140 MW Solar Photovoltaic Project in Rajasthan

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Summary:

Verification purpose: Applus+ Certification, operating under the name LGAI Technological Center S.A., has been designated by Rising Bhadla 1 Private Ltd to conduct the 6th verification for the period from 01-December-2022 to 30-November-2023 of the '140 MW Solar Photovoltaic Project in Rajasthan' , India (VCS ID 1709)[1] .The primary objective of this verification process is to engage an independent third party for the comprehensive evaluation of the project design and monitoring report, ensuring a rigorous assessment of the project activity in alignment with the relevant VCS requirements.

The project's primary objective is to harness solar energy for electricity generation and sell the produced energy to the Indian grid. The electricity generated by the project will be seamlessly integrated into the Indian electricity grid, thereby offsetting an equivalent amount of energy that would have otherwise been produced by fossil fuel-based power plants. Rising Bhadla 1 Private Ltd and Rising Bhadla 2 Private Ltd. are spearheading the installation of a 2 x 70 MW solar power project at Bhadla, Jodhpur, Rajasthan. The project's commissioning took place in phases, with the initial set of solar power project becoming operational on 18-July-2017. The monitoring period for the VCS verification spans from 01-December-2022 to 30-November-2023, during which the project achieved a noteworthy milestone of reducing 278,065 tCO_2e emissions. Additionally, the project successfully displaced 288,061.61 MWh of electricity from the power generation mix of plants connected to the Indian Grid, primarily composed of thermal and fossil fuel-based power plants.

The scope of the verification is the independent and objective review of the Monitoring Report (MR)/5/. The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM validation and verification standard for project activities, version 03.0/13/, review against registered VCS PD/4/ and final validation report VCS program guide version 4.4/8/ and VCS Standard Version 4.5/8/

A risk-based approach has been followed to perform this verification activity. In the course of verification, 01 Corrective Action requests (CAR), 01 Clarification Requests (CLs) and 00 Forward Action Request (FAR) were raised and successfully closed. The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to

[1] https://registry.verra.org/app/projectDetail/VCS/1709

identify the significant risks for the project implementation and the generation of VCUs. The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

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

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

CONTENTS

1. INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by "Rising Bhadla 1 Private Ltd and Rising Bhadla 2 Private Ltd." to perform the 6th verification of the "140 MW Solar Photovoltaic Project in Rajasthan" under VCS Project guide, version 4.4 and VCS standard, Version 4.5. The objective of this verification activity is to have an independent third party for the assessment of the project design, Monitoring Report and Final Verification report and to ensure a thorough assessment of the project activity against the applicable CDM and VCS requirements. In particular;

- The project's baseline is assessed against ACM0002, version 17.0/15/
- The project's monitoring plan is assessed against "ACM0002, version 17.0/15/
- The projects compliance with the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS program guide, version 4.4 and VCS standard, Version 4.5/8/
- CDM validation and verification standard for project activities, version 03.0/13/
- VCS program guide version 4.4/8/
- VCS standard Version 4.5/8/

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified carbon units.

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR)/5/ prepared as per the registered VCS PD/4/ and registered approved methodology ACM0002, version 17.0/15/.The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard, Version 4.5 and programme guide, version 4.4, including the approved baseline and monitoring methodology ACM0002, version 17. The verification was based on the requirements in the CDM validation and verification standard for project activities, Version 03.0 and VCS program guide version 4.4 and VCS Standard Version 4.5.

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction

calculation spread sheet. It follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement. Verification team conducted remote audit to verify metering/monitoring arrangement. The verification team has reviewed all the documents like commissioning certificates/1/, technical specification/03/, O & M practices/7/, JMRs /9/, invoices/9/, grievance register/12/ etc.

1.3 Level of Assurance

Reasonable level of assurance: Applus + Certification has planned and performed the verification by obtaining evidence and other information and explanations that assessment team considers necessary to give reasonable assurance that reported estimated GHG emission reductions are fairly stated. All documentary evidences were checked, a remote audit (interview) was conducted to verify metering/monitoring arrangement to arrive at a verification conclusion by the assessment team.

In our opinion, the estimated GHG emissions reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002, version 17.0 and the VCS Standard Version 4.5.

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) /18/ which has been established with NTPC Ltd, 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). Two separate PPAs have been executed, one for 70 MW capacity between Rising Bhadla 1 Pvt. Ltd. and NTPC, and the other for the remaining 70 MW capacity between Rising Bhadla 2 Pvt. Ltd. and NTPC. Additionally, the PPA clearly outlines that NTPC Vidyut Nigam Limited will procure the electricity on behalf of NTPC 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.

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.

The total installed capacity of the project is 140 MW (AC) which is spread over an area of 2,800,200 square meters (1,400,000 square meters for Rising Bhadla 1 Private Limited and 1,400,200 square meters for Rising Bhadla 2 Private Limited) along with the power conditioning units and power transformers for which the detailed description is mentioned in Table no 08 of this report. The output generated by the modules in DC ranges from 0.315 KW

to 0.330 KW. and the power produced displaces an equivalent amount of power from the grid, which is fed mainly by fossil fuel fired power plants. This bundled project was commissioned on 18-July-2017 which is the earliest date of commissioning of 1st 40 MW (AC) plant by Rising Bhadla 1 Private Ltd and the full project was commissioned on 01-November-2017 which is the date of commissioning of 2nd & last 30 MW (AC) solar plant at Rising Bhadla 2 Private Ltd of the project activity and run satisfactorily since then which was verified against the registered VCS PD/04/ and commissioning certificates/01/and thus it is found to be acceptable to VVB. The project activity is located in Village - Bhadla, Tehsil - Phalodi, District- Jodhpur of State – Rajasthan in country India. Location of the project was verified through Google Earth & Google Maps3 /17/ found consistent with the data provided in the registered VCS PD/04/. Rising Bhadla 1 Private Ltd. and Rising Bhadla 2 Private Ltd. are the project participant of the project activity.

