



GREENFIELD SOLAR POWER MISSION BY FORTUM INDIA

Document Prepared By



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Summary:

M/s VKU Certification Pvt. Ltd. (hereafter referred as VKU) was engaged by M/s Infinite Environmental Solutions LLP (hereafter referred as Infinite Solutions) has verified the greenhouse gas emission reductions reported for the project activity “Greenfield Solar Power Mission by Fortum India” (VCS ID 2069¹) in India, covering second verification with monitoring period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates) under first crediting period from 19-March-2021 to 18-March-2031 (Inclusive of both start and end dates) with regard to the relevant requirements for VCS activities.

Purpose of the Verification: The objective of the verification process is to obtain an impartial evaluation of the ex-post determination of the monitored reductions in greenhouse gas (GHG) emissions. This verification aims to ensure that the monitoring methodology was implemented in accordance with the monitoring plan, and that the monitoring data used to validate the reductions in anthropogenic emissions from sources is thorough, conclusive, and presented in a clear and transparent manner.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS PD/03/.
- To evaluate the project's adherence to relevant regulations, including the legislation of the host country.
- To validate the implementation and functionality of the monitoring system, ensuring the generation of Verified Carbon Units without any instances of double counting.
- To verify the accuracy, completeness, consistency, transparency, and absence of significant errors or omissions in the reported data by examining monitoring records and emissions reduction calculations.
- To ensure that the actual monitoring systems and procedures align with those described in the monitoring plan.
- To assess the GHG emission reduction data and provide a conclusion with a reasonable level of assurance regarding the absence of material misstatements.
- To verify that the reported GHG emission data is adequately supported by evidence.

VKU conducted the verification process in accordance with its own established procedures, aligning with the requirements set forth in the VCS Program Guide version 4.3/06/, VCS Standard version 4.4/07/, VCS Validation and Verification Manual version 3.2/08/, CDM M&P, the latest version of the CDM Validation and Verification Standard 3.0/09/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

These requirements encompass Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance provided by COP/MOP & CDM Executive Board, and other applicable rules, including the Host Country legislation. Furthermore, standard auditing techniques were applied throughout the verification process.

The verification process encompassed a desk review, on-site assessment, resolution of any outstanding matters, and the issuance of the final verification report and certification. This

¹<https://registry.verra.org/app/projectDetail/VCS/2069>

comprehensive verification aimed to ensure that the reported emission reductions are thorough and precise, aligning with the relevant VCS requirements, thus enabling the project to obtain certification.

VKU diligently followed a rule-based approach during the verification process, ensuring strict adherence to the applicable VCS requirements. The verification encompassed a comprehensive assessment of the project activity's operations, monitoring procedures, and GHG emission reduction calculations. As a result, a total of **eight (08) findings were raised, which includes: 05 Corrective Action Request (CARs); 03 Clarification Requests (CLs) and 00 Forward Action Required (FARs)**. All the raised findings were successfully resolved/closed after necessary corrections/clarifications by the client. 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 to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated based on the approved methodology ACM0002: Grid-connected electricity generation from renewable sources- version 19.0/12/ and Tool to calculate the emission factor for an electricity system; Version 07.0/13/ and the monitoring plan included in the registered VCS PD (version 02) dated 19-December-2019/03/.

In conclusion, it is VKU's opinion that the project activity "Greenfield Solar Power Mission by Fortum India" (VCS ID 2069) in State: Rajasthan, Country: India meets all relevant requirements for VCS standard version 4.4/07/and guidelines and correctly applies the baseline and monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources- version 19.0 /12/. The monitoring system is in place and the emission reductions are calculated without material misstatement.

The monitoring system in place is effective and reliable, ensuring reasonable level of measurement and precision level allowed by the methodology and the VCS standards without any significant discrepancies. As a result, VKU is able to objectively state that the project has achieved an emission reduction of 562,123 tCO₂e under first crediting period (19-March-2021 to 18-March-2031; Including both dates) during the second verification of the project activity for monitoring period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates).

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1 INTRODUCTION

1.1 Objective

M/s Infinite Environmental Solutions LLP (hereafter referred as Infinite Solutions) commissioned M/s VKU Certification Pvt Ltd (here after referred as VKU) to carry out second verification of the project “Greenfield Solar Power Mission by Fortum India” ([VCS ID 2069](#)) in India for the period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates) under first crediting period from 19-March-2021 to 18-March-2031 (Inclusive of both start and end dates).

In this report, a concise overview is presented regarding the verification results carried out in compliance with the requirements of the Verified Carbon Standard (VCS) and the United Nations Framework Convention on Climate Change (UNFCCC) criteria for Clean Development Mechanism (CDM). VKU adhered to its customary verification process, which is in accordance with Verra Standard version 4.4/07/ for verification. This approach guarantees the uniformity of project operations, monitoring, and reporting.

The objective of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body². This evaluation is conducted in accordance with the stipulations outlined in the VCS Program Guide Version 4.3/06/, VCS standard version 4.4/07/, and the applicable GHG program. The verification is based on the VCS Project Description, registered under version 02 on 19-December-2019/03/.

This is the second verification of first crediting period **19-March-2021 to 18-March-2031 (Including both dates)**. The duration of this crediting period is twelve months or 365 days, specifically from **01-April-2022 to 31-March-2023 (inclusive of both start and end dates)**. The project activity follows a renewable crediting period³ of 10 years, which can be extended a maximum of two times, as outlined in section 1.9 of VCS Project Description version 02 dated 19-December-2019/03/.

Table No 01: Number and time period of VCS Verification under fixed crediting period:

Verification No.	Monitoring Period (Inclusive of both dates)	Program	Number of years
1st Verification	<u>19-March-2021 -- 31-March-2022</u>	VCS	1.04 ⁴ 1 year 0 months and 13 days

² Assessment team assessed the VERRA's website on 05-July-2023: <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 This project is duly registered as per VCS standard 3.7 as per the validation report, in accordance with 3.8.1 of VCS standard 3.7 the project crediting period shall be a maximum of ten years which may be renewed at most twice. Please refer: <https://verra.org/wp-content/uploads/2020/11/PREVIOUS-VERSION-VCS-Standard-v3.7.pdf>

⁴ The duration of first monitoring was from 19-March-2021 to 31-March-2022 i.e. 1 year 0 months and 13 days which when converted to year is equivalent to 1.04 years.

2 nd Verification	01-April-2022 – 31-March-2023 ⁵	VCS	1.00 Twelve months
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The objectives of this verification exercise are, by review of objective evidence, to establish that the monitoring system is operational and capable of generating Verified Carbon Units (VCUs) without any instances of double counting/33/, and to ensure the accuracy, completeness, consistency, transparency, and absence of significant errors or omissions in the reported data, an examination of the monitoring records and emissions reduction calculations is conducted. This aims to establish the reliability and integrity of the data.

1.2 Scope and Criteria

The verification scope is:

- To verify that the project is implemented as described in the registered VCS PD /03/
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate VCUs 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;
- To verify that reported GHG emission data is sufficiently supported by evidence

The verification process is essential to certify that the reported emission reductions are comprehensive and accurate. The project undergoes evaluation based on the requirements outlined in VCS standard version 4.4/07/, VCS program guide version 4.3/06/, VCS validation and verification manual version 3.2/08/, and relevant rules and guidance.

VKU has followed the recommendations provided in the latest version of the CDM Validation and Verification Standard/09/, along with the VCS validation and verification manual/08/. The verification process employs a rule-based approach, with a focus on identifying significant reporting rules and ensuring the reliability of project monitoring.

The verification method and criteria encompassed several phases, including

- (i) Desk review of VCS Project Description, registered under version 02 on 19-December-2019/03/and other supporting documents listed in [Table-05](#);

⁵ Current verification i.e. 2nd Monitoring Period.

- (ii) Onsite interviews & Focussed Group Discussions with stakeholders & PP representatives involved in project's implementation.
- (iii) VKU's Completeness/Quality Check,
- (iv) and the Final issuance of the verification report.

Outstanding issues were resolved, leading to the issuance of the final verification report and the relevant VCS Validation and Verification Deeds of Representation.

It is important to note that the verification process does not involve providing consultancy to the project proponents. However, requests for clarifications and corrective actions may have contributed to improvements in the monitoring process.

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 of the VCS Standard version 4.4/07/

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 to 1% percent, as required by clause 4.1.8 of the VCS Standard version 4.4/07/

The verification report is based on the Monitoring report/01/, VCS Project Description, registered under version 02 on 19-December-2019/03/ & supporting documents that were made available to the VKU's assessment team are (25//26//27//28//29/30//31//32//33//34//35//36//39//40//41//42//43) to the verification team and information collected through performing interviews /37/ with PP Representatives/Local Stakeholders during on-site visit/38/. The technical review was performed by a technical reviewer(s) qualified in accordance with VKU's qualification procedure. The verification team and the technical reviewers consist of the following personnel:

Table No 02: The Assessment Team members are as follows:

Role/Qualification of Assessment Team	Last Name	Middle Name	First Name
VCS Team Leader, VCS Verifier & Technical Expert TA 1.2 (Solar)	Kumar	NA	Barun
Validator/Verifier	Kaushik	NA	Niharika
Project Trainee	Dhankar	NA	Anil

Table No 03: The Technical Team is as follows:

Role/Qualification of Technical Team	Last Name	Middle Name	First Name
Technical Reviewer & Technical Expert TA 1.2 (Solar)	K	Kumar	Sanjay

1.4 Summary Description of the Project

The project activity is a renewable energy project and the electricity delivered by the project activity as per power purchase agreement (PPA) /27/ which has been established with Solar Energy Corporation of India Limited, a government-appointed organization responsible for the development of Grid-connected Solar PV Power Projects, to facilitate the sale of electricity by the corresponding private parties (PPs). A PPA /27/ have been executed for 250 MW capacity between M/s Fortum Solar Plus Pvt. Ltd. (On behalf of Fortum India Private Limited) and Solar Energy Corporation of India Limited and will subsequently sell it to Discom/Unified Indian Grid after bundling it with the Thermal Power allotted by the Ministry of Power, Government of India.

Fortum India Private Limited is the promoter of the project activity. The project activity involves total installation of 250 MW (AC) and the power produced displaces an equivalent amount of power from the grid, which is fed mainly by fossil fuel fired power plants. This project was commissioned on **19-March-2021** which is the earliest date of commissioning of 1st 150 MW out of total 250 MW and the full project was commissioned on **01-May-2021** which is the date of commissioning of remaining 100 MW out of 250 MW solar power project activity and run satisfactorily since then which was verified against the registered VCS PD/03/ Previous Verification report /05/ and commissioning certificates/34/ which were submitted by the PP to the assessment team as a response to the feedback raised by the assessment team during verification assessment as per section 3.25 and clause 3.25.3 of the VCS Standard version 4.4/07/ 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 4.4/07/ conforms that the capacity of the project was verified from the commissioning certificates/34/ and later verified during site visit/38/ while interviewing the site personnels/37/ and hence declare that the project capacity is in line with the defined methodology ACM0002 version 19.0

The project activity is located in Village - Luna Khurd, Luna Kala and Betina, District- Jaisalmer of State - Rajasthan in country India. Location of the project was verified through Google Earth /22/ during the desk review and GPS Map Camera/21/ during the site visit as well as through recorded live coordinates by onsite assessment team and found consistent with the data provided in the registered VCS PD/03/.

Table no 4: Commissioning Dates of the Project Activity

Project Proponents	Capacity	Date of commissioning	Project location	State	Country
Fortum India Private Limited	150 MW	19-March-2021	Village - Luna Khurd, Luna Kala and Betina, District- Jaisalmer	Rajasthan	India
	100 MW	01-May-2021			

The implementation of project activity ensures energy security; diversification of the grid generation mix and sustainable growth of the electricity generation sector in India. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

As per MR the main purpose of this project activity is to harness clean form of energy to generate electricity through renewable solar energy source. As per MR, the 800-volt DC electricity generated by the solar modules is fed into inverter transformer, which convert it into 33 KV AC electricity. This AC electricity is then supplied to an PSS transformer, which steps up the voltage to 220 kilovolts. The electricity is then evacuated by the main substation through two incoming dedicated feeders of 125 MW each at the Jodhpur Vidyut Vitaran Nigam Limited (JDVVNL) 400/220 KV GSS, RVPNL Jaisalmer - II substation at Bhensara, Jaisalmer, Rajasthan, which in turn supplies it to the Unified Indian Grid. which is confirmed from registered VCS PD/03/Validation report/04/ last Verification report/05/ and onsite personnel interview with site personnels/37/.

This information was 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/03/. Since the project activity is a large-scale project activity, it follows approved large scale CDM methodology ACM0002 Version 19.0 /12/ for quantification of GHG emission reductions. The total emission reductions achieved by the project activity under the verification period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates) amount to 562,123 tonnes of CO₂e.

2 VERIFICATION PROCESS

The registered VCS project is undergoing second verification 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 4.3/06/, VCS Standard Document version

4.4/07/. As per VCS PD version 02 dated 19-December-2019/03/ the project activity does not fall under category “grouped projects”, hence no sampling methods were employed by VKU’s assessment team for the verification of GHG emission reductions or removals generated by the project, however 100% data was verified. The GHG emission reductions are based on the approved Baseline and monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 19.0/12/

Scope: 01 Energy Industries (renewable- and non-renewable sources) Title: “Grid Connected Renewable Electricity Generation”.

The verification consisted of the following three phases.

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

2.2 Document Review

The monitoring report (MR) version 01 dated 10-April-2023, version 02 of 29-May-2023, version 03 of 15-June-2023 & final version 04 dated 05-July-2023/01/, the emission reduction calculations spreadsheet version 01 dated 10-April-2023 and final version 02 of 29-May-2023 /02/, were assessed as part of the verification. In addition, registered VCS PD version 02 dated 19-December-2019/03/ in particular the baseline estimations and the monitoring plan for the project was also reviewed.

As per section 3.25 and clause 3.25.3 of the VCS Standard version 4.4/07/ 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. Thus, the assessment team reviewed the following documents during verification:

Table no 05: Control of Documents referred during the Assessment for the 2nd Verification of VCS 2069

/1/	Infinite Environmental Solutions LLP: VCS monitoring report for “Greenfield Solar Power Mission by Fortum India” in India. Version 01 of 10-April-2023 Version 02 of 29-May-2023 Version 03 of 15-June-2023 Version 04 of 05-July-2023
/2/	Infinite Environmental Solutions LLP: Emission Reduction Calculation Spreadsheet for “Greenfield Solar Power Mission by Fortum India” in India. Version 01 of 10-April-2023 Version 02 of 29-May-2023
/3/	EKI: Registered VCS PD for the project ‘Greenfield Solar Power Mission by Fortum India’ version 2 dated 19-December-2019
/4/	Earthood Services Private Limited: Validation Report “Greenfield Solar Power Mission by Fortum India”, Version 01, dated 30-December-2019

/5/	LGA Technological Center, S.A (Applus+ Certification): <u>VCS Verification Report “Greenfield Solar Power Mission by Fortum India: 19-March-2021 to 31-March-2022 (including both days), Version 05 of 16-December-2022</u>
/6/	<u>VCS Program Guide, version 4.3 dated 17-January-2023</u>
/7/	<u>VCS Standard, version 4.4 dated 17-January-2023</u>
/8/	<u>Validation and verification manual version 3.2 dated 19-October-2016</u>
/9/	<u>CDM Validation & Verification Standard version 3.0 dated 09-September-2021</u>
/10/	<u>VCS Program Definitions version 4.3 dated 21-December-2022</u>
/11/	<u>VCS Registration & Issuance Process (Version 4.3) of 17-January-2023</u>
/12/	<u>CDM Executive Board: Baseline and Monitoring Methodology “ACM0002: Grid-connected electricity generation from renewable sources- version 19.0</u>
/13/	<u>Tool to calculate the emission factor for an electricity system, Version 07.0</u>
/14/	<u>CO₂ Baseline Database for the Indian Power Sector User Guide Version 14.0</u>
/15/	<u>VCS: Monitoring report Template VCS Version 4.2</u>
/16/	<u>VERRA: Project search</u>
/17/	<u>UNFCCC: Project search</u>
/18/	<u>Gold Standard Foundation</u>
/19/	<u>Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in)</u>
/20/	<u>I-REC Standard - The International REC Standard Foundation (irecstandard.org)</u>
/21/	<u>GPS map camera (GPS App)</u>
/22/	<u>GPS Google earth software used for Location</u>
/23/	<u>Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (February 29, 2016)</u>
/24/	<u>Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects</u>
/25/	<u>EIA Report & EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf</u>
/26/	<u>Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D</u> <u>Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I</u> <u>https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf</u> <u>Metering Regulations Archives - Central Electricity Authority (cea.nic.in)</u>
/27/	<u>PPA: Power Purchase Agreements signed between Project Proponent (Fortum India Private Limited) and Solar Energy Corporation of India (SECI). (SECI) has been identified by Government of India as a nodal agency for developing and facilitating the establishment of the grid connected solar power capacity in India.</u>
/28/	<u>Agreement: Operation and Maintenance Agreement made between Project Proponent i.e. (Fortum India Private Limited) and Belectric Photovoltaic India Private Limited now RWE Solar India Private Limited dated 30-January-2020,</u>

/29/	Certificates of Calibration for all the meters belongs to project activity
/30/	Generation Log Book
/31/	Monthly JMRs issued by RRVPNL for the current verification period.
/32/	Invoice issued by PP to SECI (Solar Energy Corporation of India Ltd.).
/33/	Letter of declaration from PP (Fortum India Private Limited) dated 23-June-2023 regarding not having created or sought any other form of environmental credit for the current verification period (01-April-2022 to 31-March-2023, inclusive of both start and end dates)
/34/	Commissioning certificates of the project activity issued by state electricity authority (Rajasthan Renewable Energy Corporation Limited) for 150 MW and by Solar Energy Corporation of India Ltd. for 100 MW
/35/	Technical Specifications of Solar Project
/36/	Grievance Register present on-site
/37/	Onsite Personnel Interviews and Focussed Group Discussions dated 11-May-2023.
/38/	Site visit dated (11-May-2023) photographs and attendance sheet
/39/	Breakdown Details (Please Refer Appendix 2 of MR and section 04 Verification Process of this Verification Report) PP has submitted Breakdown Details in an Excel Sheet.
/40/	Training records of Site Personnels
/41/	Declaration for transferring of project from previous account EKI Energy Services Limited (VCS Account ID - 1851) to the account of Fortum India Private Limited (VCS Account ID - 4660)
/42/	Certificate of Incorporation pursuant to change of company name from FORTUM SOLAR PLUS PRIVATE LIMITED to SPRING SOLAR PLUS PRIVATE LIMITED
/43/	Verra Registry Communications Agreement between the registry user (Fortum India Private Limited) and authorized representative (Spring Solar Plus Private Limited)
/44/	VKU.F64W.Field Assessment Checklist for Onsite Visit-VKU.VER.104.23_VCS_2069
/45/	VKU.F46W. Attendance_Sheet_of_Onsite_audit_VKU.VER.104.23_VCS_2069
/46/	Employment Records as documented in Form XVI [Rule-78 (1) (a) (i)] by Sprng Solar Plus Pvt Ltd

2.3 Interviews

An on-site inspection/38/ was performed by the assessment team. However, the representatives of the PP, O&M contractors and stakeholders were interviewed personally by assessment team on 11-May-2023 i.e., Tables 06 & 07 provide a comprehensive overview of the onsite interview process/37/ 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 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.

