.

Sealing and Maintenance of Meters:

1. The main metering system and back-up metering system (Check meters and Standby meter wherever present) is sealed in the presence of representative of project proponent, representative from GSS and representative from the power purchaser.

- 2 When the main metering system and/or back-up metering system (Check meters and Standby meter wherever present) and/or any component thereof is found to be outside the acceptable limits of accuracy or otherwise not functioning properly, it shall be repaired, re-calibrated or replaced as soon as possible
- 3 Any meter seal(s) shall be broken only by the GSS representative in the presence of project proponent and representative from the power purchaser whenever the main metering system or the back-up metering system is to be inspected, tested, adjusted, repaired or replaced.

GHG Calculations:

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

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

Where:

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

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

EF_{grid,CM,y}: Combined margin CO₂emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂e/MWh)

The calculation of yearly baseline emissions is provided in the table below:

Table No: 16 Calculation of yearly Baseline Emissions

Instance	EG _{PJ, facility, y}	EF _{CO2, grid, y}	BE _y = EG _{PJ, facility, y} * EF _{CO2, grid, y}
Instance - 1	4,3290.45	0.977	42,294.77
Instance - 2	8,868.39	0.9817	8,706.09
Instance - 3	18,687.88	0.9817	18,345.89
Instance - 4	17,378.90	0.9817	17,060.87
Instance - 5	17,921.87	0.9817	17,593.90
Instance - 6	147,044.28	0.9817	144,353.37
Instance - 7	14,111.14	0.9817	13,852.919
Instance - 8	1,665.44	0.977	1,627.14
Instance - 9	10,684.08	0.977	10,438.35
Instance - 10	9,645.34	0.977	9,423.49
Instance - 11	1,497.20	0.977	1,462.76

As per registered VCS PD, project activity is expected to reduce emissions by **288,423 tCO₂e** for the current monitoring period, whereas the actual emission reductions achieved are **285,158 tCO₂e**, i.e., **1.13%** lower than what was anticipated.

In section 4.4 and 4.5 of this report, section 5.4 of MR /1/ and in ER sheet/2/ calculations has been stated which has been verified by the assessment team from JMRs issued to PP/11/ & Invoices issued by PP to state electricity authority submitted to VVB by PP as evidence. Hence VVB verified that the calculation method and formulae used in calculating baseline emissions is in compliance with the methodology used i.e., AMS.I.D Version 18.0, AMS.I.F. Version 03 and ACM0002 Version 16.0 /7/.

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

The assumptions, emission factors and default values that were applied in the calculations are justified. The estimated emission reduction for the current monitoring period **01-September-2022 to 31-October-2023** is **288,423 tCO₂e**, but the actual emissions achieved is **285,158 tCO₂e**. The actual emission reduction achieved during the current monitoring period are 1.13% lower than what was anticipated. We as VVB accepted this as this is mainly due to the generation of electricity that depends upon the number of annual days of sunshine availability and many other climatic conditions, and are not within the control of the project participant.

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

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

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements set out in **section 3.15** of VCS Standard version 4.5/05/ and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019).

4.6 Non-Permanence Risk Analysis

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

5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. has performed the fifth verification (01-September-2022 to 31-October-2023) under first renewable crediting period (12-March-2014 to 11-March-2024) reported for the project activity **“VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited”**. VCS Registry Project ID 1497, for the period **01-September-2022 to 31-October-2023 (Inclusive of both days)**, amount to **285,158 tCO_{2e}**.

These reported reductions have been assessed in accordance with the relevant requirements outlined in the VCS Standard, version 4.5/5/ and the opinion are in accordance with clause 4.1.24 of section 4.1 of VCS Standard version 4.5/5/. The project participants of the VCS Grouped Project for Renewable Power Generation by Essel Mining and Industries Limited” is responsible for:

- Preparation of greenhouses gas emissions data and the reporting of greenhouse gas emission reductions from the project on the basis set out in the monitoring, contained in the registered VCS PD Version 04 dated 15-December-2018/3/.
- Development and maintenance of records and reporting procedures in accordance with that plan, including calculation and determination of greenhouse gas emission reductions of the project.
- It is the responsibility of VKU to express an independent verification opinion about the project’s conformity with the requirements of VCS Standard version 4.5/5/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

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

- The project has been implemented and operated as per the registered VCS PD /3/.
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.5/5/ requirements;
- The monitoring is in place as per the applied baseline and monitoring methodology
- The monitoring plan in the registered VCS PD Version 04 dated 15-December-2018/3/ is as per the applied baseline and monitoring methodology.