The project was commissioned in four stages as mentioned in table below:

Table no 1: Commissioning Dates of the Project Activity

Project Proponents Name	Capacity in MW (AC)	Commissioning Date	Connection with Grid	Project Location
Rising Bhadla 1 Private Ltd.	40 MW	18-July-2017	Indian Grid	Village - Bhadla, Tehsil - Phalodi, District- Jodhpur Rajasthan, India
	30 MW	29-September-2017		
Rising Bhadla 2 Private Ltd.	40 MW	29-August-2017		
	30 MW	01-November-2017		

2. VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the "CDM validation and verification standard for project activities, Version 03.0, VCS standard, Version 4.5, VCS program guide version 4.4 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

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

1. A desk review of the Monitoring report against the registered VCS PD /04/ and final validation report;
2. Remote audit (interview) and interview with stakeholders;

3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

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

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

Appointment of the assessment team

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

The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.

Thequalification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Technical Expert (TE).
- Observer (OBS)
- Technical Reviewer (TR).
- Any of the above-mentioned roles in training (iT)

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Dr. Atul Takarkhede	LA/TE	YES	YES	NA	YES
Ms. Anjali Singh	TE	YES	YES	NA	YES
Mr. Ravi Jangid	OBS	NO	NO	NA	YES
Mr. Sarthak Jain	OBS	NO	NO	NA	YES
Mr. Denny Xue	TR	YES	YES	NA	NO

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

Document review

The Monitoring report version 01/05/ submitted by the PP was reviewed against the approved methodology/15/, approved registered VCS PD/04/, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information.

Further, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Remote audit

A Remote audit (interview) is conducted by Applus+ Certification. Audit team performed remote interview with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report.

Resolution of Clarification and Corrective Action Request

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

The final MR Version 02/05/ submitted by PP, serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a verification of the final documentation including the verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e., each report has to be finally approved by the authorized personnel of the VVB (either the Technical Manager or other authority in case the Technical Manager is part of the Validation and/or Verification-Certification (VVC) Team for the project).

After confirmation of the PP, the verification opinion and relevant documents are submitted to the VCS web-platform.

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2.2 Document Review

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

2.3 Interviews

A remote audit was conducted on 17-January-2023 through Skype video call which covers all the sites (includes all the locations) in the state of Rajasthan in India. No sampling procedures were adopted either in document verification and all the documents were cross checked to ensure conservative estimation of emission reduction.

The VCS Program does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications.

During the remote audit, the PP representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of meters, the generation, recording, and monitoring of the data and the error accountability were discussed. To cross check the information provided by PP, various documents like technical specifications, commissioning certificates//, PPA/18/, JMRs//, invoice//, calibration certificates/11/, etc. were also verified. metering arrangements/specification of solar power Plants, monthly generation data/ photographs/21/and name plates of solar power plants, calibration certificates of meters, validation and verification report of various issuance. The names of the persons interviewed during remote audit through Skype & telephonic interview is given below;

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
6. 1.	Bhargava	Ayush	DGM-PM & BD, Head office	17-January-2024 (remote audit interview)	Project Implementation, JMR & invoicing procedure, calibration,	Dr. Atul Takarkhede
2.	Singh	Ajeet	Site Incharge		grievance mechanism, Management practices, data storage, QA/QC	Ms. Anjali Singh
3.	Maurya	Sandip Kumar	Project Manager, EKI Energy Services Limited			
4.	Ladulkar	Anant	Manager, EKI Energy Services Limited			
5.	Sahu	Vipul	Sr. Executive, EKI Energy Services Limited		GHG calculations, MR and ER preparation, Data collection, data storage, QA/QC	

During the remote audit, the PP representatives, O&M personals were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of meters, the generation, recording, and monitoring of the data and the error accountability were discussed. Various documents like the generation records, Invoices, on-site Photographs includes name plates, meter specifications, key technical specifications of the major equipment etc. provided to assessment team were verified to establish the current status and the implementation of the Project Activity. Also, stakeholders' interviews were carried out to conform grievance mechanism and output during this monitoring period.

2.4 Site Inspections

As per section 4.1.9 of the VCS standard, version 4.5

A site visit that includes a visit to facilities and/or project areas shall be conducted at verification under the following circumstances:

1) The first verification of the project after validation;

2) Verifications that include project baseline reassessments; and

3) Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

It is to be noted that the project has undergone first verification for the following monitoring period: 18-July-2017 to 31-December-2018. Currently, the project is undergoing 6th verification. Hence, as per the VERRA guidelines site visit is not mandatory for the 6th verification of the project activity.

Hence, No physical verification was conducted by the VVB for this verification.

The VVB has taken alternative measures to reach reasonable level of assurance and conducted Remote audit through video call on 17-January-2024 with the representative of PP and consultants. Further, during interview with PPs, the implementation of project activity and monitoring procedure and systems in place was confirmed. Technical specifications of the plant verified through the photographs of power plant shared by PP and the same was cross checked with the previous verification report.

After teleconference with PP representatives and verifying the photographs of SPVs & meters and Calibration Certificates of meters, verification team confirmed that monitoring procedure is followed as per registered VCS PD and there is no change in technical specifications of plants since installation and all the meters are calibrated in accordance with VCS PD and host country metering guidelines.

Duration of onsite audit				
No.	Activity performed on-site	Site location	Date	Team member
1.	NA	NA	NA	NA

2.5 Resolution of Findings

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

The final MR Version 02/05/ submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	01	01	00
Description of project activity	00	00	00
Application of selected baseline and monitoring methodology and selected standardized baseline			
Applicability of methodology and standardized baseline	00	00	00
Deviation from methodology	00	00	00
Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	00	00
Calibration details	00	00	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	00	00
Others (please specify) undertaking	00	00	00
Total	**01**	**01**	**00**

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

2.5.1 Forward Action Requests

This is 6th verification of the project activity and no FAR was raised during previous verification report which needs to be closed during this verification and no FAR has been raised during current verification.