Location: District- Jaisalmer of State- Rajasthan, Country- India

Table no: 06: Details of Personal Interview & /Focussed Group Discussion with Technical Team present Onsite

S. No.	Name of person	Organization and Position	Topic of Interview and Focussed Group Discussion
1.	Tapesh Makwana	Sprng, Senior Manager	Implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and monitoring along with QA/QC
2.	Mahesh Jeenger	Sprng, Deputy Manager	
3.	Ranjith Ray	RWE Deputy Manager	SCADA, Breakdown details and maintenance of generation records Data recording, management and archiving procedure
4.	Bhavesh Trivedi	RWE Senior Manager	

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording, emergency procedures, internal audit, Procedures for handling non-conformances with the validated monitoring plan, personal training and archiving procedures. The assessment was based on the feedback received during onsite interview coupled with the documentation in VKU.F64W.Field Assessment Checklist for Onsite Visit/44/

During Onsite Visit/38/, 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/01/ (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/37/ 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 as tabulated below:

Table no: 07: Details of Personnel Interview/Focussed Group Discussion with Stakeholders

S. No.	Name	Designation	Category	Topic of Discussion
1.	Sumer Singh	Admin Team	Local Stakeholder	Execution of Project activity and its impact on the economic, social and environmental parameters on the local people of the area & around the situated project activity
2.	Sany Singh	Security Guard		- The ongoing communication procedure and the address of their grievance mechanism followed by the project proponent - Scope and generation of employment in the locality due to the implementation of said project activity in the area.

The VKU Assessment Team meticulously documented the information obtained during the interview with site personnel/37/. This data was recorded using VKU's dedicated form, specifically VKU.F46W, known as the Attendance Sheet of Onsite Audit/45/. Similarly, the interviews conducted with stakeholders documented in VKU's specialized form called VKU.F64W.Field Assessment Checklist for Onsite Visit of VCS_2069/44/. 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

Site Location visited:

Location: Village- Luna Khurd, Luna Kala, Betina, District- Jaisalmer, State - Rajasthan in Country - India. Further the location along with longitude and latitude is mentioned in [section 4.1](#). of this report.

An On-site visit was undertaken by the verification team to the project location identified in the MR/01/ at Village- Luna Khurd, Luna Kala, Betina of District - Jodhpur of State - Rajasthan in Country - India on **11-May-2023** to carry out the following;

An assessment of the implementation and operation of the registered project activity as per the registered VCS PD version 02 dated 19-December-2019/03/ and VCS MR/01/;

During the verification process, the following activities were conducted to ensure the quality of the monitoring parameters and data:

- A thorough review of the information flows involved in generating, aggregating, and reporting the monitoring parameters.
- Conducting interviews /37/ with relevant personnel to assess the implementation of operational and data collection procedures outlined in the monitoring plan of the VCS Project Description (PD) /03/.
- Cross-referencing the information provided in the monitoring report with data from additional sources such as plant log books, purchase records, or similar data sources.
- Inspecting the monitoring equipment, including checking calibration performance and observing monitoring practices, to ensure compliance with the requirements stated in the VCS PD version 2 /03/, the applied methodology (including applicable tool(s)), and, if applicable, the applied standardized baseline.
- Reviewing the calculations and assumptions used to determine the greenhouse gas (GHG) data and emission reductions.
- Identifying the presence of quality control and quality assurance procedures to prevent, identify, and rectify 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;
- 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, **03 CLs**, **05 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 VCS Validation Report/04/ and previous VCS Verification Report /05/, 01 FAR was raised during Validation which is addressed during previous Verification and **no FAR was raised during previous verification/05/ 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 /37/ during site visit.

Assessment team assessed the VERRA's website on 05-July-2023: <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 neither registered nor seeking registration under any GHG program and it is only registered under VCS with project ID 2069⁶. This was confirmed by checking [VERRA registry website](#) for the project and, it was found that the project was registered with VCS. Simultaneously other registry websites were also checked such as CDM, GS, CR-I, UCR and GCC registries with similar project title/capacity and Project Proponents but the assessment team could not find any such project registered on these registries thus it was confirmed that the project does not claim any emission reduction from other registries. This was supported from the declaration/33/ submitted by PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program except VCS thus ensuring emission reduction generated from the project activity for current monitoring period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates) will not be double counted hence accepted by the assessment. 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/19/ and I-REC/20/ benefits and based on both independent assessment and declaration submitted by PP/33/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates).

⁶ <https://registry.verra.org/app/projectDetail/VCS/2069>

Assessment team has also verified the issuance of VCU 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. <https://verra.org/verra-standards-and-programs/>.
5. [I-REC Standard - The International REC Standard Foundation \(irecstandard.org\)](http://www.irecstandard.org/)
6. <https://cri.nccf.in/>
7. [International Carbon Registry - International Carbon Registry](http://www.internationalcarbonregistry.org/)
8. [GCC PROJECTS PORTAL \(globalcarboncouncil.com\)](http://www.globalcarboncouncil.com/)

Rejection by other GHG programs

The Project is not rejected by other GHG programs listed below. A declaration/33/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

The details of the registries checked are as follows:

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

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates). Also, no methodology deviations identified during the validation/04/ & previous verification /05/.

3.3 Project Description Deviations

During site visit/38/, it was confirmed that the project activity is operational as per project description in the registered VCS PD/03/ and the project remains in compliance with the applied methodology and VCS requirements.

The project has not applied/requested for any deviations from Project Description under current monitoring period (01-April-2022 to 31-March-2023; Inclusive of both start and end dates).

However, the following project description deviations were approved during last verification (1st monitoring period)/05/:

1. **Deviation 01:** According to the registered VCS Project Description (PD)/03/, the project proponent (PP) initially selected a crediting period from 1st December 2020 to 30th November 2030, with an expected project commissioning date of 01-December-2020. However, the actual project commissioning took place on 19-March-2021. This information was verified through a commissioning certificate issued by the state utility and was found to be accurate. The project proponent requested a deviation in the start date of the crediting period to align it with the project's commissioning date of 19-March-2021. The verification/validation body (VVB) assessed this deviation and confirmed that it does not impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario for the project activity. As a result, the proposed deviation was deemed acceptable to VKU.
2. **Deviation 02:** During the verification process, it was identified that the geographical coordinates mentioned in the monitoring report (MR) differed from those specified in the registered VCS Project Description (PD) /03/. This discrepancy arose because, at the time of registration, the project activity had not been commissioned yet. As a result, the actual coordinates differed from those stated in the registered VCS PD /03/. To address this issue, a site visit was conducted during the verification process to verify the actual geographical coordinates. The verification/validation body (VVB) confirmed that the proposed deviation in the geographical coordinates does not impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario for the project activity. Therefore, the proposed deviation was deemed acceptable to VKU.
3. **Deviation 03:** During the verification process, it was observed that there is a disparity in the technical specifications of the equipment (specifically, the PV module type and its capacity) used for the actual installation on the project site compared to the details provided in the registered VCS Project Description (PD) /03/. This discrepancy arose because, at the time of registration, the project had not yet been commissioned, and the precise technical specifications were not available. To address this issue, a site visit was conducted during the verification process to physically verify the technical specifications of the equipment that was installed and commissioned. It was confirmed during the site visit that the revised technical specifications do not affect the project's installed capacity. The verification/validation body (VVB) assessed the situation and confirmed that the proposed deviation in the technical specifications does not impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario for the Project activity. Consequently, the proposed deviation was deemed acceptable to VKU.
4. **Deviation 04:** The project proponent (PP) has undergone a transfer of the project activity registry account from the previous account holder, "EKI Energy Services Limited" (Account ID-1851), to "Fortum India Private Limited" (Account ID-4660). As a result, the sole responsibility for communication and issuance now lies with Fortum India Private Limited. Additionally, a declaration has been submitted to VERRA stating that all Carbon Credits rights have been transferred from "Sprng Solar Plus Private Limited" (formerly known as "Fortum Solar Plus Private Limited") to "Fortum India Private Limited." Consequently, "Fortum India Private Limited" will act as the project proponent for the project activity. In light of these changes, the name of the project proponent has been revised in the monitoring report (MR). The verification/validation body (VVB) has confirmed that the proposed deviation does not

impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario for the Project activity. Therefore, the proposed deviation has been deemed acceptable to VKU.

5. **Deviation 05:** Infinite Environmental Solutions LLP (Infinite Solutions) has replaced EKI Energy Services Limited as the new entity involved in the project activity, taking on the role of the project consultant. The verification/validation body (VVB) has confirmed that this proposed deviation does not impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario for the Project activity. As a result, the proposed deviation has been deemed acceptable to VKU.

3.4 Grouped Project

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

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

Based on the onsite 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 (PD) version 02 dated 19-December-2019/03/ and the approved monitoring plan/03/.

During the current monitoring period, the solar modules generate 800-volt DC electricity, which is then converted into 33 KV AC electricity by an inverter transformer. The AC electricity is supplied to a PSS transformer, which further steps up the voltage from 33 kilovolts to 220 kilovolts. The electricity is then evacuated through two incoming feeders, each with a capacity of 125 kilovolts, at the Jodhpur Vidyut Vitaran Nigam Limited (JDVVNL) 400/220 KV GSS, RVPNL Jaisalmer - II substation in Bhensara, Jaisalmer, Rajasthan. This electricity is subsequently supplied to the Unified Indian Grid.

This information has been verified and confirmed through the registered VCS PD/03/, Validation report/04/, the last Verification report/05/, as well as through onsite interviews conducted with the site personnel/37/.

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

Plant Site	Scheduled and Unscheduled Breakdown hours
Village - Luna Khurd, Luna Kala and Betina, District- Jaisalmer, State: Rajasthan Country: India	3,537 Hours 24 Minutes

Total	3,537 Hours 24 Minutes⁷
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Throughout the monitoring period, no unforeseen incidents or events that could significantly impact the operation of the project activity were identified, with the exception of scheduled maintenance and service breakdowns. The total duration of these breakdowns was calculated to be 3537 hours and 24 minutes/39/. It is important to note that these breakdowns did not have any substantial repercussions on the project activity's reduction of greenhouse gas (GHG) emissions or the monitoring methodology employed.

The breakdowns were attributed to various major reasons, which may include:

- Equipment malfunction: Instances where the project equipment experienced technical failures or malfunctions, leading to temporary shutdowns.
- Maintenance activities: Planned maintenance interventions carried out to ensure the proper functioning and longevity of the project equipment.
- Service disruptions: Interruptions in the provision of essential services required for the operation of the project activity, such as electricity or maintenance support.
- Diode module replacement.
- Breaker contact and R&B Phase jumpers over heated
- Manual off for visual inspection of INV-16.2.12
- Low insulation resistance
- MC4 Open due to robot retrofitting works
- String cable Theft of INV in night
- Earth fault due to moisture
- 33 KV OG-2 trip due to LBS issue in TS-8&9
- MCCB tripped due overcurrent
- Breaker contact and Y&B Phase jumpers over heated
- Overheating in breaker contact

The project activity was operational for a total of 8,760 hours, representing 365 days. However, during the monitoring period from 01-April-2022 to 31-March-2023, the project experienced breakdowns for a duration of 3,537 hours and 24 minutes, as detailed in Appendix 2 of the monitoring report (MR). It is important to note that the plant was not entirely shut down during these breakdown hours; only the affected parts were temporarily taken out of operation.

The verification process involved reviewing the generation log book records/30/ and breakdown excel sheet/39/ provided by the project proponent (PP). Additionally, an onsite visit to the project site/38/ 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 2 of the MR/01/. The assessment team also conducted interviews with key personnel from the PP, including senior engineers, junior engineers, and an assistant manager/37/. These interviews took place on 11-May-2023 during the onsite visit conducted by the verification team/38/.

⁷ The plant was not totally shut down during breakdown hours, only the affected parts were shut down.

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.

The project activity commenced its operation on 19-March-2021, which corresponds to the commissioning date of the first phase (150MW) of the project. The project proponent (PP) responsible for the project activity is Fortum India Private Limited. The verification team reviewed the commissioning certificate/34/ and verified that the date of commissioning for the solar power plant is accurate.

During the onsite audit/38/, 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 was implemented in accordance with the details provided in the registered VCS PD/03/, which was verified by the assessment team during onsite visit/38/. Thus this confirmation was further supported by reviewing the registered Validation report/04/ and previous verification reports/05/ if there is any deviation requested in project design or not.

The assessment team also conducted a verification of the project location. This was accomplished through a desk review using [Google Earth/22/](#) and during the onsite visit using GPS map camera software/21/. The latitude and longitude coordinates specified in the registered VCS PD/03/, VCS Validation Report/04/, and VCS MR/01/ were confirmed to be accurate.

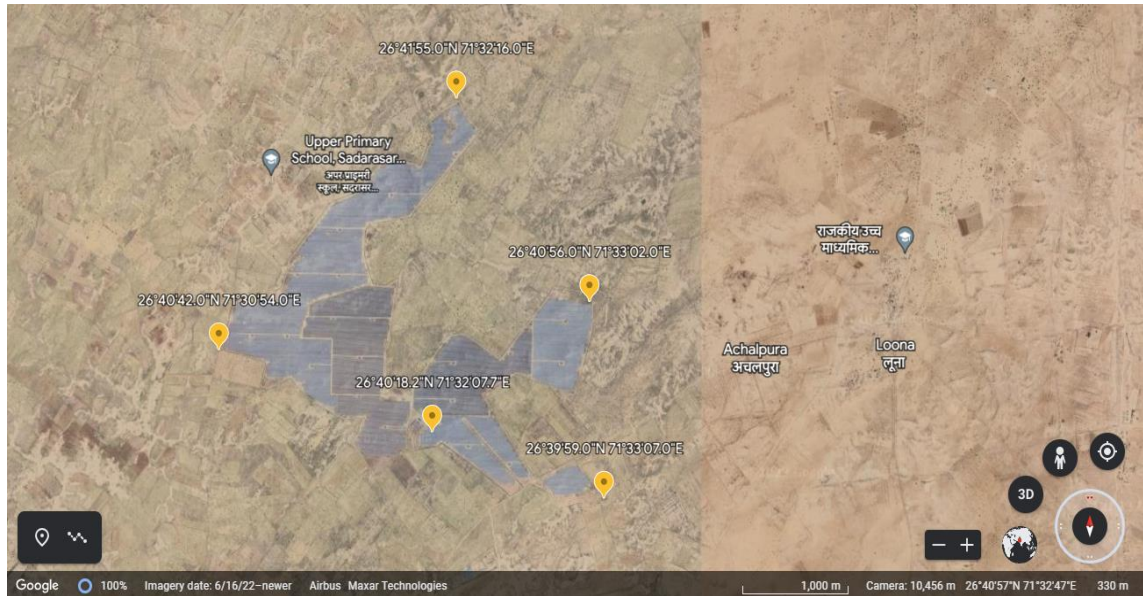


Figure 01: : Location of the project as verified through [Google Earth/22/](#)

The 250MW (AC) bundled solar project was implemented in two phases, commissioning dates along with the longitude and latitude are mentioned in below table:

Table no: 9 The commissioning dates along with the longitude and latitude

Project Proponents	Capacity	Date of commissioning	Project location	Geo coordinates
Fortum India Private Limited	150MW	19-March-2021	Village - Luna Khurd, Luna Kala, Betina,	26°40'18.21"N 71°32'07.70" E
	100MW	01-May-2021	District- Jaisalmer State - Rajasthan	

Project Title	Fortum India Private Limited
Date of Commissioning	19-March-2021
Project Type	Solar Project
Capacity	250 MW (AC)
Location	Village - Luna Khurd, Luna Kala, Betina, District- Jaisalmer, State- Rajasthan in Country – India.
Host Country	India

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/38/ to verify the technical specifications/35/. 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.