VKU Certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give **Reasonable level of assurance** that reported GHG emission reductions are fairly stated.

Table No.- 17: The verification opinion is stated below

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
---------	-----------------	-------------------	------------------------------	---------

☒ Positive opinion ☐ Negative Opinion	Monitoring report version 04 dated 07-October-2024 and Emission reduction sheet version 04 dated 07-October-2024	01-September-2022 to 31-October-2023 (Inclusive of both start and end dates)	285,158 tCO₂e	The GHG emission reductions are calculated on the basis of approved methodology AMS-I.D Version 18, AMS-I.F Version 3 and ACM0002 Version 16 /7/ and the monitoring plan included in the registered VCS PD Version 04 dated 15-December-2018/3/
Adverse Opinion ☐ Unmodified Opinion ☒ Modified Opinion ☐				

Hence VKU is able to certify that the emission reduction from the project during the monitoring period **01-September-2022 to 31-October-2023** (Inclusive of both start and end dates) amounts to **285,158 tCO₂e** is in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/5/ and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019.

The VVB hereby issues a positive and unmodified opinion in accordance with ISO 14064-3:2019, and **ISO 14065:2020 Section 09- Clause 9.7.1.6 & 9.7.2**. This opinion also meets the requirement stipulated under ISO/IEC 17029:2019, Section 9.7 with a reasonable level of assurance for the reported GHG emission reduction data which is free from any material misstatement and is sufficiently supported by evidences provided to VVB by PP tabulated in **Table No.-04** of this report.

The following table shows the Net Emission Reduction from **01-September-2022 to 31-October-2023** (Inclusive of both dates) of first crediting period. Verified GHG emission reductions and removals in the above verification period:

Table No.-18: Verified GHG emission reductions and removals in the current Verification period: From 01-September-2022 to 31-October-2023 (Inclusive of both start and end dates)

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2022	77,710	0	0	77,710
(01-September-2022 to 31-				

December-2022)				
Year 2023 (01-January-2023 to 31-October-2023)	207,448	0	0	207,448
Total	285,158	0	0	285,158

Table No.-19: Difference in Ex-ante and achieved emissions:

Year	Ex-ante emissions reductions /removals	Achieved emissions reductions /removals	Percent difference	Justification for the difference
Year 2022 (01-September-2022 to 31-December-2022)	82,600.01 tCO ₂ e	77,710 tCO ₂ e	-5.92%	The difference in ERs achieved and estimated is slightly lower due to low sunshine availability and hence lower generation. However, the variation is just 1.13% less than the estimated value, this lower emission reduction is due to 3.49% of breakdown hours out of total operational hours during current monitoring period hence it is accepted and no further justification is required.
Year 2023 (01-January-2023 to 31-October-2023)	205,822.99 tCO ₂ e	207,448 tCO ₂ e	+0.78%	
Total	288,423 tCO₂e	285,158 tCO₂e	-1.13%	

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CER(s)	Certified Emission Reduction(s)
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PD	Project Description
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

CAR: Corrective Action Request; (04)

CL: Clarification Request; (02)

FAR: Forward Action Request; (00)

Type	Date	08-January-2024
CAR#01	Reference	Section of Ver protocol: Title Page, Section 1, Section 2 /DR/OSV/AT/
Description of the Non-Conformance		
- During desk review, assessment team found that PP has not mentioned the units of ERs at various places throughout the MR. - PP has used futuristic sentences at various places throughout the MR. Title Page of MR - Font size and font style are inconsistent throughout the MR according to the VCS MR template version 4.2. Section 1.1 of MR - Assessment team found during desk review that there is no clarity in the verification numbers. PP to mention it clearly. - The format of number of years in the audit history table is not as per the monitoring report guidelines of VCS MR template version 4.2 - In the audit history table, duration of verification doesn't match with the period of verification. Section 1.7 of MR - During desk review, assessment team found that for instance 1 to 5, no solar plant is visible on Google Earth Pro on the mentioned Geo-coordinates. PP needs to provide the actual Geo-coordinates for the same. - During desk review, assessment team found that the geo-coordinates mentioned in the instances 6, 8 and 11 are not found on the Google Earth Pro. Section 2.2 of MR - Date format is inconsistent with the MR template version 4.2 guideline. - Assessment team also observed suggestion box at the site kept to take any suggestion and feedback form the technical and non-technical staff and they have two different procedures for internal and external grievance but it is not specified in MR as a grievance procedure. PP to mention the procedure followed at other instances or is it applicable for all sites. Section 2.3 of MR - As per guidelines of MR template version 4.2 for section 2.3, PP needs to elaborate the non-applicability of this section		