2.6 Eligibility for Validation Activities

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

3. VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program like CDM, GS. hence not applicable. Assessment team verified the same with other GHG mechanism's project interface. Moreover, PP has also submitted an officially attested declaration letter /10/ to assessment team regarding no participation in other GHG program for the concerned monitoring period. Found acceptable.

3.2 Methodology Deviations

This section is not applicable for present verification as no methodology deviation sought during this verification and also in the earlier verifications by project participant. Further no deviation was obtained by PP during previous verification too.

3.3 Project Description Deviations

Deviation 1: During the physical Audit for the 5th periodic verification for the monitoring period 01-October-2021 to 30-November-2022 (Inclusive of both dates) it was observed that the exact pinpoint location of the project activity as mentioned in the registered VCS PD does not contains any solar modules. So, the exact pin-point location of the Project Activity has been changed. As per the observation the exact physical location for the project activity is as mentioned below –

For Rising Bhadla 1Private Ltd. –

Latitude (North)	Longitude (East)
27°29'53.75"	71°54'59.50"
27°29'38.16"	71°54'59.93"
27°30'22.73"	71°55'02.19"
27°30'02.37"	71°55'02.75
27°30'02.47"	71°55'07.61"

27°29'53.93"	71°55'07.85"
27°30'23.09"	71°55'19.10"
27°30'14.47"	71°55'25.29"
27°30'17.81"	71°55'28.04"
27°30'10.09"	71°55'32.22"
27°30'13.76"	71°55'34.88"
27°30'09.80"	71°55'41.91"
27°29'39.09"	71°55'42.60"
27°30'09.66"	71°55'44.77"
27°29'41.14"	71°55'45.55"

For Rising Bhadla 2 Priate Ltd.

Latitude (North)	Longitude (East)
27°30'03.31"	71°54'37.83"
27°29'06.79"	71°54'39.38"
27°30'03.49"	71°54'45.87"
27°29'53.46"	71°54'46.15"
27°29'06.99"	71°54'48.62"
27°29'09.85"	71°54'55.74"
27°29'53.75"	71°54'59.39"
27°29'38.06"	71°54'59.82"
27°29'12.12"	71°55'02.33"
27°29'14.43"	71°55'08.92"
27°29'16.22"	71°55'11.47"
27°29'27.56"	71°55'25.93"
27°29'38.99"	71°55'42.45"

Since the project activity is spread across the area of 2,800,200 square meters (1,400,000 square meters for Rising Bhadla 1 Private Limited and 1,400,200 square meters for Rising Bhadla 2 Private Limited) the details co-ordinates are mentioned in the table above.

The nature of deviation is permanent. The project location was verified by the assessment team through Google earth/17/ during desk review. Above are the deviation approved during previous verification. Above deviation does not impact on additionality, methodology and baseline of the project activity. Thus, acceptable to VVB team,

3.4 Grouped Project

This is not a grouped project. Thus, this section is not applicable.

4. VERIFICATION FINDINGS

4.1 Project Implementation Status

During the remote audit interview with PP representative, it was concluded that the project is implemented as per the requirement of the registered VCS PD/04/ and approved monitoring plan/04/. During the current monitoring period, the 900-volt DC electricity generated by the Rising Bhadla 1 and Rising Bhadla 2 solar modules is fed into inverters, which convert it into 380-volt AC electricity. This AC electricity is then supplied to an inverter transformer, which steps up the voltage to 33 kilovolts. The electricity is then further stepped up to 132 kilovolts at the substation and to 220 kilovolts at the RSDCL Pooling Substation. Along with electricity from other sources, the electricity from both Rising Bhadla 1 and Rising Bhadla 2 is supplied to the RRVPNL9 Pooling substation, where it is stepped up to 400 kilovolts. After passing through the 400KV Pooling Substation by RRVPNL, the electricity is then supplied to NTPC, the designated consumer of the electricity under the Power Purchase Agreement, which in turn supplies it to the Unified Indian Grid as in line with the registered monitoring plan/3/ and was also confirmed from the site personnels during remote audit (interview) and focussed group discussions /33/. No major breakdown of the project occurred during, Some minor breakdown observed during current monitoring period has been mentioned in Appendix III of the MR . Assessment team confirmed it during remote audit interview.

Table no: **Project Location along with Date of Commissioning**

Project Proponents Name	Capacity in MW (AC)	Commissioning Date	Connection with Grid	Project Location
Rising Bhadla 1 Private Ltd.	40 MW	18-July-2017	Indian Grid	Village - Bhadla, Tehsil - Phalodi, District- Jodhpur Rajasthan, India
	30 MW	29-September-2017		
Rising Bhadla 2 Private Ltd.	40 MW	29-August-2017		
	30 MW	01-November-2017		

Geo coordinate's exact physical location for the project activity is as mentioned below: -

For Rising Bhadla 1Private Ltd. –

Latitude (North)	Longitude (East)
27°29'53.75"	71°54'59.50"
27°29'38.16"	71°54'59.93"
27°30'22.73"	71°55'02.19"
27°30'02.37"	71°55'02.75
27°30'02.47"	71°55'07.61"
27°29'53.93"	71°55'07.85"
27°30'23.09"	71°55'19.10"
27°30'14.47"	71°55'25.29"
27°30'17.81"	71°55'28.04"
27°30'10.09"	71°55'32.22"
27°30'13.76"	71°55'34.88"
27°30'09.80"	71°55'41.91"
27°29'39.09"	71°55'42.60"
27°30'09.66"	71°55'44.77"
27°29'41.14"	71°55'45.55"

For Rising Bhadla 2 Private Ltd.