Table no: 10 The major technical specifications of the project activity:

The technical specification of 250 MW (AC) plant of Greenfield Solar Power Mission by Fortum India are as follows	
PV Module Make	Suntech & Jinko
PV Module type	SunTech – Mono Facial (Polycrystalline) & Jinko – Bifacial (Monocrystalline)
Module Ratings	Suntech (Mono Facial) - 340 & 345 Wp
	Jinko (Bifacial) - 395 & 400 Wp
Total no. of module	Jinko (Bifacial) – 124488 (395Wp) & 184576 (400Wp) Suntech (Mono Facial) – 305310 (340Wp) & 307860 (345 Wp)
Open Circuit Voltage (Voc) of individual panel	Suntech (Mono Facial) – 46.0V (340Wp), 46.2V (345Wp) & Jinko (Bifacial) - 48.26V (395 Wp), 48.35V (400 Wp)
Short Circuit Current (Isc) of individual panel	Suntech (Mono Facial) - 9.39A (340 Wp), 9.48A (345 Wp) & Jinko (Bifacial) - 10.23A (395 Wp), 10.32A (400 Wp)
Temperature Coefficient of Pmax	Suntech (Monofacial) - 0.38 %/°C & Jinko (Bifacial) - 0.35 %/°C
Tilt	Fixed tilt structure at 18 deg (Suntech – Mono facial) & 20 deg (Jinko - Bifacial)
Number of ICoRs	10 Nos
Number of RMUs	10 Nos
No of inverters per ICoRs	78*2 Nos
Step up transformer location, capacity, input and output voltages	20 Inverter duty Transformer at different location within the plant of capacity 12.6MVA, 33/0.8/0.8/0.8 kV
The net electricity as input to the panel at MCR and output	2 Outgoing HT Panels with 125MW output capacity each & Each O/G panel has 5 incomers connected with 25MW capacity.
Transformer specifications at the switchyard	2 Nos. of Power transformer used as 125/150MVA, ONAN/ONAF, 220kV/33kV, YNyn0.
Electric arc insulation in power transformers	Oil type
Number of Feeders	2 Outgoing HT panels and 5 Incoming feeders with 1 Spare Incoming feeder. Also, per incoming feeder capacity of 25MW, 2 Outgoing feeders; 2 Auxiliary Transformer feeders.

The output voltage generated from the plant and synchronised with the grid	220kV
Inverter Make	Huawei
Inverter Capacity	160 KW
No. of Inverter	1563 Nos
Inverter capacity voltage at the output side	800 V
Cleaning Mechanism	Robotic Cleaning
Main Control Room	1 MCR Located at the center of the plant

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 version 02 have been followed during the operation of the project activity. The monitoring plan outlined in the registered VCS PD version 02 and the applied methodology have been effectively implemented, monitoring all the specified parameters in the current monitoring report.

During the onsite visit and discussions with the project proponent (PP) representative, it was verified that all emergency preparedness measures mentioned in the registered VCS PD version 02/03/ are being followed on-site without any discrepancies. No proposed or actual changes have been made to the project design during this monitoring period, as confirmed by the PP representative.

The baseline emission parameters specified in the registered VCS PD version 02 /03/ have been verified, ensuring their accuracy and compliance. The PP has provided a declaration as an evidence requirement defined under section 3.23 clause 3.23.3 of VCS Standard version 4.4/07/ stating that they will not claim credits under any other GHG emission reduction scheme, including the Clean Development Mechanism (CDM), for the present monitoring period under VCS. This declaration ensures 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 02/03/.

Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description provided in the registered VCS PD version 02 dated 19-December-2019/03/.
- 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.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/12/.

- d) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/33/.
- e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/04/ and previous verification/05/.
- f) The project is registered under VCS ⁸ only, however PP has submitted the declaration/33/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/19/ Mechanism database of India and I-REC/20/ 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 ⁹ /19/REC)/(International-Renewable Energy Certificate Standard Standard) I-REC¹⁰/20/ 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/33/ for the same which is in line with set guidelines of section 3.23 clause 3.23.4 of VCS Standard version 4.4/07/.
- g) The project activity complies with indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR/01/. Assessment team has verified the same during on site visit/38/ and found all the indicators to be effective and applicable for the project activity.

As per the VCS Standard Version 4.4/07/, projects registered on or after 20-January-2023, must demonstrate contributions to a minimum of three Sustainable Development Goals (SDGs). Projects registered with VERRA before this date must show contributions to three SDGs by 20-January-2025¹¹, as stated in the Quarter 1 VCS Program Update released on 20-January-2022.

This is project's second Periodic Verification for the Monitoring Period from 01-April-2022 to 31-March- 2023 (Inclusive of both start and end dates) is registered before 20-January-2023, so the Project Proponent (PP) must demonstrate contributions to at least three SDGs by 20-January-2025. For the current monitoring period, the PP is voluntarily showing contributions to three SDGs, as indicated below:

The Project activity has implemented activities that results in 3 SDG Contributions; 7.2, 8.5 and 13.0.

1. 7.2 i.e. (Renewable energy share in the total final energy consumption)

⁸ <https://registry.verra.org/app/projectDetail/VCS/2069>

⁹ <https://www.recregistryindia.nic.in/>

¹⁰ I-REC Standard - The International REC Standard Foundation (irecstandard.org)

¹¹ <https://verra.org/wp-content/uploads/2022/01/VCS-Summary-of-Effective-Dates-2022-01.pdf>

As a part of this project activity lifetime, a total of 1,181,324 MWh (581,277 MWh in 1st verification¹² + 600,047 MWh during current MP) of renewable electricity has been supplied to the Indian grid by the project activity since commissioning.

VVB has referred previous verification reports approved by VERRA /05/, JMRs/31/, Invoices/32/ and thus VKU found the above claimed renewable electricity supplied to Indian grid is correct and deemed satisfactory.

2. 8.5 i.e. (By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value)

94 people employed during this reporting period people were employed due to installation of this project. The same was verified by the assessment team from the employment records /46/ submitted by the PP to the VVB and VKU found the above claimed SDG correct and deemed satisfactory.

3. 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 1,106,662 tCO₂e (544,539 tCO₂e in 1st verification¹³ + 562,123 tCO₂e during current MP) in the atmosphere. 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 /05/, JMRs/31/, Invoices/32/ and thus VKU found the above claimed **Tonnes of greenhouse gas emissions avoided or removed** correct.

Table no: 11 Contributions Over Project Lifetime

S.No.	Monitoring Period Dates (Inclusive of both start and end dates)	Energy Supplied by the project activity to grid during its lifetime (MWh)	GHG emissions avoided by the project activity during its lifetime (tCO ₂ e)	GHG Programme
1.	First Monitoring Period from 19-March-2021 to 31-March- 2022	581,277	544,539	VCS

¹²https://registry.terra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=82283&IDKEY=kiquwesdfmnk0iei23nnm435oiojnc909dsflk9809adlkmlkf0113468257

¹³https://registry.terra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=82283&IDKEY=kiquwesdfmnk0iei23nnm435oiojnc909dsflk9809adlkmlkf0113468257

1.	Current Monitoring Period from 01-April-2022 to 31-March- 2023	600,047	562,123	VCS
Contributions Over Project Lifetime		1,181,324 MWh	1,106,662 tCO₂	VCS

The project has demonstrated a positive impact on various aspects of sustainable development, aligning with the criteria set by the Ministry of Environment and Forests. These impacts include economic, social, environmental, and technological benefits.

In terms of social well-being, the project has created employment opportunities both during the construction and operation phases. This contributes 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.

Economically, the project has benefited from the advantages provided by the Verified Carbon Standard (VCS). By being a clean technology investment, the project has attracted financial support and investments. This not only contributes to the economic progress of the project itself but also stimulates the local economy through increased business activities and job opportunities.

From a technological perspective, the successful implementation of the project showcases advancements in solar-based power generation. This not only promotes the use of renewable energy sources but also encourages other business owners and entrepreneurs to consider similar initiatives. The project's technological advancement contributes to the overall growth and development of the renewable energy sector.

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. It also contributes to the reduction of specific pollutants such as sulphur oxides (SO_x), nitrogen oxides (NO_x), and suspended particulate matter (SPM), which are commonly associated with traditional thermal power generation facilities. 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. 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.

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. These trainings address specific technical aspects related to the project's operations and contribute to the overall safety and risk management protocols.

The verification team from VKU assessed the implementation of these training programs during the onsite visit and interviews conducted with site personnel. They verified the training records present at the site, which were submitted by the client, to ensure that the staff members have received the necessary training. By conducting these training programs, the project activity ensures that its staff members are well-prepared, informed, and capable of carrying out their responsibilities effectively. This helps to maintain the safety of the project operations and ensures the accurate monitoring of emission reductions.

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/03/, All the above stated information was verified by VVB during onsite visit and site personnel interviews/37/.

4.2 Safeguards

4.2.1 No Net Harm

The renewable solar energy project has demonstrated numerous positive impacts on both socioeconomic and environmental aspects. By utilizing solar energy, the project contributes to sustainable development by providing clean and environmentally friendly power. Additionally, the project has created job opportunities, employing 24 people/46/ since its commissioning, which has improved the socio-economic conditions of the region

According to Indian regulations, solar power generation through photovoltaic cells falls under the White category of industries, which are considered practically non-polluting. As a result, the project does not require an Environmental Impact Assessment (EIA) or the consent to operate. Exemptions granted to solar power projects from environmental clearance requirements further support this fact, as per the relevant EIA notifications and Ministry of Environment & Forests OM.

The project's operations have been assessed to have no direct air or noise pollution, as confirmed by the report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" by MNRE. The project has had no significant impact on the quality of air, water, soil, or the local environment. It is worth noting that solar power generation does not involve any moving mechanical parts or emissions, nor does it generate any kind of effluent that could affect the environment.

The project's construction, operational, and maintenance phases have not caused any harm to the area's air, water, or ecology, as highlighted in the relevant sections of the monitoring report/01/.

VKU conclude that the project has contributed to the region's labour force by creating job opportunities, resulting in improved socio-economic conditions in adherence to the section 3.18, clause 3.18.1 of VCS Standard version 4.4/07/. Overall, the project has demonstrated a net positive impact on both the socioeconomic and environmental aspects of the project region.

4.2.2 Local Stakeholder Consultation

The project has followed the Local Stakeholder Consultation Process in line with VCS requirements, as described in the registered VCS PD version 02/03/. Local Stakeholder Meetings were organized to engage and inform various stakeholders about the project activity. The stakeholders invited to the meetings included the local community, local village administration, technology suppliers, and local vendors. Invitation letters were delivered in hand, and a public notice was issued to ensure maximum participation.

The Stakeholder Meetings took place on 02-May-2019 at the project site in Rajasthan. During the meetings, the representatives of the Project Investor welcomed the attendees and provided a brief overview of the VCS project activity. The stakeholders were informed about the environmentally friendly nature of solar power generation and its contribution to reducing greenhouse gas emissions. They were also educated about the benefits of solar power projects, such as increased energy availability, improved power quality, and employment opportunities for the local population.

In adherence to section 3.18, clause 3.18.3 VCS Standard version 4.4/07/ prior to the project's establishment, a local stakeholder consultation process was conducted, during which stakeholders had the opportunity to raise questions and concerns. The project participant's representatives addressed these questions to the satisfaction of the stakeholders. No significant comments or protests were raised during the consultation process, and stakeholders expressed their complete support for such projects in the region.

The Project Proponent maintains an open line of communication with stakeholders throughout the project's crediting period. A stakeholder feedback register and a suggestion box are available at the project site, allowing stakeholders to submit comments, complaints, or suggestions thus complying to the set guidelines stated in to section 3.18, clause 3.18.4 of VCS Standard version 4.4/07/. These will be promptly addressed if found to be legitimate. However, no feedback or grievances were reported during the current monitoring period, as the renewable solar power generated by the project does not result in negative impacts.

The verification team, during the on-site assessment, interacted with local stakeholders and recorded no negative comments or feedback from them. The ongoing stakeholder inclusivity and communication mechanism were verified by the VKU assessment team during the on-site visit, and the presence of the grievance register placed by the Project Proponent at the project site was also confirmed.

Overall, the project has demonstrated a commitment to continuous interaction with stakeholders and maintaining transparency throughout the project's implementation. Hereby VKU conforms that PP has a seamless process of recording the stakeholder feedback and grievance

mechanisms that ensure that local stakeholders' concerns are considered and addressed appropriately with respect to the set guidelines defined in section 3.18, clause 3.18.5 VCS Standard version 4.4/07/.

4.3 AFOLU-Specific Safeguards

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

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS PD/03/ and the monitoring report /01/. It involves a single parameter to be monitored $EG_{\text{facility},y}$ (Quantity of net electricity generation supplied by the project (250 MW (AC) Solar) plant/unit to the grid in year y ; MWh) according to the monitoring plan and monitoring report/01/. The parameter $EG_{\text{facility},y}$ value is sourced from JMRs/31/ and Invoices/32/. Proper calibrated meters of 0.2s accuracy class installed at site regularly monitor the import and export value which is monthly aggregated in JMRs. ER sheet prepared by PP has been reviewed by assessment team thoroughly by cross checking the values of JMRs/31/ and Invoices/32/ submitted by PP and found correct including all the formulae and conversions and aggregations.

The monitoring plan laid in the registered VCS PD/03/ is being followed at the site/38/. 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/01/. The emission reductions are based on the net electricity generated and exported from the project. 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/02/ provided by PP. The verification of each monitoring parameter has been discussed later in [section 4.5](#) of this report.

The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., ACM0002 Version 19.0/12/.

According to applicable methodology ACM 0002; Version 19.0¹⁴-page 13 under section 5.4 and page 20 under section 5.6 page of Baseline Methodology Procedure with further description under paragraph about Project emissions & Leakage emissions 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.

GHG Calculations:

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., ACM0002 Version 19.0/12/. As per the applied methodology, the values of project

¹⁴ [58IAGB7SZUDE02VN6LYM30K41HFPRO \(unfccc.int\)](#)

emission and leakages are considered as zero for the project activity. The equation used for calculation of baseline emission is given below:

Baseline emissions are calculated as follows:

Where,

$BE_y = EG_{BL,y} \times EF_{CO_2}$	
$BE_y =$	Baseline Emissions (tCO₂/year)
$EG_{BL,y} =$	Energy Baseline in year y, kWh
$EF_{CO_2} =$	CO₂ Emission Factor in year y; tCO₂ / kWh
The baseline emissions for Year 2022 (from 01-April-2022 to 31-December-2022)	
= 451,299 MWh * 0.9368 tCO ₂ /MWh	
= 422,776 tCO₂e (Round down Value)	
The baseline emissions for Year 2023 (from 01-January 2023 till 31-March-2023)	
= 148,748 MWh * 0.9368 tCO ₂ /MWh	
= 139,347 tCO₂e (Round down Value)	
The total baseline Emissions = 422,776 + 139,347 = 562,123 tCO₂e (Rounded Down value)	

Plant was in operation throughout the current monitoring period, and the project activity generated 600,047 MWh of net electricity, resulting in 562,123 tCO₂e GHG reductions

Estimated Emission Reduction as in VCS PD /2/ for the equivalent period of the current Monitoring period, 01-April-2022 to 31-March-2023 (Inclusive of both the days):	
Monitoring Period Start Date	01-April-2022
Monitoring Period End Date	31-March-2023
Days in Current Monitoring period	365
Annual estimated VCUs as per year over the 10 years of crediting period	412,674 (tCO ₂ e)
Estimated Emission Reduction as in VCS PD for the equivalent period of the current Monitoring period	= (Annual Estimated GHG emission reductions as per revised VCS PD/Total days in a year) * days in current monitoring period Year 2022 = (450,898 /365) * 275 = 339,717 (tCO₂e) Year 2023 = (450,672 /365) * 90 = 111,124 (tCO₂e) Total ERs = 339,717 + 111,124 = 450,841

The estimated emission reduction for the present monitoring period is 450,841 tCO₂e, however the achieved emission reductions are 562,123 tCO₂e (round down value), or around 24.68 % higher than the estimated emission reductions.

In section 5.4 of MR/01/ calculations has been stated. This is further cross checked as compiled in ER/02/ which has been verified by the assessment team from JMRs/31/ and cross checked from invoices/32/. The monitoring & measurement of electricity at project metering point is being done on continuous basis; while recording is being done on monthly basis as Joint Meter Reading by the representatives of State Utility & PP.

PP has submitted all the evidences like JMRs /31/and Invoices /32/ to VKU Assessment/Verification Team for verification and assessment of ER Sheet/02/

Hence VKU Assessment/Verification Team can state that the calculation method and formulae used in calculating baseline emission is following the methodology used i.e., ACM0002: “Grid-connected electricity generation from renewable sources- version 19.0” /12/ furthermore in conformance with section 3.15, clause 3.15.1//3.15.2//3.15.3//3.15.4 of VCS Standard version 4.4/07/.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification process, the verification team thoroughly examined all relevant documents provided by the project proponents to assess the accuracy and quality of the data submitted. These data are crucial in determining the emission reductions achieved by the project.

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 only parameter in the project activity is “**EG_{facility,y}** (Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y) (**MWh**)”.

