

**GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG)
REPORT
-
VERIFICATION**



Project Title:	GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India
Monitoring Period:	01/09/2017 to 01/02/2020 (inclusive of both dates)
GS project ID:	GS 6003
Internal ID:	0420
Customer:	M/s Precision Technik Private Limited (PTPL)
Date:	19/08/2020
Revision:	01

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
GS 6003	05/06/2020	01	19/08/2020
GS4GG Verification			
GS4GG Certified Product (sought):		GHG Emission Reductions	
GS4GG SDG Impact Statement (sought):		Impact Certification	
General Information			
Client	M/s Precision Technik Private Limited (PTPL)		
Project Title	GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India		
Project Participants	M/s Precision Technik Private Limited (PTPL)		
Project Location	The project activity is located at Village : Nokh Tehsil: Pokhran District : Jaisalmer State: Rajasthan		
Contact Person	Site In-charge- Yogesh Kumar (PP representative)		
Monitoring Period:	01/09/2017 to 01/02/2020 (inclusive of both dates)		
GS4GG Version: GS4GG Principles and Requirements 1.2 GS4GG Activity Requirements: RE Activity Requirements Applied Methodology as per the registered document, Version: AMS.I.D version 17		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2	
Monitoring Report Version: 01 Date: 04/02/2020		Final Monitoring Report Version: 03 Date: 04/08/2020	
Certified Project Design Document Version: Assessment team checked the registered GS passport version 01 dated 04/09/2017 and final Transitional Annex having GS registration date 13/02/2018. https://registry.goldstandard.org/projects/details/1381 - GS registration link https://cdm.unfccc.int/Projects/DB/RWTUV1348660371.78/view - CDM registration link Date: Provided above			
Estimated Annual Emission Reductions for the Monitoring period for all SDG: 1 – SDG 7: 8,322 MWh/Year and 171,284 MWh for the monitoring period. 2– SDG 8: More than 10 people employed and more than 2 training will be conducted 3– SDG 13: 7889 tCO2e annually and 19107 tCO2e for the monitoring period.			
Actual Emission reduction achieved for all SDG for the present Monitoring period: 1 – SDG 7: 20775.38 MWh 2– SDG 8: 13 people employed and 09 training conducted 3– SDG 13: 19,695 tCO2e GS CERs for the monitoring period.			
Selected Sustainable Development Goals (SDGs): 7;8;13 SDG Contributions targeted (as per approved PDD) : SDG 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix SDG 8.5: By 2030, achieve full and productive employment and decent work for all women and men,			

SUMMARY

including for young people and persons with disabilities, and equal pay for work of equal value
 SDG 13.2: Integrate climate change measures into national policies, strategies and planning.

Verification Summary

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by M/s Precision Technik Private Limited (PTPL) to perform the 2nd periodical verification of "GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India" (GS reference number: 6003) applying the methodology AMS.I.D version 17.

The management of Precision Technik Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a site visit have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed:

- The registered transitional annex including the monitoring plan;
- Monitoring report(s);
- The applied monitoring methodology;
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- GS4GG guideline and related Annex.
- All information and references relevant to the project activity's resulting in emission reductions.

PTPL has developed a 5 MW grid connected solar Photo voltaic power project in Nokh Village, Pokhran Tehsil in Jaisalmer District in the State of Rajasthan in Western India. The entire power generated from this project is being sold to NTPC Vidyut Vyapar Nigam (NVVN) by connecting it to state grid through a power purchase agreement with NVVN

Assessment team checked that the project owner has no legal dispute regarding the project activity and the same is also verified from company annual reports.

The electricity generated by the project is exported to the Indian electricity grid. The project activity therefore displaces an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid and there by reduces the associated CO₂ emissions.

Applus+ Certification confirms that the project is implemented in accordance with the validated and registered PDD. The monitoring plan complies with the applied methodology AMS.I.D version 17 and the GS4GG guideline the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 19,695 tCO_{2e} emission reductions during period 01/09/2017 to 01/02/2020 (Both days included)

ASSESSMENT TEAM

Team Members	Type of Resource ¹	Organization (for OEs)
Lead Auditor: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Auditor: NA	☐ IR ☐ EI ☐ OE	NA
Technical Expert: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Technical Reviewer: Mr. Simon Shen	☐ IR ☒ EI ☐ OE	

¹ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small Scale
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL / CR	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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Appendix 2: Calibration details of monitoring meters.