Latitude (North)	Longitude (East)
27°30'03.31"	71°54'37.83"
27°29'06.79"	71°54'39.38"
27°30'03.49"	71°54'45.87"
27°29'53.46"	71°54'46.15"
27°29'06.99"	71°54'48.62"
27°29'09.85"	71°54'55.74"
27°29'53.75"	71°54'59.39"
27°29'38.06"	71°54'59.82"
27°29'12.12"	71°55'02.33"
27°29'14.43"	71°55'08.92"

27°29'16.22"	71°55'11.47"
27°29'27.56"	71°55'25.93"
27°29'38.99"	71°55'42.45"

Starting date of the operation of the bundled project activity is 18-July-2017 (refer section 1.1 of MR) which is the date of commissioning of first phase of the Project. The PP name is Rising Bhadla 1 Private Ltd. Assessment team checked the commissioning certificate/01/ and confirmed that the dates of Commissioning for the Solar PV project are correct. Assessment team also confirm during interview with the PPs representatives that there is no change in project design and the project is implemented as per the description provided in the VCS PD,

The project boundary includes the electricity generation equipment at the project site, substation and the regional grid (now Indian grid).

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

The organisational role and responsibility as mentioned in the registered VCS PD is followed confirmed during the remote audit interview. All the emergency preparedness as mentioned in the VCS registered VCS PD is followed on the site and no discrepancies were found regarding the same. Meters are calibrated as per calibration frequency in registered VCS registered VCS PD /04/. Thus, the completeness of the monitoring plan confirmed and there are no any material discrepancies between the actual monitoring system and the plan provided in the registered VCS PD.

CAR 01 is raised and closed successfully after proper response of PP please refer Appendix 2 for complete details.

Assessment team confirms following during the verification remote audit interview:

1. Start date of the operation project activity is 18-July-2017 as mentioned in the registered VCS PD/4/which is the date of commissioning of first phase of the Project. The PP name is Rising Bhadla 1 Private Ltd. Assessment team checked the commissioning certificate/01/ and confirmed that the date of commissioning for the Solar power plant is correct.
2. An undertaking letter dated 08-December-2023 has been submitted by PP for no double counting with any other GHG program. PP also has given a written declaration that project has not claimed other form of GHG credit for the concerned monitoring period. Assessment team also checked that the projects are not registered under the REC mechanism of India and the same can be cross-checked at *https://recregistryindia.nic.in*. PP has given a written declaration that the credit claimed under VCS for the current monitoring period is not claimed under any other GHG mechanism/10/.

3. Assessment team confirms that this is the 6th monitoring under VCS and covers the activity from 01-December-2022 to 30-November-2023 (inclusive of both dates). The project activity adopts renewable crediting period of 10 years period and can be renewed for maximum 2 times.

   The GHG credits from 01-December-2022 to 30-November-2023 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "No Double Counting"/10/.

   Below is the issuance of project history, VVB team found history of the below audit trail is correct: -

S. no	Monitoring period	Verification	VVB names
1	18-July-2017 to 31-December-2018	1st Verification	LGAI Technological Center S.A. (Applus+ Certification)
2	01-January-2019 to 31-January-2020	2nd Verification	4K Earth Science Private Limited
3	01-February-2020 to 28-February-2021	3rd Verification	KBS Certification Services Pvt. Ltd.
4	01-March-2021 to 30-September-2021	4th Verification	KBS Certification Services Pvt. Ltd.
5	01-October-2021 to 30-November-2022	5th Verification	VKU Certification Pvt. Ltd.
6	01-December-2022 to 30-November-2023	6th Verification (Ongoing)	LGAI Technological Center S.A. (Applus+ Certification)

4. Assessment team checked and found that the Project proponent of the project activity mentioned in Section 1.3 of monitoring report is correct/5/:

5. Assessment team also checked the details of other entity mentioned in Section 1.4 of monitoring report and found correct.

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that the actual VER is 278,065 tCO_2e which is 15.11% higher than the estimated emission reductions 241,573 tCO_2e during this monitoring period This is due to the higher number of sunshine hours. The generation of electricity depends upon many other climatic conditions, and not within the control of the project participant. The increase in the observed PLF which is 14.58% during the current monitoring period is within the sensitivity analysis values for the

PLF in the registered PDD value of (25.55%). The percentage increase is found within the crossing benchmark limit. Hence accepted.

7. Project activity claimed credit under VCS only for the current monitoring period and during previous validation and verification and credit will not be claimed under any other form of environmental credit and other GHG mechanism nor rejected.

8. The detail of Project proponents for the project activity is given below: -

    1. Rising Bhadla 1 Private Ltd.

    2. Rising Bhadla 2 Private Ltd.

Sustainable development indicators

As a part of regional development efforts associated with the project, PP has supported many education, health & infrastructure related needs for local people. These are funded from the revenue generated from the operation of the project activity. In the absence of project activity, there would be no revenue generated from the project and hence the activity would have not occurred in the absence of the project activity. Further, in line with para 3.17.1, VCS project standard version 4.5 "The project proponent must demonstrate that a project contributes to at least three SDGs by the end of the first monitoring period, and in each subsequent monitoring period." Thus, PP has provided project's contribution towards SDGs 7.2, 8.6 and 13.0 in table 1 of monitoring report of monitoring report. Verification team verified the same with the Training details and Training attendance sheet/20/ submitted by PP along with the monitoring report and found both inline. Thus, acceptable to VVB team.

Below the SDG target for the project activity.

1) SDG 7.2.1: Renewable energy share in the total final energy consumption

2.) SDG 8.6.1: Proportion of youth (aged 15-24 years) not in education, employment or training

3) SDG 13: Total greenhouse gas emissions avoided or removed.

Thus, the project activity contributes to the sustainable development of the country.

The technical specification of 40 MW plant commissioned on 18-July-2017 at Rising Bhadla 1 Private Ltd. are as follows:

Sl. No.	Technical details of the equipment[2]	Comments
1	Technology Used	Multi Crystalline
2	Rating of each module (Wp)	315 Wp to 330 Wp
3	Angle from horizontal at which array is installed	Seasonal Tilt 5 Deg Angle, 30 Deg Angle
4	Number of modules installed of each type	315 Wp- 3120 Nos. 320 Wp 36192 Nos. 325 Wp- 53040 Nos

[2] It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 140 MW (AC).