The table below describe how the parameter “**EG_{facility,y}** (Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y) (**MWh**)”, that is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met:

Table No: 12 Assessment of Parameter $EG_{facility,y}$ (Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y) (MWh), that is to be measured :-

Parameter	$EG_{facility,y}$ (Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y) (MWh)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous monitoring, hourly measurement and at least monthly recording. 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 SEB (State Electricity Board) energy meter installed at the delivery point. To determine the net electricity supplied, monthly meter readings are taken from both the main meter and the check meter. These meters are installed at the 400/220 KV GSS (Grid Substation), specifically the RVPNL Jaisalmer-II substation at Bhensara, Jaisalmer, Rajasthan. The readings are certified by representatives of the SEB (in this case, Jodhpur Vidyut Vitaran Nigam Limited, JDVNL) officials as well as representatives of the project proponent. Net electricity supplied to the grid by the project plant in a given month = Export_{kwh} - Import_{kwh} This is a calculated value
	Is measuring and reporting frequency in accordance with the	Yes. The reporting frequency is in line with the monitoring plan as outlined in the section 5.3 of

	monitoring plan and monitoring methodology? (Yes / No)	registered VCS PD version 02 dated 19-December-2019/03/ and monitoring methodology/12/. There is no deviation from the stated procedures or adopted methodology i.e., ACM0002 version 19, in the registered monitoring plan. However there are project description deviations requested in previous <u>monitoring period i.e. 19-March-2021 to 31-March-2022 (Inclusive of both the dates)</u> /05/ which was verified by assessment team during desk review and by Team Leader during onsite visit /38/ and interviews with site personnel. /37/ The same can be cross checked in section 3.2.2 of MR/01/ and <u>section 3.3</u> of this report.
	Monitoring equipment	Special Energy Meters (SEMs) 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 SEB energy meter installed at the 400/220kV GSS (Grid Substation) located at Bhensara, Jaisalmer, Rajasthan. No monitoring equipment is used to determine Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y $EG_{facility,y}$ (MWh) as it is calculate value of the export to grid and import from grid . However, the export and import values are calculated using measured values, which are continuously measured, and recorded monthly by two sets of meters (main & check meters) used for measuring the electricity export to the grid and electricity import from the grid.

		The details of meters and calibration details are provided in APPENDIX 1 of MR/01/ and in <u>Table 14</u> of this report.
	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 used to measure the input values such as import and export to calculate net electricity generation value is Special Energy Meters (SEMs) of 0.2s accuracy class which stated in section 5.2 of the registered VCS PD version 03 dated 19-December-2019/03/ further in-line with as per the norm defined in the PPA/27/. Also, the same was verified from the energy meters installed at the site during onsite visit/38/ to the Grid Sub Station. The assessment team also checked the calibration records that are issued by an NABL (National Accreditation Board for Testing and Calibration Laboratories accredited laboratory) accredited laboratory states under the Description of equipment under calibration 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 as specified in calibration certificates/29/ is valid for the entire range i.e., 01-April-2022 to 31-March-2023 (Inclusive of both the dates)
	Calibration frequency /interval:	The calibration frequency of the meters used for the monitoring of export, import shall be once in every five years basis as per section 5.2 & 5.3 of registered VCS PD/03/ and PPA /27/. The assessment team confirmed the frequency while interviewing /37/ the site personnel during onsite visit/38/.

	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 5.2 & 5.3 of the registered VCS PD version 02 dated 19-December-2019. The calibration process follows the guidelines outlined in Article 7, paragraph 7.1.1 of the Power Purchase Agreement (PPA). According to the PPA, the installation, testing, calibration, and reading of meters should adhere to the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and the Grid Code, as amended and revised from time to time thus conforming with the clause 3.16.5 of VCS Standard version 4.4/07/ Specifically, as per para 1 (b) under section 18 of the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, all interface meters, including those used in the project activity, are required to be tested at least once every five years. By following the calibration frequency as stipulated in the regulations and guidelines, the project ensures that the accuracy and reliability of the meter readings are maintained, which is essential for accurately monitoring the electricity generation and associated emission reductions
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration certificates (document reference /29/) provided by M/s Darsh Calibration PVT. LTD., an NABL accredited agency, serve as evidence that the calibration of the energy meters used in the project has been conducted according to the requirements

		specified in the Power Purchase Agreement (PPA) (document reference /27/). The periodic calibration of both the main meters and check meters ensures the accuracy of the measurements thus in compliance with the clause 3.16.5 of VCS Standard version 4.4/07/ In accordance with the emergency procedure outlined in the registered VCS PD version 02 (document reference /03/) and MR (document reference /01/), the project proponent (PP) is responsible for taking appropriate corrective action if any faulty readings are observed. If an error is found to be beyond the permissible limits, the PP will inform the respective agency to rectify the instrument promptly. This procedure was confirmed during the onsite visit and interviews conducted with the site personnel (document reference /37/). The verification team, during the onsite visit, verified the implementation of this procedure and found it to be in accordance with the requirements. Therefore, the corrective action process followed by the PP is acceptable and ensures the accuracy and reliability of the measured data for monitoring purposes. Also note that however in this monitoring period no apportioning has been done but the data apportioning details in case the dates of recording are not in line with the monitoring period dates have now been clearly mentioned in section 4.3 of MR/01/ and also incorporated
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		in this <u>section of verification report</u> .
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration frequency mentioned in PD version 02 dated 19-December-2019/03/ and in the PPA for once in five years is valid for the whole reporting period i.e., 01-April-2022 to 31-March-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, the calibration of energy meter is carried out appropriately for the given operational range of voltages i.e., 3*63.5V (P-N) Current: Ib=1A, Imax=2A Frequency: 50z The calibration frequency is once in five years which is also as per the national standards i.e., Clause 18 of Central Electricity Authority (Installation and Operation of Meters)/26/. <i>(Please refer Appendix 01 of MR/01/ & Table no 14 for calibration Details)</i> The calibration is carried out appropriately as per the registered monitoring plan and VCS Validation and Verification manual version 3.2/08/.
	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 $EG_{facility,y}$ (MWh) for entire monitoring period is reported in the monitoring report/01/, and monthly values in the ER calculation sheet/02/. The monthly values were verified by VKU's assessment team from the JMRs/31/ issued by RRVPNL and found to be

		consistent Value of this parameter for the current monitoring period was verified as 600,047 MWh . The same is outlined in the ER Sheet submitted by the PP, which was verified by VKU from the JMRs/31/ issued to the PP by State utility and cross checked from the Invoices/32/ issued to the SECI by the PP.
	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 $EG_{\text{facility},y}$ (MWh) were verified from JMRs /31/issued to PP by Jodhpur Vidhyut Vitran Nigam Ltd, Jaisalmer which was further cross checked with the monthly invoices /32/ raised by the PP to SECI (Solar Energy Corporation of India Ltd), and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview /37/ 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. Also, a supervisory control and data acquisition (SCADA) system of ABB India is employed at site for overall monitoring of the project, which was observed by the Team Leader during onsite visit and confirmed by interviewing the respective SCADA operator and O&M maintenance head.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.

Findings	CL#02, CAR#02, CAR#03 & CAR#04 were raised and resolved
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the Project activity. Since 100% data was verified, the team can ascertain that the values adopted for emission reduction calculation are free from material errors.

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

Parameter	Unit	Description	Value ¹⁵
EF _{grid,OM,y}	tCO ₂ /MWh	Operating Margin CO ₂ Emission Factor in year y	0.9610 tCO ₂ /MWh is consistent with the registered VCS PD/03/. Calculated as per “ <u>Tool to calculate the emission factor for an electricity system, version 07</u> ” as 3-year generation weighted average using data for the years 2015-2016, 2016-2017 & 2017-2018. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 14, published by the Central Electricity Authority, Ministry of Power, Government of India
EF _{grid,BM,y}	tCO ₂ /MWh	Build Margin CO ₂ Emission Factor in year y	0.8644 tCO ₂ /MWh is consistent with the the registered VCS PD/03/. Calculated as per “ <u>Tool to calculate the emission factor for an electricity system, version 07</u> ”

¹⁵ https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver14.pdf

EF _{grid,CM,y}	tCO ₂ /MWh	Combined Margin CO ₂ Emission Factor in year y	0.9368 tCO ₂ /MWh is consistent with the registered VCS PD/03/. Calculated as per “ <u>Tool to calculate the emission factor for an electricity system, version 07</u> ”
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Calibration of meters /29/

During the verification assessment of the project activity, accuracy of all the metering equipment's has 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 by VKU. Details of meters are provided in below table:

Table No: 14 Calibration details of meters

S. No.	Meter	Make	Model	Type	Class	Date of Meter Calibration	Due date	Name of the entity
RJB99499	Main Meter	Secure	APEX 150	3phase 4wire	0.2s	01-March-2022	28-February-2027	Darsh Calibrations Private Limited
RJB99500	Check Meter	Secure	APEX 150	3phase 4wire	0.2s	01-March-2022	28-February-2027	Darsh Calibrations Private Limited
RJB99501	Standby Meter	Secure	APEX 150	3phase 4wire	0.2s	01-March-2022	28-February-2027	Darsh Calibrations Private Limited

Assessment on calibration:

The energy meter calibration certificates/29/ are checked by assessment team with respect to their calibration validity, accredited entity, accuracy class, make and calibration date and found that the calibration details provided in the MR/01/ 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., period from 01-April-2022 to 31-March- 2023 (Inclusive of both start and end dates).

During the onsite visit, the verification team conducted a thorough inspection of all the energy meters and confirmed that they were functioning satisfactorily (document reference /38/). The calibration of the meters is the responsibility of the state utility, RVPNL, and it is carried out by Darsh Calibrations Pvt. Ltd. on a periodic basis (document reference /29/). If any faulty readings are observed, the appropriate corrective action is taken by the project proponent (PP). If the error exceeds the permissible limits, the PP informs the respective agency to rectify the instrument promptly.

At the metering point, there are three energy meters: the Main Meter, Check Meter, and Standby Meter. These meters are always operational and undergo regular onsite calibration. If, during calibration, one of the meters exceeds the allowed limits, the other two meters are used to measure the energy generation values. This ensures that there is no disruption in recording the

data. The faulty meter is then replaced with a new one to ensure accurate measurement of energy generation. The PP has no control over the replacement of faulty meters, as this process is managed by the state utility, as confirmed in the interviews and discussions conducted by the verification team with the site personnel (document reference /37/) and as stated in the Power Purchase Agreement (PPA) signed between the PP and the state utility (document reference /27/

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 3.2/08/ and also in line with the para 366 of CDM Validation and Verification Standard /09/.

The Main and Check meters at the substations are used to constantly monitor the export and import energy. Once a month, an authorized officer from the SEB will read the meters in the presence of either the PP or their representative. Invoices are then created based on the Meter Reading Statement provided to the PP. These invoices/32/ can be used to verify the meter readings for the specific project activity.

In cases where the start date of the monitoring period for the project activity does not align with the start date of the Joint Meter Reading (JMR) Statement, the following procedures are followed to apportion the electricity exported to the grid from the solar panels during the intervening period:

- A. The total electricity exported for the entire billing cycle is determined based on the daily generation data (in MWh).
- B. The electricity exported during the intervening period is determined based on the daily generation data (in MWh).
- C. The generation ratio is calculated as B divided by A.
- D. The electricity exported for the entire billing cycle is determined based on the JMR Value (in MWh).
- E. The apportioned value of electricity exported for the intervening period is calculated as C multiplied by D.

Import values are considered for the entire monitoring period, following a conservative approach for the apportioning of net electricity. Please note that these procedures are not applicable to the current monitoring period but are provided for situations where the monitoring period dates and the JMR Statement dates do not align.

The registered VCS PD version 02 /03/ & MR/01/ and site audit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly JMRs/31/ issued by the state utility and confirmed that only the data recorded through main meters is used to calculate quantity of net electricity supplied to the grid consequently for ER calculations.

Based on the information provided and the assessment conducted by the verification team, it can be confidently affirmed that the evidence utilized to determine the reductions and removals of greenhouse gases (GHGs) in the project activity is adequate and appropriate in terms of both quality and quantity. This confirmation aligns with the provisions outlined in section 3.15 of the

VCS (Verified Carbon Standard) Standard version 4.4, including clauses 3.15.1, 3.15.2, 3.15.3, and 3.15.4.

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:

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

BE_y	=	BE _y : Baseline emissions in year y (tCO ₂ e/yr)
$EG_{\text{facility}, y}$	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)
$EF_{\text{grid}, CM, y}$	=	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO ₂ /MWh) (i.e., 0.9368 tCO ₂ /MWh).

Where:

Baseline Emission factor = 0.9368 tCO₂/MWh

Parameter	Unit	Value
$EG_{\text{facility}, y}$	MWh	600,047
$EF_{\text{grid}, CM, y}$	tCO ₂ e	0.9368
BE_y	=	600,047 * 0.9368
	=	562,123 tCO ₂ e (Round down value)

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where,

ER_y = Emission reductions in year y (tCO₂e)

BE_y = Baseline emissions in year y (tCO₂e)

PE_y = Project emissions in year y (tCO₂e)

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed aligning with the section 3.15 of VCS standard version 4.4/07/ The assumptions, emission factors and default values that were applied in the calculations are

justified in accordance with clause 3.15.4 of VCS standard version 4.4/07/ of The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed aligning with section 5.7, clause 57 of adopted methodology ACM0002, Grid-connected electricity generation from renewable sources/12/.

The estimated emission reduction to be achieved from the project activity for the current monitoring period is 450,841 tCO₂e, whereas actual emission reductions achieved are 562,123 tCO₂e (round down value), thus the actual emission reduction achieved is 24.68% higher than the estimated figure to match the monitoring period as per registered VCS PD version 02 dated 19-December2019/03/.

The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved are 24.68% high than the estimated figure to match the monitoring period as per registered VCS PD version 02/03/, which is due to the high PLF achieved by the project activity during the current monitoring period which is completely governed by the availability of more sunshine hours which is a natural phenomenon and same is beyond the control of PP.

The assessment team further performed the analysis of the achieved PLF against the ex-ante PLF and also the difference in PLF between the previous monitoring period and current monitoring period.

The reference to the PLF estimation from the previous monitoring period (*refer table no 14 in this report*) is used to support the claim that the current monitoring period has achieved 24.68% higher emission reductions due to the increase in power output resulting from a higher number of sunshine hours. This suggests that power output is directly related to the amount of sunshine, and that the higher generation observed during the current period is a result of the increased load factor 27.40% for the current monitoring period. This higher generation falls within the sensitivity analysis for PLF as specified in registered PD. The PLF achieved by the project activity is as follows:

Table no: 15 Variation of PLF in Greenfield Solar Power Mission by Fortum India (250 MW) from ex-ante estimation for last monitoring period 19-March-2021 to 31-March-2022 (Inclusive of both start and end dates)

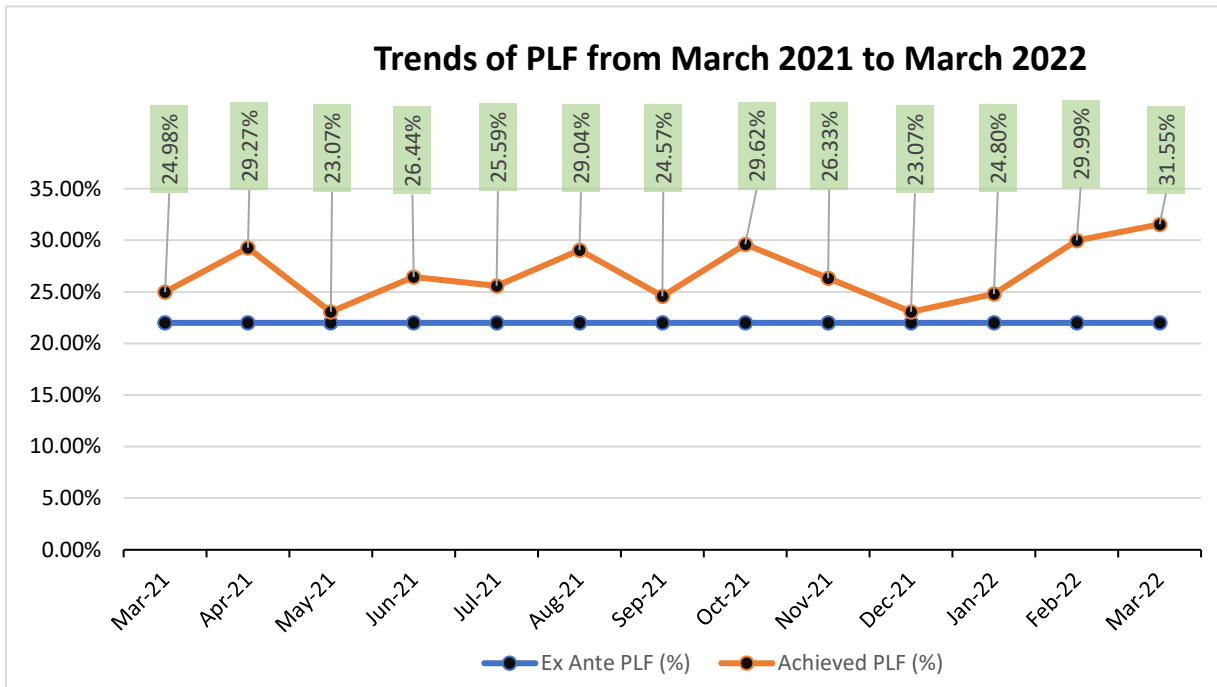
Month	PLF	PLF ex ante	Variation
March-2021	24.98%	22.00%	13.54%
April-2021	29.27%	22.00%	33.05%
May-2021	23.07%	22.00%	4.86%
June-2021	26.44%	22.00%	20.17%
July-2021	25.59%	22.00%	16.30%
August-2021	29.04%	22.00%	32.02%
September-2021	24.57%	22.00%	11.69%
October-2021	29.62%	22.00%	34.65%

November-2021	26.33%	22.00%	19.67%
December-2021	23.07%	22.00%	4.87%
January-2022	24.80%	22.00%	12.72%
February-2022	29.99%	22.00%	36.31%
March-2022	31.55%	22.00%	43.39%

Table no: 16 Variation of PLF in Greenfield Solar Power Mission by Fortum India (250 MW) from ex-ante estimation for current monitoring period 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates)

Month	PLF	PLF ex ante	Variation
April-2022	31.55%	22.00%	43.43%
May-2022	31.24%	22.00%	42.00%
June-2022	29.36%	22.00%	33.46%
July-2022	21.72%	22.00%	-1.27%
August-2022	22.61%	22.00%	2.75%
September-2022	29.78%	22.00%	35.38%
October-2022	28.86%	22.00%	31.16%
November-2022	25.69%	22.00%	16.79%
December-2022	25.57%	22.00%	16.25%
January-2023	26.36%	22.00%	19.80%
February-2023	27.54%	22.00%	25.18%
March-2023	28.74%	22.00%	30.64%

Figure 02: Trends of PLF from March 2021 to March 2022



Since the data available for month of March-2021 to March-2022, assessment team plotted the graph for the equivalent period from April-2022 to March-2023 to study the trend.