Appendix 3: Audit Team CVs.

1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by M/s Precision Technik Private Limited (PTPL) to perform the 2nd periodical verification of "GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India" applying the methodology AMS.I.D version 17 and GS4GG guideline. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard CERs.

The objective of the verification work is to assess the compliance with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the GS4GG guidelines and relevant Principles and Requirements. According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the transitional Annex and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the final MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM Validation and verification standard for the project activities version 02 and Gold Standard (i.e. applicable GS4GG requirements version 1.2);
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- Evaluate the data recorded and stored as per the AMS.I.D version 17.

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification is based on the submitted monitoring report, registered transitional annex, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB, GS4GG guideline and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, GS4GG guideline and relevant Principles and Requirements, as well as their related rules and guidance.

Based on the requirements in the CDM Validation and verification standard for the project activities version 02 as well as the GS4GG guidelines, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of SDG goals as per the requirement of GS4GG guideline.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3 Description of the project activity

PTPL has developed a 5 MW grid connected solar Photo voltaic power project in Nokh Village, Pokhran Tehsil in Jaisalmer District in the State of Rajasthan in Western India. The entire power generated from this project is being sold to NTPC Vidyut Vyapar Nigam (NVVN) by connecting it to state grid through a power purchase agreement with NVVN

The technology employed by the Proposed Project Activity includes the usage of poly crystalline-based solar PV modules with an aggregate of 5 MW generation capacity to supply the generated electricity to the NEWNE Grid. The generation and consumption of the Project Activity is monitored continuously through the energy meters at project site & substations. The data is used for the calculation of exports to the grid and imports from the grid.

2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process. In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, using the Verification Checklist, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

2.1 Appointment of the assessment team

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

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Sukanta Das	LA/TE	YES	YES	YES	YES
Mr. Simon Shen	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

2.2 Document review

The Monitoring Report version 01 was submitted to DOE before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the Transitional Annex and Passport, verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures of the power plant was checked by the assessment team.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check reference 4 of this report for detail of the documents checked.

2.3 On site assessment and follow up interviews

As a part of the verification, the on-site inspection in the state of Rajasthan has been performed by the assessment team.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Kumar	Yogesh	PP representative-	11/03/2020 (Site Visit)	Project implementation, Baseline	Mr. Sukanta Das

			Site Incharge-	Date)	emissions, ER calculations, Sustainable monitoring etc.	
2	Jadav	Akhilesh	Local stakeholder- Villager	11/03/2020 (Site Visit Date)	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	Mr. Sukanta Das
3	bishnoi	Mangi lal	Local stakeholder- Villager	11/03/2020 (Site Visit Date)	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	Mr. Sukanta Das

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PDD, Passport and the approved methodology, including calibrations, maintenance, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered Passport
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder meeting details:

Name of the stakeholder	Akhilesh Jadav
Occupation	Villager
DOE QUESTION: Did PP promised employment opportunity? Answer: Yes, employment is generated and the locals are given priority. Assessment team noted that locals were employed for the project activity for the current monitoring period. DOE also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work.	

DOE also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.

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

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR Version 03. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

All CARs /CRs/ FARs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Please refer Appendix 1 of this report. Total numbers of CARs: 06, CLs: 00, FARs: 00.

2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the DOE's Technical Manager or the Deputy. This approval process also includes another quality assurance check in terms of Administrative Review. In case one of these two persons is part of the assessment team, the final approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

This is 2nd periodic verification for the project activity and no FAR is envisaged from the Validation and 1st verification of the project activity.

3.2 Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the GS transitional annex. The assessment team confirms, through the visual inspection that all physical features of the proposed project activity including data collecting systems and storage have been implemented in accordance with the GS transitional annex.