		330 Wp- 61152 Nos. The DC capacity of the Solar panels is 49.8 MW and the AC capacity is 40 MW. Hence the DC to AC conversion ratio if 1.25.
5	Sources(s) of the modules installed of each type	**Canadian Solar** 315 Wp, 320 Wp 325 Wp, 330 Wp
6	Number of the Power Conditioning Units (PCUs) installed	1000 KW- 40 No-s
7	Sources of PCUs (Name of Supplied)	ABB India Limited
8	Invertor Transformers	11 Nos. (4 MVA -10 Nos & 2 MVA-1No.)
9	Power Transformer	2 Nos. (30/36 MVA) Schneider

The Technical Specifications of 30 MW of Rising Bhadla 1 Private limited commissioned on 29-September-2017 are as follows:

Sl. No.	**Technical details of the equipment[3]**	**Comments**
1	Technology Used	Multi Crystalline
2	Rating of each module (Wp)	315 Wp to 330 Wp
3	Angle from horizontal at which array is installed	Seasonal Tilt 5 Deg Angle, 30 Deg Angle
4	Number of modules installed of each type	315 Wp- 4,800 Nos. 320 Wp 10,848 Nos. 325 Wp- 85,920 Nos 330 Wp- 14,848 Nos. The DC capacity of the Solar panels is 37.80 MW and the AC capacity is 30 MW. Hence the DC to AC conversion ratio if 1.26.
5	Sources(s) of the modules installed of each type	**Canadian Solar** 315 Wp, 320 Wp 325 Wp, 330 Wp
6	Number of the Power Conditioning Units (PCUs) installed	1000 KW- 30 Nos
7	Sources of PCUs (Name of Supplied)	ABB India Limited
8	Invertor Transformers	7 Nos. (4 MVA- 7 Nos)

The technical specifications of 40 MW of Rising Bhadla 2 Private limited commissioned on 29-August- 2017 are as follows:

Sl. No.	**Technical details of the equipment[4]**	**Comments**
1	Technology Used	Multi Crystalline
2	Rating of each module (Wp)	320 Wp to 330 Wp

[4] It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 140 MW (AC).

3	Angle from horizontal at which array is installed	Seasonal Tilt 5 Deg Angle, 30 Deg Angle
4	Number of modules installed of each type	320 Wp 78,400 Nos. 325 Wp- 46,320 Nos 330 Wp- 30,400 Nos. The DC capacity of the Solar panels is 50.17 MW and the AC capacity is 40 MW. Hence the DC to AC conversion ratio if 1.25.
5	Sources(s) of the modules installed of each type	**Canadian Solar** 320 Wp, to 330 Wp **JA Solar** 320 Wp, 325 Wp
6	Number of the Power Conditioning Units (PCUs) installed	1000 KW- 40 Nos
7	Sources of PCUs (Name of Supplied)	ABB India Limited
8	Invertor Transformers	10 Nos. (4 MVA – 10 Nos)
9	Power Transformer	2 Nos. (30/36 MVA) Crompton Greaves

The technical specifications of 30 MW of Rising Bhadla 2 Private Limited commissioned on 01-November-2017 are as follows:

Sl. No.	Technical details of the equipment[5]	Comments
1	Technology Used	Multi Crystalline
2	Rating of each module (Wp)	320 Wp to 330 Wp
3	Angle from horizontal at which array is installed	Seasonal Tilt 5 Deg Angle, 30 Deg Angle
4	Number of modules installed of each type	320 Wp 15,680 Nos. 325 Wp- 84,920 Nos 330 Wp- 15,200 Nos. The DC capacity of the Solar panels is 37.6 MW and the AC capacity is 30 MW. Hence the DC to AC conversion ratio if 1.25.
5	Sources(s) of the modules installed of each type	**Canadian Solar** 320 Wp, to 330 Wp **JA Solar** 320 Wp, 325 Wp
6	Number of the Power Conditioning Units (PCUs) installed	1000 KW- 30 Nos
7	Sources of PCUs (Name of Supplied)	ABB India Limited
8	Invertor Transformers	8 Nos. (4 MVA – 7 Nos & 2 MVA – 1 Nos)

Assessment team also checked the technical details of the Solar PV installed onsite from documents submitted by PP and previous verification reports. The same is cross checked from the photographs of the number plates, module capacity etc. submitted by PP & also cross checked from the technical details from Manufacturer.

The Power Conditioning Units for all the 4 project instances as mentioned above are stored in separate Power Conditioning Rooms, one for each instance. CL 01 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CL.

Cleaning mechanism and Insulation

Tractors are used for the cleaning of the solar panels to increase the efficiency of the solar panels. This is a periodic onsite practice that is performed thrice every month.

High Tension circuit breakers are used for the insulation of the circuits and thus the formation of electric arc is avoided. These circuit breakers are situated at various places in the electric circuit making the connection secure and thus avoiding accidents.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the documents review of VCS PD and grievance register/12/ etc. The project is renewable energy project and thus no negative impact observed due to project activity.

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation. The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013[6] mentions that solar/Wind power project activity operations do not result in direct air pollution, noise pollution. Moreover, also as per the Central Pollution Control Board of India notification[7] solar/wind project falls under White Category and are practically non-polluting. Assessment team checked and found this appropriate.

4.2.2 Local Stakeholder Consultation

Local stakeholder consultation has been conducted at the time of project registration. For on-going stakeholder's communication, PP have maintained grievance register/12/ at the site office. All the stakeholders are happy with the implementation and operation of the project activity and no negative comments envisaged for the project activity. Complaint/suggestion/feedback register is maintained at site as a part of ongoing communication with stakeholders in line with clause 3.18.3 of VCS Standard, Version 4.5 and appropriate actions taken time to time by PP.