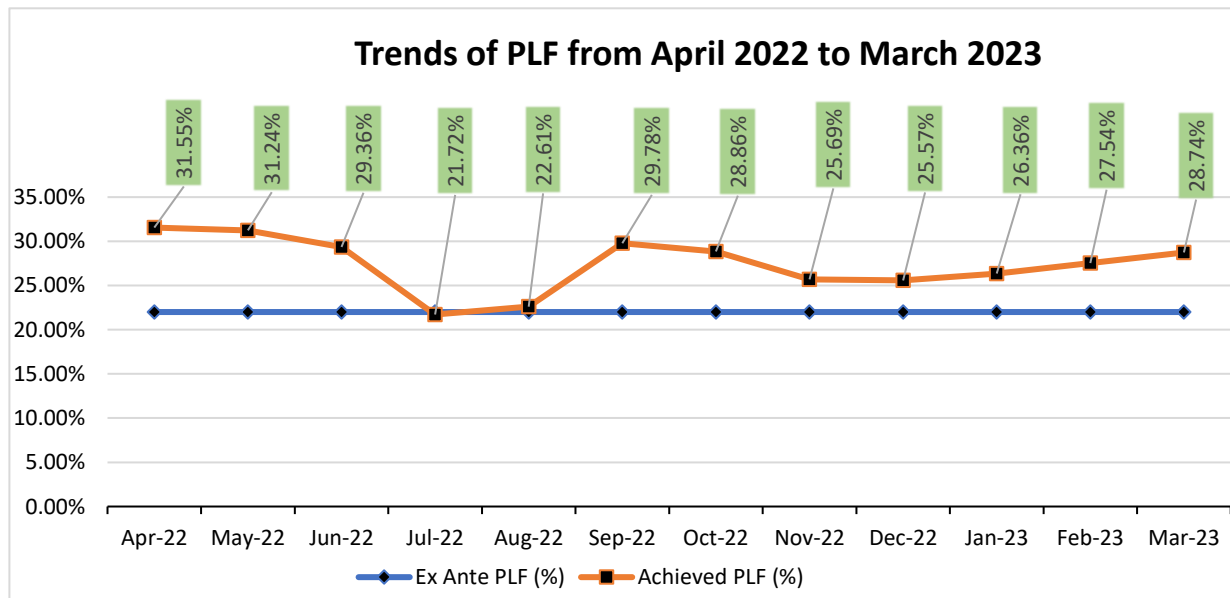


Figure 03: Trends of PLF from April 2022 to March 2023

Upon comparing Figure 01 and 02, it is clear that the trend of PLF in period from April-2022 to March-2023 has been higher than the comparable period from March-2021 to March-2022. This is reflected in higher emission reductions for the current monitoring period at 24.68%. At the same time upon checking the IRR sheet to check the additionality, it was found that although the

achieved PLF is higher than the estimate, it is within the sensitivity bound. In other words, PLF has to touch or breach 33.66% to cross the IRR, while the achieved PLF for the monitoring period is 27.40%. Hence assessment team accepted higher emission reductions due to vagaries in sunshine pattern which is beyond the control of the PP.

This comparison is submitted in the ER sheet along with a justification confirming that this event of higher power generation was an unforeseen situation and also not under the direct control of PP. 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 and project 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 4.4/07/ 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

On June 26, 2023, VKU Certification Pvt. Ltd. (referred to as VKU) declares that it conducted the second verification of the first crediting period, which lasted from 19-March-2021, to 18-March-2031 (inclusive of both start and end dates), for the project activity "Greenfield Solar Power Mission by Fortum India" in India. The reported emission reductions for this project activity, with VCS Registry Project ID 2069, during the monitoring period from 01-April-2022, to 31-March-2023 (inclusive of both start and end dates), amount to 562,123 metric tons of carbon dioxide equivalent (tCO₂e). These reported reductions have been assessed in accordance with the relevant requirements outlined in the VCS Standard, version 4.4/07/.

The project proponents of the "Greenfield Solar Power Mission by Fortum India" by "Fortum India Private Limited" is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS PD version 02 of 19-December-2019/03/.
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.
- It is the responsibility of VKU to express an independent verification opinion about the project's conformity with the requirements of VCS Standard version 4.4/07/ 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 version 2 Dated 19-December-2019 /03/;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.4/07/ requirements;
- The monitoring is in place as per the applied baseline and monitoring methodology;
- The monitoring plan in the registered VCS PD version 02 of 19-December-2019/03/ is as per the applied baseline and monitoring methodology/12/.

VKU's 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.

It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 04 of 05-July-2023/01/ for the "Greenfield Solar Power Mission by Fortum India" in India for the period from 01-April-2022 to 31-March-2023 (Inclusive of both start and end dates) are fairly stated. The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable sources- (version 19.0)/12/ and the monitoring plan included in the registered VCS PD version 02 dated 19-December-2019/03/.

Hence VKU is able to certify that the emission reduction from the project during the monitoring period from 01-April-2022 to 31-March-2023(Inclusive of both start and end dates) amounts to 562,123 tCO₂e is in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.4/07/ and that the verification of the GHG statement was conducted in in accordance with ISO 14064-3; 2019.

Verification period: from 01-April-2022 to 31-March-2023(Inclusive of both start and end dates)

Verified GHG emission reductions and removals in the above verification period: broken down by calendar year:

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	422,776	0	0	422,776
From 01-April-2022 to 31-December-2022				
Year 2023	139,347	0	0	139,347

01-January-2023 to 31-March-2023				
Total	562,123	0	0	562,123

Certified GHG emission reductions and removals in the above verification period, broken down by calendar year:

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
Year 2022 From 01-April-2022 to 31-December-2022	339,717	422,776	24.45%	Based on the estimated Performance Load Factor (PLF) as per the Project Design Document (PDD), the expected PLF was 22%. However, during the monitoring period, the actual PLF achieved was 27.40%. This indicates an increase in PLF of 24.54%. According to the registered PDD, there is a breaching value of Sensitivity set at 33.66%. Since the increase in PLF is below this breaching value, it suggests that the higher generation observed, which is attributed to more sunshine hours and irradiance, is not considered a breach or violation. Therefore, considering that the higher generation was influenced by factors beyond the control of the project participant,
Year 2023 01-January-2023 to 31-March-2023	111,124	139,347	25.40%	
Total	450,841	562,123	24.68%	

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
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)
GPS	Global Positioning System
GS	Gold Standard
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change

KV	kilovolts
KW	Kilowatt
MoV	Means of Verification
MR	Monitoring Report
MW	Megawatt
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PPA	Power Purchase Agreement
PP(s)	Project Proponent(s)
QA/QC	Quality assurance & Quality control
Ref.	Document Reference
RRVPL	Rajasthan Rajya Vidyut Prasaran Nigam Limited
SECI	Solar Energy Corporation of India
SLDC	State Load Dispatch Centre
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
TE(s)	Technical Expert(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit

VKU	VKU Certification Ltd.
VVS	Validation and Verification Standard
VVB	Validation and verification body
Wp	Watts peak

APPENDIX B: AUDIT FINDINGS

CAR: Corrective Action Request _05

CL: Clarification Request_03

FAR: Forward Action Request_00

Type	Date	15-May-2023
CL#01	Reference	Section 01/DR/OSV
Description of the Non-Conformance		
1) In Section 1.1 of MR: PP to provide commissioning certificate to assessment team to verify the date of commissioning of the solar plant. 2) In Section 1.1 of MR: PP to specify the total proposed capacity of the solar plant and also elaborate about the installed capacity for which the COD is mentioned here. 3) In Section 1.3 of MR: - Assessment team found project proponent organization name is inconsistent with the registered PD. PP is requested to justify it. - Also, during site-visit by assessment team, the name of the plant/project is found to be different from the name already registered in the documents i.e., M/S Sprng Solar Plus Pvt Ltd. PP to clarify the inconsistency 4) In Section 1.5 of MR: PP to justify the inconsistency in the start date of the project activity with respect to the registered VCS PD version 02 dated 19-December-2019. 5) In Section 1.6 of MR: PP is requested to justify inconsistency in the dates of crediting period with respect to the registered VCS PD version 02 dated 19-December-2019. 6) In Section 1.7 of MR: PP to justify the inconsistency in the Geo-Coordinates with respect to the registered VCS PD version 02 dated 19-December-2019. 7) In Section 1.11 of MR: Table 1: Sustainable Development Contributions For SDG 7.2: a. What is this SDG (7.2) indicating to increase? b. PP to specify the time frame, Either applicable to current monitoring period or not. c. PP to elaborate the values declared in this section along with relevant reference/weblinks. For SDG 8.6: d. What is this SDG (8.6) indicating to decrease? Also specify why installed project activity is aiming to decrease employment in this column, when in corresponding column PP is referring to data about employment due to the solar activity installed in the area. e. PP is requested to substantiate the data provided with relevant evidences and documents For SDG 13.0: f. What is this SDG (13.0) indicating to decrease? g. PP to elaborate the values declared in this section along with relevant reference/weblinks.		
1 st Response from PP	Date	23-May-2023
1) Commissioning certificate has been submitted to the assessment team for review. 2) The total installed capacity of the project is 250 MW. The COD is considered as 19-March-2021 which is the commissioning date of 150 MW out of total 250 MW capacity. Section 1.1 of the MR has been revised accordingly.		

- 3) As per the registered PD “Fortum Solar Plus Private Limited” was the project proponent of the project activity. However, the name of “Fortum Solar Plus Private Limited” has been changed to “SPRNG Solar Plus Private Limited” on 14-June-2022.

SPRNG Solar Plus Private Limited manages operation and maintenance of current 250 MW project activity, but all the carbon credits rights were transferred from “SPRNG Solar Plus Private Limited” (Formerly known as “Fortum Solar Plus Private Limited”) to “Fortum India Private Limited” during the last verification and therefore “Fortum India Private Limited” is acting as the project proponent for the said project activity. The same can be verified from monitoring and verification reports of last verification submitted to the assessment team. The name change certificate and VERRA approval for change of project proponent has also been submitted to the assessment team for review.

- 4) The start date for project activity was 01-December-2020, but due to the Covid-19 restrictions delay occurred in the commissioning of the plant, and the plant is commissioned on 19-March-2021. Therefore, the start was revised as 19-March-2021 during last verification. COD and Monitoring Report for last verification have been submitted to the assessment team for crosschecking the same.
- 5) The crediting period start date for project activity was 01-December-2020, but due to the Covid-19 restrictions delay occurred in the commissioning of the plant, and the plant is commissioned on 19-March-2021. Therefore, the crediting period start was revised during last verification and considered as 19-March-2021 and crediting period end date is 18-March-2031. COD and Monitoring Report for last verification have been submitted to the assessment team for crosschecking the same.
- 6) As found out in the site survey during last verification that the geo-coordinates of the project activity are latitude- 26° 40' 18.21''N, longitude-71° 32' 7.70''E which are different as per registered VCS PD. Since at the time of project registration, project activity was not commissioned and the location details were tentative, therefore there is slight change in final location of the commissioned project.
- 7) Table 1 under section 1.11 of the MR has been revised to include detailed information pertaining to SDG contribution from project activity. Summary of SDG contribution from project is mentioned below:

For SDG 7: Project proponent is committed towards generating clean energy. Hence, about 600,047 MWh renewable electricity has been supplied to Indian grid during the reported monitoring period that helps to increase the renewable energy share in the energy mix.

For SDG 13: Project proponent has shown leadership in workplaces and in their communities by advocating climate action consistent with the science. Hence, by supplying 600,047 MWh clean electricity to Indian grid, the project avoided release of 562,123 tCO₂e into the atmosphere during the reporting period.

For SDG 8: Project proponent is committed to provide employment opportunities and ensures the proper health & safety trainings, environment policy to be followed during operation. During the current monitoring period the project proponent provided employment to 94 persons.

1 st Assessment by Audit Team	Status	Open/Closed	Date	09-June-2023
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1. **For section 1.1 of MR;** PP has submitted the commissioning certificates to verify the date of commissioning of the solar plant as verified by the assessment team. **[CLOSED]**

2. **For section 1.1 of MR;** PP has revised the total installed capacity along with the COD. **[CLOSED]**
3. **For section 1.3 of MR;** If SPRNG Solar Plus Private Limited manages operation and maintenance of the plant then what about the RWE. Please refer the comment in section 4.3 of this report. **[OPEN]**
4. **For section 1.5 of MR;** PP has sufficiently justified the start inconsistency in the project start date with respect to the registered VCS PD version 02 dated 19-December-2019 and provided the previous verification report to verify the same which is acceptable to the VVB but PP is requested to mention in footnote regarding the deviation taken in section 3.22. **[OPEN]**
5. **For section 1.6 of MR;** PP has sufficiently justified the start inconsistency in the dates of crediting period with respect to the registered VCS PD version 02 dated 19-December-2019 and provided the previous verification report to verify the same which is acceptable to the VVB but PP is requested to mention in footnote regarding the deviation taken in section 3.22. **[OPEN]**
6. **For Section 1.7 of MR:** PP is sufficiently justified the inconsistency in the Geo-Coordinates with respect to the registered VCS PD version 02 dated 19-December-2019 but PP is requested to mention the same in the MR and also indicate the same on the Map. **[OPEN]**
7. **For Section 1.11 of MR: Table 1: Sustainable Development Contributions**
For SDG 7.2: PP is requested to Kindly mention the dates of the reporting monitoring period.
For SDG 8.6: PP is requested to Kindly mention the dates of the reporting monitoring period.
The documents submitted are with respect to the Trainings provided and not employment. Please clarify and proceed accordingly
For SDG 13.0: PP to add respective weblink of the first verification/monitoring report as claimed here. **[OPEN]**

2ndResponse from PP

Date

15-June-2023

3. "SPRNG Solar Plus Private Limited" (Formerly known as "Fortum Solar Plus Private Limited") is responsible for overall management of current 250 MW project activity. However, RWE Solar India Private Limited (Formerly Belectric Photovoltaic India Private Limited) was contracted by SPRNG Solar Plus Private Limited (formerly known as "Fortum Solar Plus Private Limited") for daily operation and maintenance of the project. Section 1.3 and 4.3 of the MR has been revised for more clarity on operations 7 maintenance of the project.
4. Footnote has been updated under section 1.5 of the MR.
5. Footnote has been updated under section 1.6 of the MR to include the information about deviation approved in 1st monitoring period.
6. The footnote has been updated to include the information about deviation approved during 1st monitoring period. The map indicating project location under section 1.7 of the MR has also been revised with a more detailed map.
7. Section 1.11 has been revised. All the dates and reference links have been updated in required sections.

2ndAssessment by Audit Team

Status

Open/Closed

Date

18-June-2023

3. **For section 1.3 of MR:** PP has provided the sufficient justification and evidences for the query raised above and also same has been updated in MR, as verified by the assessment team. **[CLOSED]**

4. **For section 1.5 of MR:** PP has updated the footnote for section 1.5 of MR as verified by the assessment team. [CLOSED]
5. **For section 1.6 of MR:** PP has incorporated the information regarding the deviation approved in 1st monitoring period in footnote 8, as verified by the assessment team. [CLOSED]
6. **For section 1.7 of MR:** PP has incorporated the information regarding the deviation approved in 1st monitoring period in footnote 9 and also update the map with all geo coordinates of the project, as verified by the assessment team. [CLOSED]
8. **For Section 1.11 of MR: Table 1: Sustainable Development Contributions**
For SDG 7.2: PP has mentioned the dates of the reporting monitoring period, as verified by the assessment team.
For SDG 8.6: PP has mentioned the dates of the reporting monitoring period, as verified by the assessment team.
PP has updated the information for employment and provide sufficient documents for the same as verified by the assessment team.
For SDG 13.0: PP has added weblink of the first verification/monitoring report as claimed here. [CLOSED]

Hence CL#01 is closed

Type	Date	15-May-2023
CL#02	Reference	Section 2/DR/OSV Section 3/DR/OSV Section 4/DR/OSV Section 5/DR/OSV Section ER Sheet/DR/OSV
Description of the Non-Conformance		
1) In Section 2.2 of MR: PP is requested to provide the copy of grievance register 2) In Section 3.1 of MR: PP is requested to justify the statement for conversion of energy 3) In Section 3.1 of MR: • PP is requested to provide evidencary documents to verify the Technical Specification of the PV Modules involved in the project activity. • During site visit, assessment team found out that there are some inconsistencies in the Module capacity. PP to add required details in the specification sections and also correct the already incorporated details in this table. PP to add heading specifying which number of table is this in the MR. • During site-visit to the project implemented area, assessment team found the total no. of modules is inconsistent in this MR. PP is requested to revise the same as per relevant documents and submit the same to the assessment team. 4) In Section 4.1 of MR: • PP is requested to provide the reference of "CO₂ Baseline Database for Indian Power Sector • PP is requested to provide the reference of tool to calculate the emission factor for an electricity system 5) In Section 4.2 of MR: PP is requested to provide Monthly generation reports for current monitoring period. 6) In Section 4.3 of MR: PP is requested to provide daily generation data and evidence for the same.		