The technical features of the equipment's have been verified by the assessment team during site visit by checking nameplate of Solar modules and also cross checked with manufacturers technical manual which is detailed listed below:

The solar PV power plant has got solar PV modules, inverters, transformers and other protection system and supporting components as well. The various components of the plant include:

- Solar Photovoltaic modules
- Inverters
- Transformers
- Circuit breakers
- Lightning arrester
- Isolator
- Current transformer
- Switchyard
- LT panel
- Earthing system

The Direct Current (DC) from modules is converted into Alternating Current (AC) by inverters. The inverter outputs are fed into a junction box, which in turn is connected to the LV Panel in the control room. The output from LV Panel is stepped up by outdoor type transformers located near the control room. The HV side of transformer is connected to HT Panel in the control room. The LT and HT Panels have all necessary metering and protection as per Power evacuation schematic.

- 5 MW divided into 5 nos of 1 MW
- 1 MW divided in to 2 nos of 500 KW inverter
- 500 KW system is connected by 113 strings of solar panel
- Each string consists of 22 solar modules connected in series

Basic Design:

Parameter	Specifications
Power Generation Units	5 nos each with a proposed capacity of 1MW.
Inverter	Each of the 1 MW units are divided into 2 nos of 500 kW each. Inverter input voltage range 500-820 volt
Modules	230 Wp 30 volts modules have been used. 4348 modules (1 MW) have been used.
Strings	String voltage is 660 volt, 226 strings per MW have been used
Wires	Each inverter has 5 wires

Assessment team checked the relevant dates i.e. Commissioning dates from the Commissioning certificate for the project activity and found the same to be appropriate. The actual date of Commissioning is mentioned in the below table:

Project activity	Date of Commissioning
GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India	8th February 2012

The project activity was in normal operational during the monitoring period and the same has been confirmed on-site. No unusual activates observed during the monitoring period and plant was undergone scheduled maintenance as per the recommendation of the manufactures. No forced breakdown observed and the same is confirmed by the assessment team with the plant log details.

The verification team has reviewed the commissioning certificates to conclude that the capacity of the project is same as mentioned in the transitional annex. The capacity of the project activity does not change after the registration of the project activity. The commission certificates were issued by "Govt agencies" which is a third-party government firm and thus the commissioning dates are acceptable to the assessment team.

Also during the onsite visit, it was observed that the rated capacity of the Solar project is 5 MW. As the capacity of the project is less than type I limit of small scale project activity, DOE confirms that the project is small scale project activity.

Assessment team also checked the locations of the project activity during the onsite visit with the GPS meters and also cross checked the same with Google Map. The location as mentioned in the registered passport and Monitoring report version 02 is thus correct. The detail location of the project activity is as below.

Geographical coordinates of the all WTGs are given below:

Latitude 26° 54'56.69" N

Longitude 70° 54' 30.03" E

The project is connected to National grid (as per the grid structure of India) and the same is found correct by the assessment team during the verification site visit. The grid structure as mentioned in the PDD is still applicable for the project and ex-ante emission factor as proposed in the PDD is used for emission reduction calculation.

Moreover, there were no changes in host country regulations which may impact either baseline or additionality of the project. Thus assessment team confirms that the project is implemented as per the registered passport and no change in additionality/baseline is envisaged for the present monitoring period.

Assessment team also checked the Feeder details during the onsite visit (The solar plant is connected to the RVPN's 132 kV GSS (PS-2) District Jodhpur) and found the same to be appropriate

Materiality adopted in Verification:

Consideration of materiality in planning the verification

No.	Risk that would lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk levels	Justification	
1	Human errors: Readings from Meters (if not automatic)	LOW	Human error is likely to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures and monitoring processes.	All the personal are well trained to monitor and collect data and thus risk associated with Human error is minimized. Assessment team checked the training records

				to confirm that all the personal are well trained to handle the activities related to monitoring. Assessment team checked the training records for the complete monitoring period and confirm that the personal are well trained to monitor and collect data for the project activity.
2	Human error: Quantification of emission reduction	LOW	Use of spread sheets without adequate data control, changes/updates , version tracking, traceability and security	All the energy statement i.e. JMR sheets and the invoices for the complete monitoring period are checked and thus the assessment team confirms that the ER value is conservative and correct.