Assessment team checked the grievance register provided by PP and found that local stakeholders can anytime lodge their grievances if any in the register over the operational life time of the project. During current monitoring period no grievance was received. Thus,

[6] https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf

[7] https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9MYXRlc3RfMTE4X0ZpbmFsX0RpcmVjdGlvbnMucGRm

assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate.

4.3 AFOLU-Specific Safeguards

This section is not applicable as this project activity is a non-AFOLU project activity.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the MR. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD/4/.
Findings	No findings raised.
Conclusion	**Monitored Parameters:** The project monitoring has been carried in accordance with the registered VCS PD/04/ and the monitoring report/05/.It involves a single parameter to be monitored $EG_{PJ,y}$ (Quantity of net electricity generation supplied by the project (140 MW (AC) Solar) plant/unit to the grid in year y; MWh) according to the monitoring plan and monitoring report/05/.The parameter $EG_{PJ,y}$ value is sourced from JMRs/09/ and Invoices/09/.Proper calibrated Main and Check 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/09/ and Invoices/09/ submitted by PP and found correct including all the formulae and conversions and aggregations. The monitoring plan laid in the registered VCS PD/04/ is being followed at the site. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/05/. 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/06/ provided by PP. the verification of each monitoring parameter has been discussed later in section 4.5. The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., ACM0002 Version 17.0/15/. 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. As per the registered PD and applied methodology, Formula used to calculate achieved emission reduction is as follow;

$ER_y = BE_y - PE_y$

As per registered PDD, the build margin and operating margin CO_2 emission factor of Indian grid is taken from Central Electricity Authority: CO_2 Emission Database CEA CO_2 Baseline database Version 12.

Thus,

$EF_{grid,OM,y}$ = 0.9843 tCO_2/MWh

$EF_{grid,BM,y}$ = 0.9083 tCO_2/MWh

& $EF_{grid,CM,y}$ = 0.9653 tCO_2/MWh

The baseline emissions are calculated as below,

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

Where;

BE_y: Baseline Emissions in year y (tCO_2e)

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

$EF_{grid,CM,y}$: 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" ($t CO_2/MWh$)

The calculation of baseline emissions is as below,

BE_y = 288,061.61 MWh * 0.9653 tCO_2/MWh

= 278,065 tCO_{2e} (round down values)

Project emissions:

As the project activity involves in harnessing solar power. So, the emission from the project are zero.

Leakage Emission:

The project activity is solar power project and there is no technology transfer with respect to this project activity. Hence the Leakage emissions for the project are zero.

Hence, net GHG reduction and removals

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)

	2022 (01-December-2022 to 31-December-2022)	23,370	0	0	23,370
	2023 (01-January-2023 to 30-November-2023)	254,695	0	0	254,695
	Total	**278,065**	**0**	**0**	**278,065**

VVB confirmed that GHG reductions and removals have been quantified correctly and in line with monitoring procedure in VCS PD and applied methodology.

The estimated emission reduction achieved from the project activity for the current monitoring period is 241,573 tCO_2e based on the number of days covered during the current monitoring period. Whereas the actual emission reductions achieved during the current monitoring period are 278,065 tCO_2e. The actual VCUs are 15.11% higher than the estimated VCUs.This is due to the higher number of sunshine hours. The generation of electricity depends upon many other climatic conditions, and not within the control of the project participant. The increase in the observed PLF which is 14.58% during the current monitoring period is within the sensitivity analysis values for the PLF in the registered PDD value of (25.55%). The percentage increase is found within the crossing benchmark limit.

Hence, this change will not affect the additionality of the project. The VVB confirms that these doesn't have impact on additionality and it is below the benchmark. Hence accepted.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
Findings	N/A
Conclusion	Assessment team has checked calibration certificates[11] and found that meters are calibrated and calibration is valid for current monitoring period. Verification team confirms that all the energy meters (main and check meter) installed at the substation are of accuracy class of 0.2s and are calibrated as per the calibration frequency mentioned in monitoring plan in VCS PD i.e. The

	calibration frequency of meters is once in 5 years. No delayed calibrations were observed in the project activity for this monitoring period. All the meters are of same accuracy class i.e., 0.2s as per the requirement of the registered VCS PD/4/. During Remote audit interview with O&M personnel also confirms the same. The calculation of net electricity supplied to grid is under purview of state electricity board and PP does not have control on it. Calibration details of the monitoring meters checked with calibration certificates submitted by PP and found that calibration frequency of 5 years is complied. Thus, no delayed calibration is observed and thus the same is found appropriate. (refer Appendix-5). The break down log is checked and there is no major breakdown during the monitoring period. There some minor breakdown mentioned in Appendix- III of MR. No unforced error observed. No sampling procedure applied for monitoring of the data parameter and entire documents were checked by the assessment team to arrive at positive verification conclusions. The monitoring plan is followed at the project site. The monitoring meters were calibrated in line with the registered monitoring plan and there was no delay in calibration observed. Thus, assessment team concluded that the evidences are sufficient in quantity, and appropriate for the quality, to determine the GHG reductions and removals. Assessment team confirmed that data/ information used for determining GHG reductions and removals were sufficient in quantity and of appropriate quality. Calibration certificates of meters/ QA/QC procedure checked and found to be appropriate.

4.6 Non-Permanence Risk Analysis

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
NA	NA	NA	NA	NA

5. VERIFICATION CONCLUSION

Applus+ Certification has been engaged/02/ by Rising Bhadla 1 Private Ltd to perform the 6th verification (01-December-2022 to 30-November-2023) of the "140 MW Solar Photovoltaic Project in Rajasthan".