- 7) **In Section 4.3 of MR:** Since the project has a EWA as per registered VCS PD version 02 dated 19-12-2019, PP to clarify about the Captive users and how the energy is being distributed also substantiate the same with required evidences.
- 8) **In Section 4.3 of MR:** PP is requested to provide copy of plant logbooks
- 9) **In Section 4.3 of MR:** PP to elaborate the procedure/formulae for apportioning as applicable to the project activity.
- 10) **In Section 5.4 of MR:** PP is requested to provide the PLF data for 2 years (if available) or at least 1-year PLF data prior to this MP. This data will allow assessment team to assess the ER calculations in line with VCS MR template v4.1 sections 3.1 and 5.4.
- 11) **In APPENDIX 1:** PP is requested to provide calibration certificates applicable to current monitoring period.
- 12) **In ER Sheet:** During site visit assessment team confirmed that values for this month are not consistent with the JMR/Invoices. PP to correct the same & provide the supporting documents for the verification of these values.
- 13) **In ER Sheet:** PP is requested to provide the PLF data for 3 years (if available) or at least 1-year PLF data prior to this MP. This data will allow assessment team to assess the ER calculations in line with VCS MR template v4.1 sections 3.1 and 5.4

1 st Response from PP	Date	23-May-2023
1) A copy of maintained grievance register at project site has been submitted to the assessment team. 2) Section 3.1 of the MR has been revised to include the implementation status of the project activity. 3) Technical specifications of the PV Module installed in the project activity have been submitted to the assessment team for verification. Table under section 3.1 of the MR has been revised to include correct details of solar PV modules, their capacity and numbers. Supporting documents for technical specification such as module datasheet, SLD, array layouts have been submitted to the assessment team. 4) Reference weblink for CO₂ Baseline Database for Indian Power Sector and tool used for emission factor calculation has been updated under section 4.1 of the monitoring report. 5) Monthly generation report covering the current monitoring period have been submitted to the assessment team for crosschecking. 6) Daily generation data is required to calculate apportioned value of generation in case of mismatch between billing cycle and monitoring period start/end date. Since the start date and end date of the monitoring period are in line with the billing cycle, no apportioning has been applied to calculate electricity generation. Therefore, daily generation data is not required. However, daily generation report has been submitted to the assessment team. 7) There is no captive consumption of the electricity generated from project activity. Electricity generated is being sold to the Indian grid under the Power Purchase Agreement (PPA), signed with Solar Energy Corporation of India Limited (SECI). The same has been submitted to the assessment team for verification. 8) Plant logbooks are required to calculate electricity generation in case of mismatch between billing cycle and monitoring period start/end date. Since the start date and end date of the monitoring period are in line with the billing cycle, no apportioning has been applied to calculate electricity generation. Therefore, plant logbooks are not required. However, copy of plant logbooks have been submitted to the assessment team for crosschecking.		

- 9) Apportioning procedure along with formula to calculate electricity generation in case of mis match between monitoring period and billing cycle has been updated under section 4.3 “Monitoring Plan” of the monitoring report.
- 10) PLF data from the date of commissioning of the project has been updated under “PLF Data” tab of the ER sheet.
- 11) Calibration certificates applicable for the current monitoring period have been submitted to the assessment team for verification.
- 12) ER sheet has been revised. All the values for individual months have been made consistent with JMR and invoices.
- 13) PLF data from the date of commissioning of the project has been updated under “PLF Data” tab of the ER sheet.

1 st Assessment by Audit Team	Status	Open/ ~~Closed~~	Date	09-June-2023
1. For section 2.2 of MR: PP has submitted the grievance register and it is acceptable to VVB. [CLOSED] 2. For section 3.1 of MR: PP has revised the statement for the conversion of energy which is verified by the assessment team hence acceptable. [CLOSED] 3. For Section 3.1 of MR: • PP has sufficiently provided the evidencary documents to verify the Technical Specification of the PV Modules involved in the project activity which is acceptable to VVB. [CLOSED] • PP to check if this is the rating or the capacity? Please make it consistent with the document submitted to Assessment Team. PP to add heading specifying which number of table is this in the MR. [OPEN] • During site-visit to the project implemented area, assessment team found the total no. of modules is inconsistent in this MR. PP is requested to check the value again the same as per relevant documents and submit the same to the assessment team. [OPEN] 4. For Section 4.1 of MR: • PP has sufficiently provided the reference of “CO₂ Baseline Database for Indian Power Sector as verified by the assessment team. [CLOSED] • PP has sufficiently provided the reference of tool to calculate the emission factor for an electricity system as verified by the assessment team. [CLOSED] 5. For section 4.2 of MR: PP has provided the Monthly generation reports for current monitoring period, as verified by the assessment team. [CLOSED] 6. For section 4.3 of MR: PP has provided the sufficient justification for daily generation data/report which is acceptable to VVB. [CLOSED] 7. For section 4.3 of MR: PP has provided the Power Purchase Agreement (PPA), signed with Solar Energy Corporation of India Limited (SECI) and also done the needful revision in MR which is acceptable to VVB. [CLOSED] 8. For section 4.3 of MR: A sample copy is required for verification purposes by the Assessment Team, also since the monitoring is through SCADA what is the requirement of Plant logbooks? [OPEN] 9. For section 4.3 of MR: Apportioning procedure along with formula to calculate electricity generation in case of mis match between monitoring period and billing cycle has been updated under section 4.3 “Monitoring Plan” of the monitoring report, as verified by the assessment team. [CLOSED]				

- 10. For section 5.4 of MR:** PLF data from the date of commissioning of the project has been updated under "PLF Data" tab of the ER sheet, as verified by the assessment team. **[CLOSED]**
- 11. For APPENDIX 1:** PP has provided calibration certificates applicable to current monitoring period as verified by the assessment team but PP is requested to clarify:
- Which substation is PP referring to Grid or Pooling? **[OPEN]**
 - PP to explain how the date of calibration inscribed here is 05 years ahead of the date as mentioned in the Calibration certificate submitted by the PP to the assessment team. PP to incorporate justification for the same in the MR. **[OPEN]**
 - Kindly quote required section of the relevant notification that mentions about the frequency of calibration in once in 05 years. **[OPEN]**
 - PP to incorporate the meter type & model **[OPEN]**
- 12) For ER Sheet:** PP has revised the values of ER sheet and the assessment team found it with the supporting documents submitted by the PP. Hence acceptable **[CLOSED]**
- 13) For ER Sheet:** PP has incorporate the PLF data from the date of commissioning of the project, as verified by the assessment team. **[CLOSED]**

2 nd Response from PP	Date	15-June-2023
3. The technical information under section 3.1 of the MR has been revised. 8. The statement has been revised. Daily Generation report has been submitted to the assessment team. 11. Appendix – 1 of the monitoring report has been revised to include all the information pertaining to meter calibration and specifications of the energy meters.		

2 nd Assessment by Audit Team	Status	~~Open~~ /Closed	Date	18-June-2023
3. For Section 3.1 of MR: • PP has revised the technical specification of the plant and equipment's which is found consistent with the documents submitted by the PP, as verified by the assessment team. [CLOSED] • PP has revised the number of modules in MR which is found consistent with the documents submitted by the PP and also in line with the site visit observations, as verified by the assessment team. [CLOSED] 8. For Section 4.3 of MR: PP has provided a sample copy of monitoring by SCADA system and also revised the statement in MR as verified by the assessment team. [CLOSED] 11. For APPENDIX 1: PP has done the needful revisions in APPENDIX 1 of MR as verified by the assessment team. [CLOSED] Hence CL#02 is closed				

Type	Date	03-July-2023
CL#03	Reference	Section of 1,3,4 and 5 of Ver protocol
Description of the Non-Conformance		
1) In Section 1.11 of MR: As per instructions to fill MR, it is stated, "Activities implemented during previous monitoring periods shall not be described in this report. Where no activities were implemented during the monitoring period, state as such." Please clarify.		

- 2) **In Section 3.1 of MR:** Please clarify the voltage generation end viz., whether generated at single panel or otherwise?
- 3) **In Section 3.1 of MR:** PP is requested to clarify the following information. Out of the total operational hours of 4301.68 hours, the plant had total breakdown hours as 3537.41 hours meaning only 18% of the available time the plant was operational. However the PLF achieved during this MP is 27.4%. Please clarify
- 4) **In Section 4.3 of MR:** PP is requested to clarify the basis for this procedure and how this procedure is conservative.
- 5) **In Section 5.4 of MR:** Please refer the comments above regards to operational hours availability and PLF achieved.

1 st Response from PP	Date
	04-July-2023
1) As per Instructions for Completing the VCS Monitoring Report Template version 4.2 dated 21-December-2022, "Document total project contributions since the project start date, previous SD contribution monitoring period, or VCS monitoring period in the "Current Project Contributions" column and the cumulative contributions over the project lifetime in the "Contributions Over the Project Lifetime" column in Table 1 below. The cumulative impact should be calculated by summing the current project contributions with all impacts included in previously approved VCS monitoring reports or Sustainable Development Contribution Reports". The statement has been revised under section 1.11 of the MR as per the guideline mentioned above 2) Open Circuit Voltage (Voc) and Short Circuit Current (Isc) are generated at individual panels. 3) The total operating hours (4301.68 hours) represents the time for which the whole plant (250 MW) was in operation during the current monitoring period. However, the breakdown time (3537.41 hours) does not represent the plants unavailability time rather it's the sum of all the minor breakdown times in which a particular section of the plant was affected. The plant was not totally shut down during breakdown hours, only the affected parts were shut down. Therefore, the plant was operational even in the breakdown time as well. Also, the plant was operational for 4301.28 hours out of 8760 monitoring hours (365*24) i.e. approximately 49% of the total monitoring hours. 4) The procedure is referred from the "Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006." In case of failure of both main and check meters the electricity generation can be recorded using the Standby meter as well as the SCADA system installed for overall monitoring of plant. 5) The total operating hours (4301.68 hours) represents the time for which the whole plant (250 MW) was in operation during the current monitoring period. However, the breakdown time (3537.41 hours) does not represent the plants unavailability time rather it's the sum of all the minor breakdown times in which a particular section of the plant was affected. The plant was not totally shut down during breakdown hours, only the affected parts were shut down. Therefore, the plant was operational even in the breakdown time as well. Also, the plant was operational for 4301.28 hours out of 8760 monitoring hours (365*24) i.e. approximately 49% of the total monitoring hours.	

1 st Assessment by Audit Team	Status	Date
	Closed	05-July-2023
1. For Section 1.11 of MR: Assessment Team confirms that the required changes have been made by the PP in the section. 2. For Section 3.1 of MR: Assessment Team confirms that PP has clarified the voltage generation end. 3. For Section 3.1 of MR: Assessment Team confirms that PP has clarified that the out of the total operational hours of 4301.68 hours. The breakdown time (3537.41 hours) does not represent the plants unavailability time rather it's the sum of all the minor breakdown		

times in which a particular section of the plant was affected. The plant was not totally shut down during breakdown hours, only the affected parts were shut down. Therefore, the plant was operational even in the breakdown time as well. Also, the plant was operational for 4301.28 hours out of 8760 monitoring hours (365*24) i.e., approximately 49% of the total monitoring hours. The same was verified by the assessment team from the DGR details and breakdown details submitted by the PP, hence acceptable.

4. **For Section 4.3 of MR:** Assessment Team confirms that PP has clarified about the basis for procedure as per Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006." Which is as per national standards hence acceptable to VKU.
5. **For Section 5.4 of MR:** Assessment Team confirms that PP has revised the statements regarding the operational hour's availability and PLF achieved.

Hence CL#03 closed

Type	Date	15-May-2023
CAR#01	Reference	Section Title page/DR/OSV Section 1/DR/OSV Section 2/DR/OSV
Description of the Non-Conformance		
1) In Title page: PP to keep the report format consistent with the VCS MR Template guidelines Version 4.2. Also check that the page number is mentioned throughout the report. 2) In Title page: During site-visit by assessment team, the name of the plant/project is found to be different from the name already registered in the documents i.e., M/S Sprng Solar Plus Pvt Ltd. PP to clarify the inconsistency. 3) In Content Table: PP is requested to revise the table of Contents 4) In Section 1.1 of MR: As per VCS guidelines to fill MR, version 4.2 PP has not provided a summary description of the implementation status of the technologies/ measures (e.g., plant, equipment, process, or management or conservation measure) included in the project. 5) In Section 1.1 of MR: PP is request to specify that the project capacity is in AC or DC throughout the MR 6) In Section 1.1 of MR: During site visit assessment team confirms that project capacity installed at site is 250 MW but PP has not referenced or mentioned about it in the MR also specify about if the GHG claimed in this monitoring period is from 250 MW or 150 MW only. PP to elaborate about the same throughout the MR as necessary. Also, with respect to the previous verification report please refer FAR and quote in this MR where ever necessary. 7) In Section 1.1 of MR: • PP to specify how the electricity generated at site is distributed among the captive users as per EWA and also explain its supply to unified Indian grid. • PP to also specify the name of the substation from where the electricity is finally transported to grid lines & at what voltage. 8) In Section 1.1 of MR: PP is requested to indicate about methodology used. 9) In Section 1.1 of MR: PP is requested to express the ERs estimated for current monitoring period and actual percentage of achieved ERs. 10) In Section 1.1 of MR: PP is requested to recalculate and update the number of years 11) In Section 1.1 of MR: PP is requested to indicate that it was the current verification period 12) In Section 1.2 of MR: PP to indicate if the AFOLU project category and activity type is applicable to this project activity and whether the project is a grouped project.		

- 13) In Section 1.7 of MR:** Since the plant is spread over several acres, PP is requested to provide coordinates to represent the full extent of the plant.
- 14) In Section 1.8 of MR:**
- PP is requested to provide the reference/weblink of methodology used.
 - PP is requested to provide the reference/weblink for the tool used.
- 15) In Section 1.9 of MR:** PP is requested to clarify i.e., the project activity is Proposed or Implemented?
- 16) In Section 1.9 of MR:**
- PP is requested to submit declaration & indicate in MR whether the project has sought or received another form of GHG-related environmental credit, including REC (renewable energy certificates) & I-REC (International- renewable energy certificates) during this monitoring period.
 - Also, as per VCS guidelines to fill MR, provide a list of all and any other programs under which the project is eligible to create another form of GHG-related environment credit.
 - PP to elaborate about supply chain emissions with respect to the registered project activity.
- 17) In Section 1.10 of MR:** PP is requested to update section 1.10 of MR as per guidelines to fill VCS MR template version 4.2
- 18) In Section 1.11 of MR:** PP to provide a brief description that includes the requirements for this particular section (as described in VCS template version 4.2) in no more than 100 words.
- 19) In Section 1.11 of MR:** PP to elaborate the values declared in this section along with relevant reference/weblinks.
- 20) In Section 2.1 of MR:** PP is requested to update the document name as per the referenced hyperlink. Also elaborate any potential negative environmental and socio-economic impacts and the steps taken to mitigate them.
- 21) In Section 2.3 of MR:** PP is requested to elaborate for any other mechanism of recording and resolution of grievances received at the project implemented site.

1stResponse from PP

Date

23-May-2023

- 1) Title page of the MR has been revised in line with Monitoring Report: VCS Version 4.2. Page numbers are also updated in the revised MR.
- 2) As per the registered PD "Fortum Solar Plus Private Limited" was the project proponent of the project activity. However, the name of "Fortum Solar Plus Private Limited" has been changed to "SPRNG Solar Plus Private Limited" on 14-June-2022.
SPRNG Solar Plus Private Limited manages operation and maintenance of current 250 MW project activity, but all the carbon credits rights were transferred from "SPRNG Solar Plus Private Limited" (Formerly known as "Fortum Solar Plus Private Limited") to "Fortum India Private Limited" during the last verification and therefore "Fortum India Private Limited" is acting as the project proponent for the said project activity. The same can be verified from monitoring and verification reports of last verification submitted to the assessment team. The name change certificate and VERRA approval for change of project proponent has also been submitted to the assessment team for review.
Infinite Environmental Solutions LLP (Infinite Solutions) is now name as the other entity involved for the project activity replacing EKI Energy Services Limited for the role of project consultant.
- 3) Table of content has been revised.
- 4) Section 1.1 of the MR has been revised to include implementation status of the project activity.
- 5) Total installed capacity of the project is 250 MW (AC). The same has been updated under section 1.1 of the MR.
- 6) Total installed capacity of the project is 250 MW (AC). The project was commissioned in 2 phases, first phase consisting of 150 MW and second phase consisting of 100 MW capacity.