1 st Response from PP		Date	17-January-2024	
1. The units of ERs mentioned throughout the MR. 2. The futuristic sentences are changed and corrected throughout the MR. 3. Title Page of MR 3.1 Font size and font style is made consistent throughout the MR according to the VCS MR template version 4.2. 4. Section 1.1 of MR 4.1. The verification numbers are revised and updated. 4.2. The format of number of years in the audit history table is made consistent as per the monitoring report guidelines of VCS MR template version 4.2 4.3. The duration of verification made corrected as of the period of verification. 5. Section 1.7 of MR 5.1 The mentioned Geo-coordinates made matched and located with the Google Earth Pro and the actual Geo-coordinate are listed in the MR. 5.2 The geo-coordinates mentioned in the instances 6, 8 and 11 made found on the Google Earth Pro. 6. Section 2.2 of MR 6.1 Date format is made consistent with the MR template version 4.2 guideline. 6.2 A suggestion box is also maintained at plant entrance for all sites for seeking suggestion of stakeholders and The Internal and External grievance details were listed in revised MR. 7. Section 2.3 of MR 7.1 As per guidelines of MR template version 4.2 for section 2.3, The project activity deals with generation of electricity using solar power plant and not from AFOLU projects. Hence not applicable and the same has mentioned in MR.				
1 st Assessment by Audit Team	Status	Closed	Date	03-February-2024
Team				
1. PP has mentioned the unit of ERs throughout the MR, hence accepted. 2. PP has changed the futuristic sentences and corrected throughout the MR. 3. Title Page of MR 3.1 PP has made the font size and font style consistent throughout the MR according to the VCS MR template version 4.2 guidelines, hence accepted. 4. Section 1.1 of MR 4.1 PP has revised and updated the verification numbers, hence accepted. 4.2 PP has made the format of number of years in the audit history table consistent as per the monitoring report guidelines of VCS MR template version 4.2, hence accepted. 4.3 PP has corrected the duration of verification as of the period of verification, hence accepted. 5. Section 1.7 of MR 5.1 PP has updated the Geo-coordinates of solar plants for instance 1 to 5 in the MR as located in the Google Earth Pro, hence accepted. 5.2 PP has updated the Geo-coordinates of instances 6, 8 and 11 in the MR as located in the Google Earth Pro, hence accepted. 6. Section 2.2 of MR				

6.1 PP has made the format of date consistent with the MR template version 4.2 guideline, hence accepted. 6.2 PP has updated the grievance mechanism in the revised MR and mentioned about the suggestion box kept at site. PP has also mentioned the procedure followed at other instances, hence accepted. 7. Section 2.3 of MR 7.1 PP has elaborated the non-applicability of this section in the revised MR as per guidelines of MR template version 4.2, hence accepted. Hence CAR#01 is closed
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Type	Date	08-January-2024
CAR#02	Reference	Section of Ver protocol: Section 3, Section 4, Section 5, Appendix 1 and ER sheet /DR/OSV/AT/
Description of the Non-Conformance		
1. Section 3.1 of MR 1.1 During site visit, assessment team found that number of PV modules mentioned here are inconsistent with the actual number of modules present on site. 2. Section 3.2 of MR 2.1 As per the template requirement of VCS MR template guideline version 4.2, the deviation requested in any previous and current verification both needs to be presented. 3. Section 4.3 of MR 3.1 Assessment team identified during site visit that some instances have self O&M and some instances have third party O&M. Kindly mention the specific instance O&M team separately as per the actual project scenario. 4. Section 5.4 of MR 4.1 Assessment team found during desk review that as per MR template 4.2 guidelines, year is not mentioned along with the monitoring period. 5. Appendix 1 of MR 5.1 Assessment team identified during site visit for Karnataka instance that meters have been replaced as per new government order where it has been made mandatory from April 2023 to have meters with automatic recording of reading. Hence same need to be mentioned in the MR as per actual site practices. 6. ER sheet 6.1 Monitoring period mentioned in the ER sheet is inconsistent with the MR.		
1stResponse from PP	Date	17-January-2024
1. Section 3.1 of MR 1.2 The actual number of PV modules are incorporated. 2. Section 3.2 of MR 3.2 The details of applied deviation during current or previous monitoring period is mentioned in this section 3. Section 4.3 of MR 3.1. The specific instance O&M team separately as per the actual project scenario are listed in the revised MR. 4. Section 5.4 of MR		