Consideration of materiality in conducting the verification

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 invoices 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.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team is able to confirm that the monitoring plan is in accordance with the approved methodology AMS.I.D version 17, applied by the proposed GS project activity. No deviation observed for the present monitoring period.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the GS4GG PDD. All parameters were monitored and determined as per the monitoring plan of the transitional documents as follows:

a. Data and parameters fixed ex ante or at renewable of crediting period

$EF_{grid,OM,y}$, $EF_{grid,BM,y}$, $EF_{grid,CM,y}$, were mentioned as ex-ante fixed parameter. Assessment team checked the values, source of data, choice of data, purpose of the data mentioned in the MR from the registered CDM PDD/transitional annex and confirms that the similar approach was considered for the current monitoring period also.

The value for $EF_{grid,OM,y}$, $EF_{grid,BM,y}$, $EF_{grid,CM,y}$ was considered from the CO2 baseline database published by Central Electricity Authority (CEA) version 6.0. The default value as mentioned in the registered CDM PDD/transitional annex and MR are same. The value of combined margin in India is being given by CEA (= Central Electricity Authority, Govt of India) and thus assessment team concludes that the value is correct and appropriate. The default value in turn is used for baseline calculation as per the formula given in the registered CDM PDD/transitional annex for the current monitoring period.

The ex-ante fixed value as per registered CDM PDD/transitional annex is as below. The same value is used for the current monitoring period for the calculation of baseline emission.

$$EF_{grid,OM,y} = 0.994 \text{ tCO}_{2e}/\text{MWh}$$

$$EF_{grid,BM,y} = 0.812 \text{ tCO}_{2e}/\text{MWh}$$

$$EF_{grid,CM,y} = 0.948 \text{ tCO}_{2e}/\text{MWh}$$

b. Data and parameters monitored

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

$EG_{BL,y}$ = Quantity of net electricity supplied to the grid in year y

The parameter $EG_{BL,y}$ is calculated using the difference of export and import value measured from the electricity meter. Net electricity supplied to the grid for individual project activity is then calculated as export-import. The Meter Reading Statement (i.e. JMR sheets) issued by State board which provide the values of export and import for the month. The same is thus used for emission reduction calculation. The total energy exported/imported to/from the grid by project is measured by State electricity board via (electronic tri-vector main meter which measures both export & import concurrently) connected to the Solar Panels. For billing purpose, the meter readings shall be measured on monthly basis jointly by the representative of State electricity board and the Project Participant and the PP has no control over the process. On the basis of this reading, Quantity of net electricity supplied to the grid shall be calculated and the statement shall be issued to Project Participant. Based on the statement the Invoice is raised by PP to State electricity board. The practice followed onsite is as per the registered CDM PDD/transitional annex and registered Passport. The meter reading is taken during a fixed billing cycle of every month and representative of state electricity board and Operation and maintenance personal onsite present during the process. The export and import reading is continuous and recording frequency is monthly. The QA/QC procedure is as per the requirement of the registered PDD and onsite practice. Assessment team confirms the same during the project visit. Assessment team checked all the values of calculated Net electricity supplied to the grid from the Meter reading statement (provides the value of export and import) issued by State electricity board. The parameter is used for baseline emission calculation.

c. Implementation of sampling plan

PP did not apply sampling plan to determine data and parameters monitored during this monitoring period. The verification team has checked all the documents such as JMR issued by State electricity board /Invoices etc. and hence sampling plan was not required. The verification team hereby confirms that has checked all the documents.

d. Compliance with the calibration frequency requirements for measuring instruments

The metering arrangement is tri-vector bi-directional energy meters (main and check) at the substation. These meters record several parameters including electricity exported & imported. These electricity meters are being used by state officials to obtain the value of export and import and hence Net electricity supplied is calculated based on these values.

The calibration details such as make, accuracy class serial number is as per the meter available onsite and checked during verification site visit.