The project participants are responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's monitoring plan in the registered VCS PD /4/ and the applied methodology ACM0002, version 17.0.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Further, the verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for document verifications. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions. The verification team can confirm that:

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the VCS PD /4/;
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned, during verification process.
- Verification period: 01-December-2022 to 30-November-2023 (inclusive of both days)

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

Year	Baseline emissions or removals (tCO2e)	Project emissions or removals (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions or removals (tCO2e)
2022 (From 01-December - 2022 till 31-December-2022)	23,370	0	0	23,370
2023 (From 01-January-2023 till 30-November-2023)	254,695	0	0	254,695
Total	**278,065**	**0**	**0**	**278,065**

It is to be noted here that as per the estimated emission reduction to be achieved from the project activity for the current monitoring period is 241,573 tCO_2e, whereas actual emission reductions achieved are 278,065 tCO_2e, which is approximately 15.11% higher than the estimated emission reductions.

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
01-December-2022 to 31 December-2022	20,517	23,370	13.91%	The achieved GHG emission reduction is 15.11% higher than the estimated value which is 241,573 tCO_2e. This is due to the higher number of sunshine hours. The generation of electricity depends upon many other climatic conditions, and not within the control of the project participant. The increase in the observed PLF which is 14.58 % during the current monitoring period is within the sensitivity analysis values for the PLF in the registered PDD value of (25.55%). The percentage increase is found within the crossing benchmark limit.
01-January-2023 to 30 November-2023	221,055	254,695	15.22%	
Total 01-December-2022 to 30-November-2023	241,573	278,065	15.11%	

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED

No.	Author	Title	References to the document	Provider
1.	State Utility	Commissioning certificates of the project activity issued by state electricity authority (Rajasthan Renewable Energy Corporation Limited)	09-November-2017	PP
2.	Applus	Contract of the project participant with the DOE. Ref. No. A+SH_SYST_TQC_VCS_VER_24923	13-October-2023	PP
3.	NA	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	PP
4.	NA	Registered VCS PD version 03 dated 26-December-2017 and validation report	https://registry.verra.org/app/projectDetail/VCS/2019	PP
5.	NA	Monitoring report Version 01 (Initial) Monitoring report Version 02 (Final)	05-January-2023 24-January-2024	PP
6.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02	05-January-2023 24-January-2024	PP
7.	PP	Agreement 01: Operation and Maintenance Agreement made between Project Proponent i.e. (Rising Bhadla 01 Private Limited) and Sterling and Wilson Solar Limited, Agreement 02: Operation and Maintenance Agreement made between Project Proponent i.e. (Rising Bhadla 02 Private Limited) and Sterling and Wilson Solar Limited,	01-June-2020	PP
8.	NA	Tools/ guidelines used in the project activity • VCS Program Definitions, version 4.4 • VCS standard Version 4.5 • VCS Program Guide 4.4 • VCS verification report template version 4.2		VERRA
9.	State	Monthly JMRs issued by RRVPNL for the		PP

No.	Author	Title	References to the document	Provider
	Utility for JMRs, PP for invoice	current verification period and Invoice issued by PP to NTPC (National Thermal Power Corporation Limited).		
10.	PP	Declaration regarding no participation in other GHG program for the concerned monitoring period	08-December-2023	PP
11.	NA	Calibration details of the project activity undergoing verification	Calibration certificates	PP
12.	NA	Grievance Register maintained at site	-	PP
13.	UNFCCC	CDM validation and verification standard for project activities, Version 03.0	-	UNFCCC
14.	PP	Single line diagram	-	PP
15.	UNFCCC	CDM methodology ACM0002	Version 17.0	UNFCCC
16.	NA	Meter photograph		PP
17.	PP	KML file for Geo-coordinates		PP
18.	PP	PPA 01: Power Purchase Agreements signed between Project Proponent (Rising Bhadla 1 Private Limited) and NTPC (National Thermal Power Corporation Limited) identified by Government of India as the implementation Agency for setting up Grid-connected PV Power Projects under State Specific Bundling Scheme and for facilitating purchase and sale of 33 kV or above grid -connected Solar PV Power. PPA 02: Power Purchase Agreements signed between Project Proponent (Rising Bhadla 2 Private Limited) and NTPC (National Thermal Power Corporation Limited) identified by Government of India as the implementation Agency for setting up Grid-connected PV Power Projects under State Specific Bundling Scheme and for facilitating purchase and sale of 33 kV or above grid -connected Solar PV Power.	12-May-2016	PP
19.	VERRA	Previous verification reports	https://registry.verra.org/app/projectDetail/VCS/2019	VERRA
20.	PP	Training and Attendance Records	O&M personals trainings	
21.	PP	Site Photographs		PP

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

Table 1. CL from this verification

CL ID	01	Section no.	4.1	Date: 22-January-2024
Description of CL				
PP has mentioned Validation date in the Audit table, Section 1.1 of MR. Kindly provide Final validation report of the 1st Crediting period as this report is not available on the VERRA web-site.				
Project participant response				**Date:** 24-January-2024
Final Validation Report is being Submitted to verification team.				
Documentation provided by project participant				
Final Validation Report				
DOE assessment				**Date:** 02-February-2024
Validation date in the Audit table, Section 1.1 of MR is found in line with Final Validation Report dated 27-December-2017 of the 1st Crediting Period and PP has submitted the Validation Report to the VVB. Thus, accepted to the VVB team.				

Table 2. CAR from this verification

CAR ID	01	Section no.	4.4	Date: 22-January-2024
Description of CAR				
Provisional loss details as per the provided Invoices are missing in the 4.3 Section of the MR.				
Project participant response				**Date:** 24-January-2024
A provisional loss 1% of recorded energy will be considered for finalizing the Invoice of Month and Actual losses of Month will be finalized as per apportionment. Following the allocation of export/import losses between these two substations using pooling substation data, a supplementary invoice is raised.				
Documentation provided by project participant				
DOE assessment				**Date:** 02-February-2024
The provisional loss of 1% considered as per actual scenario for transmission loss a supplementary invoice is raised by the PP between two substation data. VVB team verified the supplementary invoice raised by RSDCL. The final Net generation unit after considering actual loss and subtracting units billed in previous invoice of respective month has been considered. Thus, CAR is closed.				