4.1 The year is mentioned along with the monitoring period. 5. Appendix 1 of MR 5.2 The meter details of April 2023 are incorporated in revised MR of Appendix 1. 6. ER sheet 6.1 Monitoring period mentioned in the ER sheet is made consistent with the MR.				
1 st Assessment by Audit Team	Status	Closed	Date	03-February-2024
1. Section 3.1 of MR 1.1 PP has incorporated the actual number of PV modules in the revised MR, hence accepted. 2. Section 3.2 of MR 2.1 PP has mentioned the details of applied deviation during current or previous monitoring period is mentioned in this section, hence acceptable. 3. Section 4.3 of MR 3.1 PP has listed the specific O&M team for each instance separately in the revised MR as per the actual project scenario, hence accepted. 4. Section 5.4 of MR 4.1 PP has mentioned the year along with the monitoring period in the revised MR as per VCS MR template guideline version 4.2, hence accepted. 5. Appendix 1 of MR 5.1 PP has incorporated the meter details of April 2023 in the revised MR, hence accepted. 6. ER sheet 6.1 PP has made the monitoring period mentioned in the ER sheet consistent with the MR, hence accepted. Hence CAR#02 is closed				

Type	Date	12-February-2024
CAR#03	Reference	Section of Ver protocol: Section 2, Section 4, Section 5, Appendix 1 and ER sheet /DR/OSV/TR/
Description of the Non-Conformance		
1. Section 2.2 of MR 1.1 For each site state the exact location and who at each site is responsible under whose custody Grievance register is kept. 2. Section 3.1 of MR 2.1 How 20Nos 680KVA inverters make the project capacity of 17MW. 2.2 KVA of many inverters is missing 3. Section 4.2 of MR 3.1 The value for Instance-6 is not available in ER sheet. 4. Section 4.3 of MR 4.1 This statement is not correct. Details of apportioning carried out during current monitoring period needs to provide in transparent manner for each site where apportioning is done and represented in ER sheet also. 5. Appendix 3 of MR		

5.1 Representation should be also made in % breakdown time. 6. ER sheet 6.1 In "ER Summary tab" - Site details are not included for four locations in Karnataka same needs to be mentioned. 6.2 2. There are four sites (3*20MW+1*17) while in "Karnataka" tab there are only data available for 3 project sites Mulbagal, Ramadurg & Shirahatti . Why Dewar data which is part of instance -6 is not available 6.3 Monitoring period mentioned in the ER sheet is inconsistent with the MR. 6.4 Source of value is missing in many project sites as commented in ER sheet.				
1 st Response from PP		Date	14-February-2024	
1) In section 2.2 of MR 1.1 Details of grievance register location and custody is mentioned. 2) In section 3.1 of MR 2.1 The inverter details are corrected 2.2 KVA of all meters is mentioned. 3) In section 4.2 of MR 3.1 Instance 6 values are covered under two tabs 3 sites (Mulbagal ,Shrihatti and Ramadurg are mentioned one tab) and 1 site (Vijayapura is mentioned under another tab tab). However, during calculating ERs in ER summary sheet all the values of sites under 6 are added. 4. In section 4.3 of MR 4.1 The sentence is revised as per the apportioning procedure applied during current monitoring period 5. In appendix 3 of MR 5.1 percentage representation is also added 6. ER sheet 6.1 Site details are included for four locations in Karnataka 6.2 All site details are added. 6.3 Monitoring period mentioned in the ER sheet is made consistent with the MR. 6.4 Source of value is JMR and same is mentioned in ER sheet.				
1 st Assessment by Audit Team		Status	Closed	Date
				28-February-2024
1. In section 2.2 of MR 1.1 PP has updated the details of grievance register location and custody in revised MR version 03 and it is found to be correct, hence accepted. 2. In section 3.1 of MR 2.1 PP has updated the details of inverter details in revised MR version 03 and it is found to be correct, hence accepted				

2.2 PP has updated the KVA of all meters in revised MR version 03 and it is found to be correct, hence accepted.

3. In section 4.2 of MR

3.1 PP has updated the ER sheet and Instance 6 values are added in revised ER sheet submitted to VVB and it is found to be correct, hence accepted.