- The same has been updated under section 1.1 of the MR. There were no FARs raised during last verification.
- 7) There is no captive consumption of the electricity generated from project activity. Electricity generated is being sold to the Indian grid under the Power Purchase Agreement (PPA), signed with Solar Energy Corporation of India Limited (SECI). The same has been submitted to the assessment team for verification.
The electricity generated from the project activity is supplied to Indian grid through 400/220 KV GSS, RVPNL Jaisalmer-II substation at Bhensara, Jaisalmer, Rajasthan. The billing meters are also installed the substation. The same has been updated under section 1.1 of the monitoring report. Single line diagram of the project has also been submitted to the assessment team for crosschecking.
 - 8) Since the project activity is a large-scale project activity, it follows approved large scale CDM methodology ACM0002 Version 19.0 for quantification of GHG emission reductions. The same has been updated under section 1.1 of the MR.
 - 9) Section 1.1 of the MR has been revised to update the values of estimated and actual ERs for current monitoring period.
 - 10) Number of years has been revised from 1 to 1.04 for first verification mentioned under section 1.1 of the MR, since the number of days in first monitoring period were 378 days.
 - 11) PP has indicated the current verification period under section 1.1 of the MR.
 - 12) The project activity is neither an AFOLU project category nor a grouped project. The same has been updated under section 1.2 of the MR.
 - 13) The project activity lies inside the following geo coordinates i.e. the following geo coordinates comprise the full extent of the project activity:
(26°41'55"N, 71°32'16"E), (26°40'56"N, 71°33'02"E), (26°39'59"N, 71°33'07"E), (26°40'42"N, 71°30'54"E), (26°40'42"N, 71°30'54"E), (26°39'59"N, 71°33'07"E).
 - 14) Reference/weblink of the methodology and tool used have been updated under section 1.8 of the MR.
 - 15) Project activity is implemented, the statement has been revised under section 1.9 of the MR.
 - 16) PP hereby declare that there would not be any double counting of the credits in any other GHG mechanisms i.e. VCS benefits will only be claimed for the monitoring period. Also, the project has not applied or registered to claim any national (RECs) or international (IRECs) renewable attributes for the monitoring period. Section 1.9 has been revised to include the same and a declaration regarding the same has also been submitted to the assessment team.
 - 17) Section 1.10 has been revised as per guidelines to fill VCS MR template version 4.2.
 - 18) A brief description of SDG contributions has been updated under section 1.11 of the monitoring report.
 - 19) Table 1 under section 1.11 of the MR has been revised to elaborate the values declared in this section along with relevant reference/weblinks.
 - 20) Section 2.1 of the MR has been revised to update the document name as per the referenced hyperlink i.e. "Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (February 29, 2016)". As per the document Solar power generation through photovoltaic cell comes under White Category of industries which are practically non-polluting. Hence, there shall be no necessity of obtaining the Consent to Operate" for White category of industries.
As per section 04 page 31 of the report published by Ministry of New and Renewable Energy (MNRE) on September 2013 (Developmental Impacts and Sustainable Governance Aspects of Renewable Energy), "As established by life-cycle assessment, RE projects have comparatively low environmental externalities that too are limited to project development phase. The RE projects don't generate solid or liquid effluents during operations and thereby pollution of land, surface water or ground water resources is not anticipated from such projects. During the operations phase the impacts on the surrounding environment

are negligible and are reversible in nature and can be mitigated by proper Environmental Management plan.”

- 21) As per the guidelines to fill VCS MR template version 4.2, “For non-AFOLU projects, this section (section 2.3) is not required.” However, the mechanism of recording and resolution of grievances received at the project implemented site has already been included under section 2.2 of the MR. The maintained grievance register has been submitted to the assessment team for verification.

1 st Assessment by Audit Team	Status	Open/ ~~Closed~~	Date	09-June-2023
1) For Title page: PP has done all the formatting revisions in MR as per VCS MR Template version 4.2, as verified by the assessment team. [CLOSED] 2) For Title page: PP has clarified that as per the registered PD “Fortum Solar Plus Private Limited” was the project proponent of the project activity. However, the name of “Fortum Solar Plus Private Limited” has been changed to “SPRNG Solar Plus Private Limited” on 14-June-2022 which is acceptable to VVB. [CLOSED] 3) For Content Table: PP has revised the content table as per VCS MR Template version 4.2, as verified by the assessment team. [CLOSED] 4) For Section 1.1 of MR: PP has done the needful revisions and provided a complete summary description of the implementation status of the project as per VCS guidelines to fill MR, version 4.2, as verified by the assessment team. [CLOSED] 5) For Section 1.1 of MR: PP has clearly specified that the plant capacity is in AC but PP is requested to incorporate the same in MR.[OPEN] 6) For Section 1.1 of MR: PP has confirmed that project capacity installed at site is 250 MW which is verified during the site and PP has also submit the commissioning certificates for the same which is acceptable to VVB. [CLOSED] 7) For Section 1.1 of MR: PP has clearly mention that there is no captive consumption of the electricity generated from project activity. Electricity generated is being sold to the Indian grid under the Power Purchase Agreement (PPA), signed with Solar Energy Corporation of India Limited (SECI) and same has been incorporated in MR and also PP has submitted the PPA for the verification of above statement which is acceptable to VVB. PP has clearly mention that the electricity generated from the project activity is supplied to Indian grid through 400/220 KV GSS, RVPNL Jaisalmer-II substation at Bhensara, Jaisalmer, Rajasthan and same has been incorporated in MR, as verified by the assessment team. [CLOSED] 8) For Section 1.1 of MR: PP has indicated about the methodology used in section 1.1 of MR as verified by the assessment team. [CLOSED] 9) For Section 1.1 of MR: PP to specify that the estimated value mentioned in the MR version is “the annual average GHG emission reductions or removal per year” [OPEN] 10) For Section 1.1 of MR: PP to hyperlink the Verification with required documents already uploaded on Verra Webpage for better transparency. Also please specify the .04 in the Years specified for 1st Verification [OPEN] 11) For Section 1.1 of MR: PP has mentioned current monitoring period in footnote section as verified by the assessment team [CLOSED] 12) For Section 1.2 of MR: PP has clearly stated that the project activity is neither an AFOLU project category nor a grouped project. The same has been updated under section 1.2 of the MR as verified by the assessment team. [CLOSED] 13) For Section 1.7 of MR: PP has provided sufficient justification of the comment raised but PP is requested to incorporate the same in MR [OPEN] 14) For Section 1.8 of MR: PP has incorporated the reference/Weblink of the methodology and tool in MR as verified by the assessment team. [CLOSED] 15) For Section 1.9 of MR: PP has revised the statement as verified by the assessment team [CLOSED] 16) For Section 1.9 of MR:				

- PP has submitted the declaration & indicate in MR whether the project has sought or received another form of GHG-related environmental credit, including REC (renewable energy certificates) & I-REC (International- renewable energy certificates) during this monitoring period, as verified by the assessment team - PP has done the needful revision in section 1.9 of MR, as verified by the assessment team. [CLOSED]			
17) For Section 1.10 of MR: - PP has done the needful revision in section 1.10 of MR, as verified by the assessment team. - PP to specify the section with reference to relevant Effective Dates document released by Verra. [OPEN]			
18) For Section 1.11 of MR: PP is requested to updated the brief description as per VCS template version 4.2 [OPEN]			
19) For Section 1.11 of MR: Records submitted by PP are w.r.t to the Trainings provided to the site personnel. PP to submit required documents for showing that 94 people got direct employment. PP to add respective weblink of the first verification/monitoring report as claimed here. [OPEN]			
20) For Section 2.1 of MR: PP has done the needful revisions in section 2.1 of MR as verified by the assessment team [CLOSED]			
21) For Section 2.2 of MR: PP has mentioned the grievance mechanism in section 2.2 of MR and also submitted the copy of grievance register which is acceptable to VVB [CLOSED]			
2ndResponse from PP		Date	15-June-2023
5. The information about AC capacity of the project has been incorporated under section 1.1 of the MR. 9. The statement has been revised to clarify the value is an annual average over the 10 years of crediting period. 10. Hyperlinks have been added for required information provided under section 1.1 of the MR. 13. The justification has been incorporated under section 1.7 of the MR. 17. Section 1.10 has been revised to include relevant effective dates and to provide the reference for document referred. 18. Section 1.11 has been revised as per the comments raised by assessment team. 19. Table 1 under section 1.11 of the MR has been revised. Supporting documents (sample of daily attendance record) for employment generation has been submitted to the assessment team for verification.			
2ndAssessment by Audit Team	Status	Open/Closed	Date
			18-June-2023
5. For Section 1.1 of MR: The information about AC capacity of the project has been incorporated under section 1.1 of the MR, as verified by the assessment team. [CLOSED] 9. For Section 1.1 of MR: The statement has been revised to clarify the value is an annual average over the 10 years of crediting period, as verified by the assessment team. [CLOSED] 10. For Section 1.1 of MR: PP has done the needful revisions and also add hyperlinks for required information provided under section 1.1 of the MR, as verified by the assessment team. [CLOSED] 13. For Section 1.7 of MR: The justification has been incorporated under section 1.7 of the MR, as verified by the assessment team. [CLOSED] . 17. For Section 1.10 of MR: Section 1.10 has been revised to include relevant effective dates and to provide the reference for document referred, as verified by the assessment team. [CLOSED] .			

- 18. For Section 1.11 of MR:** PP has done the needful revisions under section 1.11 of MR, as verified by the assessment team. **[CLOSED]**
- 19. For Section 1.1 of MR:** PP has revised the table 1 under section 1.11 of the MR. Supporting documents (sample of daily attendance record) for employment generation has also submitted, as verified by the assessment team. **[CLOSED]**

Hence CAR#01 is closed

Type	Date	15-May-2023
CAR#02	Reference	Section 3/DR/OSV
Description of the Non-Conformance		
In Section 3.1 of MR: PP has not described the implementation status of the project activity, that must include information about the operation of the project activity during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring. In Section 3.1 of MR: PP is requested to kindly modify the statement and also brief up this paragraph. In Section 3.1 of MR: PP is requested to updates the values of Estimated ERs as per VCS PD & must remain constant throughout the MR. In Section 3.1 of MR: PP is requested to also mention the monitoring period dates In Section 3.1 of MR: PP is requested to incorporate total operating hours, Actual operating hours, total breakdown hours and also show difference between then and incorporate sufficient justification if there is change in operating hours. In Section 3.1 of MR: PP is requested to provide breakdown hours with the total production hours for the current monitoring period. Also, no appendix 02 was found by Assessment team in the MR submitted by the PP. In Section 3.2.1 of MR: PP is requested to incorporate Project Description Deviations proposed or approved in previous monitoring periods. Also specify if there are any requested deviation in the current monitoring period. In Section 3.2.2 of MR: PP is requested to incorporate Project Description Deviations proposed or approves in previous monitoring periods. Also, specify if there are any requested deviation in the current monitoring period.		
1 st Response from PP	Date	23-May-2023
- Section 3.1 of the MR has been revised to describe the implementation status of the project activity. - Section 3.1 of the MR has been revised. - The value of estimated ERs as per VCS PD has been updated under section 3.1 of the MR and made consistent throughout the MR. - The monitoring period has been updated under section 3.1 of the MR. - The breakdown details along with breakdown hours have been included under Appendix – 2 of the monitoring report. - The breakdown details along with breakdown hours have been included under Appendix – 2 of the monitoring report. Total operating hours and actual operating hours are not included in the monitoring plan. The emission reductions are calculated on net electricity generation and grid emission factor. Hence, these parameters are not relevant to the project activity. - As per the guidelines to fill VCS MR template version 4.2, section 3.2.1 i.e. Methodology Deviations is applicable for deviations from applied methodology. Since there is no deviation from the methodology applied this section is not applicable.		

8) Project Description Deviations approved in the previous monitoring period have been updated under section 3.2.2 of the MR. There is no deviation requested for the current monitoring period.				
1 st Assessment by Audit Team	Status	Open/ ~~Closed~~	Date	09-June-2023
1) For Section 3.1 of MR: PP has described the implementation status of the project activity, as verified by the assessment team. [CLOSED] 2) For Section 3.1 of MR: PP has done the needful revision in paragraph, as verified by the assessment team. [CLOSED] 3) For Section 3.1 of MR: PP has updated the values of Estimated ERs as per VCS PD & found constant throughout the MR, as verified by the assessment team. [CLOSED] 4) For Section 3.1 of MR: PP has mentioned the monitoring period dates, as verified by the assessment team. [CLOSED] 5) For Section 3.1 of MR: PP has not quoted the total operating hours, Actual operating hours, total breakdown hours and also show difference between then and incorporate sufficient justification if there is change in operating hours. [OPEN] 6) For Section 3.1 of MR: PP has provided breakdown hours in appendix 2 but not provided the total production hours for the current monitoring period. [OPEN] 7) For Section 3.2.1 of MR: - For what have the PP not requested the deviation? Kindly re-frame the sentence - Kindly elaborate about the Plant ownership and its transfers. - PP is requested to keep font colour constant throughout the MR. [OPEN] 8) For Section 3.2.2 of MR: PP has incorporated Project Description Deviations approves in previous monitoring periods. But not specify if there are any requested deviation in the current monitoring period. [OPEN]				
2 nd Response from PP			Date	15-June-2023
5. Section 3.1 of the MR has been revised to provide a summary of plant operations i.e. total operational hours, breakdown hours etc. 6. Total production hours and total breakdown hours are now included under section 3.1 of the monitoring report. 7. Section 3.2.1 of the MR has been revised to reframe the sentences and revise the formatting as per the VCS Monitoring Report template version 4.2. 8. The project has not applied/requested for any deviations from Project Description under current monitoring period (01-April-2022 to 31-March-2023). The same has been updated under section 3.2.2 of the MR.				
2 nd Assessment by Audit Team	Status	Open/ ~~Closed~~	Date	18-June-2023
9) For Section 3.1 of MR: PP has quoted the total operating hours, Actual operating hours, total breakdown hours and also show difference between them, as verified by the assessment team. [CLOSED] 10) For Section 3.1 of MR: PP has provided breakdown hours in appendix 2 and also provided the total production hours for the current monitoring period, as verified by the assessment team. [CLOSED] 11) For Section 3.2.1 of MR: PP has done the needful revisions in section 3.2.1 of MR, as verified by the assessment team. [CLOSED] 12) For Section 3.2.2 of MR: PP has done the needful revisions in section 3.2.1 of MR, as verified by the assessment team. [CLOSED]				

Hence CAR#02 is closed

Type	Date	15-May-2023
CAR#03	Reference	Section 4/DR/OSV
Description of the Non-Conformance		
1) In Section 4.2 of MR: Even though calibration frequency opted is once in five years PP is requested to also mention about the good practice of annually Meters calibration, identified by assessment team during interview with site personnel during on-site visit. 2) In Section 4.3 of MR: PP has not described the methods used for generating/measuring, recording, storing, aggregating, collating and reporting the data on monitored parameter. 3) In Section 4.3 of MR: During the site visit assessment team found that RWE is responsible for the operations and maintenance of the project activity. PP is requested to incorporate this crucial information and also provide the Supporting documents/Agreement for the same to the assessment team of VKU. 4) In Section 4.3 of MR: PP to specify the substation referred here where the energy meters are located and from where the energy measurement is taken by the SEB officer. 5) In Section 4.3 of MR: PP to specify the SEB referred here. 6) In Section 4.3 of MR: PP to specify any digital system employed at the plant site for overall monitoring of the project site. 7) In Section 4.3 of MR: PP to specify and elaborate in MR the energy generation to conversion and then distribution to Grid. 8) In Section 4.3 of MR: PP is requested to indicate towards the accuracy class of the metering equipment. 9) In Section 4.3 of MR: PP to elaborate about the cleaning mechanism of the solar panels employed at site to improve the efficiency of the plant. PP to also mention about the frequency, monitoring equipment's, and the authority responsible for the same. 10) In Section 4.3 of MR: PP to mention details about the authority responsible to meter calibration, site where energy meters are located. Also specify if the calibration certificates issued to PP have a NABL accreditation. 11) In Section 4.3 of MR: PP to elaborate the procedure/formulae for apportioning as applicable to the project activity. 12) In Section 4.3 of MR: PP to submit required evidences i.e., attendance sheet regarding training of the site personnel specific to solar power plant. Also mention the type of exercise/trainings conducted during current monitoring period.		
1 st Response from PP	Date	23-May-2023
1) As per the registered VCS PD version 02 dated 19-December-2019, the calibration frequency for energy meters is once in 5 years, which is also in line with para 1 (b) under section 18 of Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, "All interface meters shall be tested at least once in five years." However, PP is doing calibration of energy meters annually on voluntary basis for better operation and maintenance. The details of calibration have been updated under Appendix – 1 of the MR. Calibration certificates applicable for current MP has also been submitted to the assessment team. 2) Section 4.3 of the MR has been revised to describe the methods used for generating/measuring, recording, storing, aggregating, collating and reporting the data on monitored parameter.		