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	OR	Takarkhede	Atul	TQC-Outsourced entity	Yes	No	Yes	Yes
2.	Technical Expert	OR	Singh	Anjali	TQC-Outsourced entity	Yes	No	Yes	Yes
3.	OBS (Observer)	OR	Jangid	Ravi	TQC-Outsourced entity	No	No	No	No
4.	OBS (Observer)	OR	Jain	Sarthak	TQC-Outsourced entity	No	No	No	No

Technical reviewer and approver of the verification and certification report

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

Short CVs of the Team:

1. **Dr. Atul Takarkhede.** is Ph.D. (Environmental Sciences) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical papers related to environmental sciences. He counts with more than 18 years of experience in field of Environmental Auditing, Consulting and Accreditation. He is an expert in ISO 9001-14001, CO2/GHG Reporting, Carbon Foot Print, Energy, Water and Waste Management reporting for organizations' environmental performance. His professional portfolio is mainly related with carrying out EIA, conducting QA/QC of EIA Reports; conducting environmental/water audits; NABET requirements appliance, functional area expert in Water Pollution & Solid & Hazardous Waste management among others. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. He has extensive experience of about 10 years with various DOEs, including UNFCCC CDM and other carbon related schemes (e.g. VCS, GS, GCC) in renewable

energy, cement industries, biomass projects and waste handing & management projects. Currently he is associated with True Quality Certifications Private Limited (Applus+ Certification's Outsourced Entity) and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes.Dr. Atul Takarkhede is based in Nagpur, India. Dr. Atul Takarkhede participates as part of the Audit Team as the Lead Auditor and Technical Expert.

2. **Anjali Singh** holds a Bachelor of Engineering degree in Electronic and Communication Engineering from Rajiv Gandhi Proudyogiki Vishwavidyalaya, India. She has one year of experience as a Graduate Engineer Trainee at Idea Cellular Limited, India. She has also worked for three years as an Assistant Engineer at Gargee Energies, India, where she was involved in solar rooftop project design and consulting, as well as operation and maintenance activities. Currently, Anjali is working at True Quality Certifications Pvt. Ltd. She has been working there since 2021 and the company is an outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification". At True Quality Certifications, Anjali supports audit teams for verifications of project activities for renewable and non-renewable projects under the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), and Gold Standard for Global Goals (GS4GG) programs. She is qualified Technical Expert in Sectorial Scope 1.2 (Energy Industries (Renewable / Non-Renewable Sources).

3. **Mr. Ravi Jangid** holds (Master's Degree in Environmental Engineering, Bachelor's Degree in Civil Engineering). His research pursuits and expertise include working on water, wastewater, and industrial wastewater performance evaluation and optimization with MATLAB on WTP/STP/CETP. He also interned with the World Resource Institute (WRI) on the clean air catalyst project, which includes a source apportionment assessment of Indore city and different regulatory studies on waste burning, transportation, eateries, brick kilns, and so on. He furthermore completed research-based training at CPCB, where he has undertaken water, wastewater, and SWM testing. In addition, he has attended conferences, training programs, webinars, and gained certification in areas such as SWM, water, wastewater testing, air pollution monitoring. He also had a review paper published in the journal listed in UGC care list. He has been with True Quality Certifications Pvt. Ltd. (An outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification") since 2023 and has been involved in supporting Audit teams for Validation/Verifications of Project Activities (Renewable and non-Renewable projects) under CDM/VCS/GS4GG/GCC programs.

4. **Mr. Sarthak Jain** has done Bachelor of Technology in Information Technology Engineering from Walchand Institute of Technology, Solapur, Maharashtra, India affiliated with Solapur University. Currently, He is working in True Quality Certifications Pvt. Ltd. and has been involved in supporting Audit teams for Verifications of Project Activities (Renewable and non-Renewable projects) under CDM/VCS/GS4GG/GCC programs. Mr. Sarthak Jain is based in Indore (Madhya Pradesh), India.

5. **Mr. Denny Xue** (Master's Degree in Environmental Engineering, Bachelor's Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project

assessment and technical review with Applus+. Before he joined Applus+ LGAI, he has been working for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development. Mr. Denny Xue is based in Shanghai, China. Mr. Denny Xue may participate as part of the Technical Review experts' panel.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
VER	Verified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CMS	Central Monitoring system
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DGR	Daily Generation Report
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
RRVPNL	Rajasthan Rajya Vidyut Prasaran Nigam Limited
GWP	Global Warming potential
PP	Project Participant
PLF	Plant Load Factor
MR	Monitoring Report
JMR	Joint Metering Report
PPA	Power Purchase Agreement
VCS	Voluntary Carbon Standard
VVB	Validation and Verification Body

APPENDIX 5: CALIBRATION DETAILS

Calibration Details

Although, 5 years calibration frequency has been taken as mentioned in the Power Purchase Agreement and as per the registered PD, the validity of the calibration as mentioned in the calibration certificates are mentioned below. The error won't be applied as the meters are calibrated well before the end date of previous calibration as per the registered PD which is 5 years. Further there is no delay observed in Calibration of the energy meters. Thus, acceptable to assessment team.

Particular	Meter Serial No.	Accuracy Class	Make	Calibration Date	Validity
Rising Bhadla 1 Pvt Ltd (70 MW)					
Main Meter	13194081	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2027 26-October-2028
Check Meter	13194941	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2027 26-October-2028
Stand- by Meter	13195711	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2022 26-October-2028
Rising Bhadla 2 Pvt Ltd (70 MW)					
Main Meter	13194961	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2027 26-October-2028
Check Meter	13195690	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2027 26-October-2028
Stand-by Meter	13195705	0.2 s	L&T	14-October-2022 27-October-2023	13-October-2027 26-October-2028

Further there is no delay observed in Calibration of the energy meters. Thus, acceptable to assessment team.