4. In section 4.3 of MR

4.1 PP has updated the sentence in revised MR version 03 as per the apportioning procedure applied during current monitoring period and it is found to be correct, hence accepted.

5. In appendix 3 of MR

5.1 PP has updated the revised MR version 03 and included the percentage representation for breakdown details and it is found to be correct, hence accepted.

6. ER sheet

6.1 PP has updated the ER sheet and site details are included for all four locations in Karnataka which is checked by VVB thoroughly through JMRs and Invoices and found them to be correct.

6.2 PP has updated the ER sheet and included all site details of Karnataka in ER sheet.

6.3 PP has updated the ER sheet and mentioned the correct monitoring period and made it consistent with the MR.

6.4 PP has updated the ER sheet and mentioned the source of values in all tabs of revised ER sheet which is found to be correct, hence accepted.

Hence CAR#03 is closed

Type	Date	03-October-2024
CAR#04	Reference	Section of Ver protocol: Section 1, Section 3 and Section 5 /PRR/AT/
Description of the Non-Conformance		
Section 1.3 of MR; 1.1 As per PRR comment from VERRA- All project owners are listed under one project proponent table in section 1.3 of the MR. it is unclear if all of them are project proponents, or they are entering under an 'other entities' role. Section 3.2.2 of MR; 2.1 As per PRR Comment from VERRA- the project proponent has not provided enough information on project deviation Section 5.4 of MR;		

3.1 As per comment from VERRA- In section 5.4 of the MR, the project proponent has not provided detail on whether the 4,997 hours (3.49%) of total plant breakdown were considered when calculating ERs and whether these had an impact on the achieved ERs this MP. 4. ER sheet: 4.1 In the ER Sheet_1497_Clean.xlsx, the monitored parameter EG_{BL,y} as per AMS-I.F and the validated PD dated 15 December 2018, is incorrectly expressed.				
1 st Response from PP		Date	07-October-2024	
1. In section 1.3 of MR; 1.1 All the projects' owners are mentioned in different table. Essel Mining and Industries Limited is acting as PP for all project activity instances. However, the owner of each project activity instances is mentioned in the MR. Along with Essel Mining & Industries Limited, the other owners are Aditya Birla Solar Limited, Aditya Birla Renewables Limited and Aditya Birla Renewables SPV 1 Limited 2. Section 3.2.2 of MR; 2.1 In section 3.2.2 of revised MR the details of deviation Is mentioned. 3. Section 5.4 of MR; 3.1 It is mentioned clearly that the reason for achieved lower emission reduction is due to 3.49% of breakdown hours out of total operational hours during current monitoring period. 4. ER sheet: 4.1 The monitored parameter is corrected as per the applied methodology				
1 st Assessment by Audit Team	Status	Closed	Date	24-October-2024
1. In section 1.3 of MR; 1.1 All the projects' owners are mentioned in different tables in revised MR submitted by PP and Essel Mining and Industries Limited is acting as PP for all project activity instances it is also cleared in the footnote which is found acceptable to the assessment team. 2. Section 3.2.2 of MR; 2.1 The details of deviations are described in detail under this section in revised MR and it is found to be acceptable. 3. Section 5.4 of MR; 3.1 The reason for achieved lower emission reduction is revised in revised MR by PP which includes the breakdown hours out of total operational hours during current monitoring period, hence acceptable. 4. ER sheet: 4.1 The monitored parameter is corrected in revised ER sheet submitted by PP. Hence CAR#04 is closed				