- 3) RWE Solar India Private Limited (Formerly Belectric Photovoltaic India Private Limited) is responsible for operation and maintenance of the project. The same has been updated under section 4.3 of the MR. O&M contract has also been submitted to the assessment team.
- 4) The energy meters are located at 400/220 KV GSS, RVPNL Jaisalmer-II substation at Bhensara, Jaisalmer, Rajasthan. The same has been updated under section 4.3 of the MR.
- 5) SEB referred under section 4.3 of the MR is Jodhpur Vidyut Vitaran Nigam Limited (JDVVNL). The same has been updated under section 4.3 of the MR.
- 6) A supervisory control and data acquisition (SCADA) system of ABB India is employed at site for overall monitoring of the project.
- 7) Section 4.3 of the MR has been revised to elaborate the energy generation, conversion and then distribution to Grid.
- 8) The energy meters are of 0.2S accuracy class. The same has been updated under section 4.3 of the MR.
- 9) The energy meters at the feeders are maintained and owned by State Electricity Board (JDVVNL). Neither the project proponent nor the site personnel have any control over it. The records are cross-checked with the records of sold electricity to Solar Energy Corporation of India (SECI). The meters are calibrated an NABL certified third party agency appointed by state electricity board (JDVVNL) at-least once in five years.
The project activity uses high-precision monitoring meters of 0.2s accuracy class to monitor the electricity to the grid. The meters are calibrated and sealed as per the industry practices by the grid utility. Hence, high quality is ensured. Electricity sales receipts is used to test the consistency of the recorded data.
- 10) The energy meters are maintained and owned by State Electricity Board (JDVVNL). The meters are calibrated by an NABL certified third party agency appointed by the state electricity board (JDVVNL) at-least once in five years.
- 11) Procedure and formula for apportioning as applicable to the project activity in case of mis match between billing cycle and monitoring period has been updated under section 4.3 of the MR.
- 12) Required evidence i.e., attendance sheet regarding training of the site personnel specific to solar power plant for current monitoring period have been submitted to the assessment team for verification.

1 st Assessment by Audit Team	Status	Open/Closed	Date	09-June-2023
1) For Section 4.2 of MR: PP has provided the sufficient for the above comment but PP is requested to incorporate the same in MR. [OPEN] 2) For Section 4.3 of MR: PP has described the methods used for generating/measuring, recording, storing, aggregating, collating and reporting the data on monitored parameter, as verified by the assessment team. [CLOSED] 3) For Section 4.3 of MR: PP has not provided the sufficient information for the query raised above. If SPRNG Solar Plus Private Limited manages operation and maintenance of the plant then what about the RWE. Please refer the comment in section 4.3 of this report [OPEN] 4) For Section 4.3 of MR: PP has clearly mentioned that the energy meters are located at 400/220 KV GSS, RVPNL Jaisalmer-II substation at Bhensara, Jaisalmer, Rajasthan. The				

same has been updated under section 4.3 of the MR. as verified by the assessment team. **[CLOSED]**

5) **For Section 4.3 of MR:** PP has specified that SEB referred under section 4.3 of the MR is Jodhpur Vidyut Vitaran Nigam Limited (JDVVNL). The same has been updated under section 4.3 of the MR, as verified by the assessment team. **[CLOSED]**

6) **For Section 4.3 of MR:** PP has specified that a supervisory control and data acquisition (SCADA) system of ABB India is employed at site for overall monitoring of the project any digital system employed at the plant site for overall monitoring of the project site, as verified by the assessment team. **[CLOSED]**

7) **For Section 4.3 of MR:** PP elaborated the energy generation to conversion and then distribution to Grid in MR, as verified by the assessment team. **[CLOSED]**

8) **For Section 4.3 of MR:** The energy meters are of 0.2S accuracy class. The same has been updated under section 4.3 of the MR, as verified by the assessment team. **[CLOSED]**

9) **For Section 4.3 of MR:** PP to answer the query raised above. **[OPEN]**

10) **For Section 4.3 of MR:** PP has mentioned details about the authority responsible to meter calibration, site where energy meters are located. Also specified that the calibration certificates issued to PP have a NABL accreditation, as verified by the assessment team. **[CLOSED]**

11) **For Section 4.3 of MR:** PP has elaborated the procedure/formulae for apportioning as applicable to the project activity, as verified by the assessment team. **[CLOSED]**

12) **For Section 4.3 of MR:** Assessment team confirms that the Training records are well received, but PP is requested to mention about the names of the Training conducted so far for the site personnel. **[OPEN]**

2 nd Response from PP		Date	15-June-2023
1. The justification has been incorporated in the MR. 3. “SPRNG Solar Plus Private Limited” (Formerly known as “Fortum Solar Plus Private Limited”) is responsible for overall management of current 250 MW project activity. However, RWE Solar India Private Limited (Formerly Belectric Photovoltaic India Private Limited) was contracted by SPRNG Solar Plus Private Limited (formerly known as “Fortum Solar Plus Private Limited”) for daily operation and maintenance of the project. Section 4.3 of the MR has been revised for more clarity on operations & maintenance of the project. 9. At the project site, a robotic system is used to clean solar panels which runs on electricity and is a part of project. Hence, there are no project emissions related with solar panel cleaning. The power required by the robotic system is already included in the project's auxiliary consumption, which is a part of the project's electricity imports. Emission reductions are determined based on net power generation, which is calculated after subtracting import values from the energy exports. The same has been updated under section 4.3 and 5.2 of the MR. 12. The information related to trainings provided has been included under Appendix – 3 of the MR. The same has been updated under section 4.3.			
2 nd Assessment by Audit Team	Status	Open/Closed	Date
			18-June-2023
1) For Section 4.2 of MR: PP has provided the sufficient in footnote section of MR, as verified by the assessment team. [CLOSED] 3) For Section 4.3 of MR: PP has provided the sufficient information and done the needful revisions in MR, as verified by the assessment team. [CLOSED]			

- 9) **For Section 4.3 of MR:** PP has clearly explained the solar panel cleaning mechanism in section 4.3 of MR, as verified by the assessment team. **[CLOSED]**
- 12) **For Section 4.3 of MR:** PP has incorporated the training details in Appendix 3 of MR, as verified by the assessment team. **[CLOSED]**

Hence CAR#03 is closed

Type	Date	16-May-2023
CAR#04	Reference	Section 5/DR/OSV Section ER Sheet/DR/OSV
Description of the Non-Conformance		
1) In Section 5.1 of MR: PP is requested to incorporate the version no of the tool used. 2) In section 5.2 of MR: PP is requested to clarify on the cleaning of the solar panels and how is it operationalised in the plant for the panels done in order to increase efficiency, then are emissions from the machine taken into account towards ER calculation? If not, please clarify how it is not a deviation as per section 3.19 of the VCS v4.4. 3) In Section 5.2 & 5.3 of MR: PP is requested to ambiguously use references with respect to the methodology used throughout the MR and for this particular section, please quote the required sections that talks about the Project emissions for renewable projects. 4) In Section 5.4 of MR: PP is requested to also show calculation for project leakage emissions in section 5.4 of MR, indicating that its impact on the ERs 5) In APPENDIX 1 of MR: PP is requested to incorporate due date of calibration and name of the calibration entity along with the model of the meter and also incorporate the place where the energy meters are installed. 6) In APPENDIX 1 of MR: PP to keep font and colour in the footnotes consistent with the VCS MR template version 4.2. 7) In ER Sheet: PP is requested to update this value as assessment team found it inconsistent with the supporting documents submitted by the PP 8) In ER Sheet: PP to mention that the value taken for estimated is the average value of the estimated ERs for ten years of the crediting period. Also clarify why PP has taken average value when individual value for each year is calculated in the registered VCS PD. 9) In ER Sheet: PP to elaborate the actual PLF data for individual month covered in the monitoring period for current verification with the estimated PLF recorded in the registered VCS PD 10) In ER Sheet: PP to update the total value of Emission reductions by revising the data in the ER calculation sheet 11) In ER Sheet: PP is requested to update the value of Net Generation for month of August as assessment team found it inconsistent with the supporting documents submitted by the PP. 12) In ER sheet: PP to summarize the total of the baseline emission.		
1stResponse from PP	Date	23-May-2023
1) Version 07.0 of the Tool to calculate the emission factor for an electricity system has been used. The same has been updated under section 5.1 of the MR. 2) At the project site, a robotic system is used to clean solar panels. Because the robotic equipment runs on electricity, there are no project emissions related with solar panel cleaning. The power required by the robotic system is included in the project's auxiliary consumption, which is included in the project's electricity imports. Emission reductions are determined based on net power generation. There is no need to compute project emissions separately because the emission reductions from energy import is already subtracted from energy exports while calculating baseline emissions.		

- 3) Section 5.2 and 5.3 has been revised. Reference/ weblink of the applied methodology and tools used have been updated throughout the MR.
- 4) Section 5.4 of the MR has been revised to show the calculation of project and leakage emissions.
- 5) Appendix 1 of the MR has been revised to update the required information regarding calibration of energy meters.
- 6) Appendix 1 of the MR has been revised as per VCS MR template version 4.2.
- 7) ER sheet has been revised. All the values are consistent with JMR and invoices for respective months.
- 8) The estimated value of emission reductions has been calculated from the estimated ERs for individual year. ER sheet has been revised to incorporate the revised calculation.
- 9) The actual PLF data for individual month covered in the monitoring period for current verification have been updated in the revised ER sheet.
- 10) The value of total emission reductions has been revised in the ER sheet.
- 11) Net Generation for month of August are consistent with the documents submitted i.e. JMR and invoice, assessment team is requested to kindly again go through the documents.
- 12) The baseline emissions are summarised as total as well as vintage wise in the ER sheet.

1 st Assessment by Audit Team	Status	Open/ ~~Closed~~	Date	09-June-2023
1) For Section 5.1 of MR: PP has incorporated the version no of the tool used, as verified by the assessment team. [CLOSED] 2) For section 5.2 of MR: PP has clarified the cleaning of the solar panels but need to incorporate the same in section 4.3 of MR for better clarity about the monitoring procedure along with solar panel maintenance. [OPEN] 3) For Section 5.2 & 5.3 of MR: PP has done the needful revisions in section 5.2 and 5.3 of MR, as verified by the assessment team. [CLOSED] 4) For Section 5.4 of MR: PP has incorporated the calculation for project leakage emissions in section 5.4 of MR, indicating that its impact on the ERs, as verified by the assessment team. [CLOSED] 5) For APPENDIX 1 of MR: PP has incorporated due date of calibration and name of the calibration entity and also incorporated the place where the energy meters are installed but not incorporate the model of the meter. [OPEN] 6) For APPENDIX 1 of MR: PP has updated the font and colour in the footnotes consistent with the VCS MR template version 4.2, as verified by the assessment team. [CLOSED] 7) For ER Sheet: PP has updated this value as per supporting documents submitted by the PP, as verified by the assessment team. [CLOSED] 8) For ER Sheet: PP to has taken the estimated value of emission reductions has been calculated from the estimated ERs for individual year. ER sheet has been revised to incorporate the revised calculation, as verified by the assessment team. [CLOSED] 9) For ER Sheet: PP has incorporate the actual PLF data for individual month covered in the monitoring period for current verification with the estimated PLF recorded in the registered VCS PD, as verified by the assessment team. [CLOSED] 10) For ER Sheet: PP has updated the total value of Emission reductions by revising the data in the ER calculation sheet, as verified by the assessment team. [CLOSED] 11) For ER Sheet: PP has provided the supporting documents to verify the value of Net Generation for month of August as assessment team found it consistent. [CLOSED] 12) For ER sheet: PP has summarized the total of the baseline emission. [CLOSED]				
2 nd Response from PP			Date	15-June-2023
10. At the project site, a robotic system is used to clean solar panels which runs on electricity and is a part of project. Hence, there are no project emissions related with solar panel cleaning.				

The power required by the robotic system is already included in the project's auxiliary consumption, which is a part of the project's electricity imports. Emission reductions are determined based on net power generation, which is calculated after subtracting import values from the energy exports. The same has been updated under section 4.3 and 5.2 of the MR.

5. Technical specifications of the energy meters have been updated under appendix – 1 of the MR.

2 nd Assessment by Audit Team	Status	~~Open~~ /Closed	Date	18-June-2023
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- 2) **For section 5.2 of MR:** PP has clarified the cleaning of the solar panels and also incorporated the same in section 4.3 of MR for better clarity about the monitoring procedure along with solar panel maintenance., as verified by the assessment team. **[CLOSED]**
- 5) **For APPENDIX 1 of MR:** PP has revised the technical specifications of the energy meters under appendix – 1 of the MR, as verified by the assessment team. **[CLOSED]**

Hence CAR#04 is closed

Type	Date	03-July-2023
CAR#05	Reference	Section of 1,2 and 3 of Ver protocol

Description of the Non-Conformance

- 1) **In Section 1.1 of MR:** The PP is requested to provide the duration of the verification period in years and months.
- 2) **In Section 1.7 of MR:** Since the project involves two SPP of 100 MW and 150 MW, PP is requested to provide the coordinates of both the SPP, considering that one the two SPP was commissioned earlier. PP is requested to provide the map which has north direction and scale. As normative practices
- 3) **In Section 2.1 of MR:** Please adopt consistent date formats throughout the MR for consistency.
- 4) **In Section 3.1 of MR:** PP is requested to provide the distance between the SPP and the sub station.
- 5) **In Section 3.1 of MR:** PP is requested to provide the following technical specifications with regard to the SPP:
 - 1) No of ICoRs
 - 2) Inverter capacity voltage at the output side
 - 3) No of inverters per ICoRs
 - 4) Step up transformer location, capacity, input and output voltages
 - 5) The net electricity as input to the panel at MCR and output
 - 6) The transformer specifications at the switch yard
 - 7) Number of feeders and also clarify whether feeders are exclusive to the project activity or other Non-VCS projects are also connected to the feeders.
 - 8) The output voltage generated from the plant and synchronised with the grid.
 - 9) What is used as electric arc insulation in power transformers?
 - 10) What is the cleaning mechanism involved towards cleaning of the solar panels.
 - 11) Any other relevant technical information. OPEN.

1 st Response from PP		Date	04-July-2023
1) Duration of verification period has been revised in years, months and days under section 1.1 of the MR. 2) There is only one solar power plant of 250 MW capacity. The total contracted capacity of 250 MW was commissioned on 2 phases of 150 MW and 100 MW respectively on 19-March-2021 and 01-May-2021. Also, the plant has only one Main Control Room (MCR), which is situated at the centre of the power plant. The geo coordinate provided under section 1.7 of the MR are of that MCR. The geographical map has been revised to indicate North direction and scale as normative practices. 3) The date formats are revised and made consistent throughout the monitoring report. 4) The substation is located at 11.353 kilometres away from the solar power plant. 5) The technical specifications of the solar power plant have been updated under section 3.1 of the Monitoring Report. The same are mentioned below: a) No of ICoRs – 10 Nos. & b) No of RMUs- 10 Nos c) Inverter capacity voltage at the output side – 800V d) No of inverters per ICoRs – 78*2 Nos e) Step up transformer location, capacity, input and output voltages – Total of 20 Inverter duty Transformer at different location within the plant of capacity 12.6MVA,33/0.8/0.8/0.8/0.8kV f) The net electricity as input to the panel at MCR and output – There are two Outgoing HT Panels with 125MW output capacity each & Each O/G panel has 5 incomers connected with 25MW capacity. g) The transformer specifications at the switch yard – 2 Nos. of Power transformer used as 125/150MVA, ONAN/ONAF,220kV/33kV, YNyn0. h) Number of feeders and also clarify whether feeders are exclusive to the project or other projects are also connected to the feeders. – There are 2 Outgoing HT panels whose details are as follows: 5 Incoming feeders with 1 Spare Incoming feeder. Also, per incoming feeder capacity of 25MW; 2 Outgoing feeders; 2 Auxiliary Transformer feeders. No other project is connected here. i) The output voltage generated from the plant and synchronized with the grid. – 220kV j) What is used as electric arc insulation in power transformers. – Oil type k) Any other relevant technical information. – Fixed tilt structure at 18 deg (Monofacial) & 20 deg (Bifacial). l) Total no of inverters-1563 Nos			
1 st Assessment by Audit Team	Status	Closed	Date
			05-July-2023
1) For Section 1.1 of MR: Assessment Team confirms that the PP has provided the duration of the verification period in years and months. 2) For Section 1.7 of MR: Assessment Team confirms that the geographical map has been revised by PP to indicate North direction and scale as normative practices. 3) For Section 2.1 of MR: Assessment Team confirms that PP has adopted the consistent date formats throughout the MR for consistency. 4) For Section 3.1 of MR: Assessment Team confirms that PP has provided the distance between the SPP and the sub-station. 5) For Section 3.1 of MR: PP has updated the technical specifications with regard to the SPP: Hence CAR#05 is closed.			
Type	Date		DD-Month-YYYY

FAR		Reference	Section of Val/Ver protocol	
Description of the Non-Conformance				
1 st Response from PP		Date	DD-Month-YYYY	
1 st Assessment by Audit Team	Status	Open/Closed	Date	DD-Month-YYYY

APPENDIX C: COMPETENCE STATEMENT

Team Leader



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Barun Kumar
Nationality	Indian
Countries of Experience	India, South Africa, Kenya, Uganda, DR Congo, Zambia
Education Qualification	B.Sc. (Environmental Science & Water Management) M.Sc. (Ecology & Environmental Sciences)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 7.1 - Transport

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	NO
TA Expert (1.2, 3.1, 6.1, 7.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

Validator/Verifier



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Niharika Kaushik
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Zoology Honours) M.Sc. (Environmental Sciences)
Year of Experience	2.5+ Years
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

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

Reviewed by	Vandana Gupta (Quality Manager)	Date	09.05.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	09.05.2023

Project Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Anil Dhankar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	NA, Fresher
Area of Expertise	Climate Change & Environment
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	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

Technical reviewer



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar K
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction

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 (1.2, 3.1, 6.1)	YES
Financial Expert	YES

Reviewed by	Vandana Gupta (Quality Manager)	Date	03.03.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	03.03.2023