Type	Date	08-January-2024
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CL#01	Reference	Section of Ver protocol: Section 1, Section 3 and Section 4 /DR/OSV/AT/		
Description of the Non-Conformance				
1. Section 1.11 of MR 1.1 Assessment team confirmed it during site visit and found that there is no employment provided under current monitoring period, how this is valid, kindly clarify and substantiate the claim with evidence. 1.2 Assessment team observed this during site visit that PP is providing more than 1 trainings per month in each instance over 14 months monitoring period, how only 7 trainings are conducted in this monitoring period, Clarify. 2. Section 3.1 of MR 2.1 PP to clarify the need of description of additionality in this section. 3. Section 4.3 of MR 3.1 Is same monitoring procedure applicable for the instances where captive use of energy is applicable? 3.2 PP to clarify how many back-up meters are there at the site of each instance. 3.3 Is Apportioning procedure applicable in current MP?				
1 st Response from PP		Date	17-January-2024	
1. Section 1.11 of MR 1.1 The employment details are corrected. 1.2 Training details are mentioned in the revised MR. 2. Section 3.1 of MR 2.1 The sentence is removed as it was not required 3. Section 4.3 of MR 3.1 The details for monitoring plan are mentioned in MR 3.2 Only in the site of Telangana (instance 2,3,4 and 5) the Standby meters are there including main and check meter and remaining all other Instances have only main and check meters. 3.3 No, Apportioning procedure is not applicable in current MP.				
1 st Assessment by Audit Team	Status	Closed	Date	03-February-2024
1. Section 1.11 of MR 1.1 PP has corrected the employment details in the revised MR, hence accepted. 1.2 PP has mentioned the training details in the revised MR, hence accepted. 2. Section 3.1 of MR 2.1 PP has removed the sentence as it was not required, hence accepted. 3. Section 4.3 of MR 3.1 PP has mentioned the details for monitoring plan in the revised MR, hence accepted. 3.4 PP has clarified that only in the site of Telangana (instance 2,3,4 and 5) the Standby meters are there including main and check meter and remaining all other Instances have only main and check meters are there site of each instance, hence accepted. 3.2 PP has clarified that no apportioning procedure is applicable in current MP, hence accepted.				
Hence CL#01 is closed				

Type	Date	08-January-2024
CL#02	Reference	Section of Ver protocol /DR/AT/
Description of the Non-Conformance		
PP has not provided the following documents to the Verification team to cross check the provided data and information: 1. No double counting declaration certificate. 2. Training records for the current monitoring period of each instance. 3. Grievance registers photographs. 4. Breakdown details of all 11 instances included in the project activity.		
1 st Response from PP	Date	17-January-2024
The following documents are submitted along with this revised MR to the Verification team to cross check the provided data and information: 1. No double counting declaration certificate. 2. Training records for the current monitoring period of each instance. 3. Grievance registers photographs 4. Breakdown details of all 11 instances included in the project activity.		
1 st Assessment by Audit Team	Status	Closed
	Date	03-February-2024
PP has submitted the following documents to the Verification team to cross check the provided data and information: 1. No double counting declaration certificate. 2. Training records for the current monitoring period of each instance. 3. Grievance registers photographs 4. Breakdown details of all 11 instances included in the project activity.		
Hence CL#02 is closed		

Type	Date	DD-Month-YYYY
FAR#01	Reference	Section of Val/Ver protocol
Description of the Non-Conformance		
1 st Response from PP	Date	DD-Month-YYYY

1st Assessment by Audit Team	Status	Open/Closed	Date	DD Month YYYY
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APPENDIX C: COMPETENCE STATEMENT

Team Leader-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Shivani Chauhan
Nationality	India
Countries of Experience	India, Kenya, Madagascar, Fiji
Education Qualification	M.Sc. Environmental Science B.Sc. Environmental Science
Year of Experience	2 years as Intern 1 year + as Employee
Area of Expertise	Climate Change & Environment Industry
Eligible Sectoral Scope	TA 1.2 - Energy generation from renewable energy sources TA 3.1. Energy demand (General)

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	NO
Local Expert (Country Wise)	YES
TA Expert (TA 1.2 & TA 3.1)	YES
Financial Expert	NO

Reviewed by	Apoorva Gupta (Quality Manager)	Date	25.10.2023
Approved by	Barun Kumar (Technical Manager)	Date	25.10.2023

Project Trainee-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Priya Chaudhury
Nationality	Indian
Countries of Experience	India
Education Qualification	M.Sc. (Geology) B.Sc. (Geology)
Year of Experience	Fresher
Area of Expertise	NA
Eligible Sectoral Scope	NA

Roles

Project Trainee	YES
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	02/09/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	02/09/2023

Technical Reviewer-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sunil Kathuria
Nationality	Indian
Countries of Experience	Malaysia, Uganda, Kenya, South Africa, Nigeria Bangladesh, China, Vietnam, Thailand, Philippines, United Kingdom, Germany, USA
Education Qualification	B.E. (Electrical Power)
Year of Experience	40 Years
Area of Expertise	Climate Change & Environment Energy Generation / Distribution GHG Footprints Manufacturing Sector
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation TA 1.2 - Renewables TA 2.1 - Energy distribution TA 3.1 - Energy Demand (General & Cook Stove) TA 4.1 - Cement and lime production (Manufacturing Industries)

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.1, 1.2, 2.1, 3.1, 4.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	13/05/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	13/05/2023