All the energy meters will be as per the registered PDD and will be calibrated once in 3 year by the State electricity board officials, as per the provisions of the PPA, signed between the PP and the State electricity board. PP has not control whatsoever over the processes related to State board meters. The joint meter reading can be cross checked against the Invoice on energy generation from the panels, issued monthly to the State Board. Assessment team observed that during the period 29 November 2017 to 08 March 2018 is not covered under the validity of calibrated energy meters. Therefore error factor as per the accuracy class (0.2%) of meters is applied during the duration. As a conservative approach, full month from November 2017 to March 2018 have been considered for the application of error factor. The same is acceptable to the assessment team and thus actual ER calculated is conservative and correct.

The Calibration details are presented in Annexure 1 of the MR. Calibration Agency for all the meters is State electricity board (= Meter and testing division of SEB). As per the PPA, the calibration dates and frequency is under the control of State electricity board (= Meter and testing division of SEB).

The calibration is done by State nodal agency (Meter Testing division), which is accredited Laboratory from National Accreditation Board for Testing and Calibration, Govt of India (<http://www.nabl-india.org/>) to carry out calibration.

Assessment team checked the same and found that the calibration is appropriate and correct as traceability is ensured. The meters were calibrated as per the norms of NABL and the meters are within the permissible error limit.

3.5 SDG Outcomes Monitoring

In the Registered GS transitional Annex indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant indicator	SDG	GS4GG PDD	MR	Compliance
Emission reduction in tCO _{2e}	SDG 13: Climate Action	Climate	Emission reduction in tCO ₂	Emission reduction in tCO ₂	Yes

Meth/tool	Relevant indicator	SDG	GS4GG PDD	MR	Compliance
Access to affordable and clean energy services	SDG 7: Affordable and Clean Energy 7.2.1 Renewable energy share in the total final energy consumption		Access to affordable and clean energy services	Access to affordable and clean energy services	Yes
Quantitative employment and income generation, Quality of employment	SDG 8: Decent Work and Economic Growth 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training		Quantitative employment and income generation, Quality of employment	Quantitative employment and income generation, Quality of employment	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

Relevant SDG Indicator	SDG 7: Affordable and Clean Energy 7.2.1 Renewable energy share in the total final energy consumption	
Data/parameter:	EGPJ, $y = EG_{\text{facility}, y}$ (Access to affordable and clean energy services)	
Unit	MWh	
Description	Quantity of net electricity supplied to the grid in year y	
Source of data checked by the assessment team	The data for the net energy supplied to the grid is calculated from the electricity exported from the project to the grid and the electricity imported from the grid. Electricity export and import value are directly considered from the Joint Meter Readings (JMR) signed by NVVN (NTPC Vidyut Vyapar Nigam) and M/s Precision Technik Private Limited.	
Value(s) of monitored parameter	Actual Quantity of net electricity supplied to the grid: 20775.38 MWh	
	Monitoring duration	Values
	01/09/2017 to 31/12/2017	2,883.22
	01/01/2018 to 31/12/2018	8,788.12
	01/01/2019 to 31/12/2019	8,482.10
	01/01/2020 to 01/02/2020	621.95
	Total	20,775.38

Means of verification:	The export and import energy is measured continuously using above mentioned Main & Check meters. Export & Import readings of Main & Check meters are taken on monthly basis by authorized officer of NVVN in the presence of PP or representative of PP. The Reading of main & Check meter (both Export & Import readings) are recorded in log book on monthly basis. Check meter reading are considered when Main meter is found to be defective or stopped. The emission reduction from the project activity is computed based on JMRs and same would be crosschecked by the invoices prepared by M/s Precision Technik Private Limited to NVVN. The electricity meters are under the custody of the DISCOM and are calibrated by DISCOM as per their procedures. However, the project proponent ensures that the meters are being calibrated at least once in three years. Calibration certificates are maintained at the plant and the net energy export figures would be cross-verified against the monthly invoices. This approach is considered reliable and credible. The meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in a 3 year as per the registered PDD. The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines are applied appropriately to confirm the conservativeness of metering.
Cross check mechanism	The JMR sheets are cross-checked with the invoice copies. Emission reduction calculated in thus correct and accurate. The cross check mechanism is presented in the emission reduction calculation sheet and the same is found correct.

Relevant SDG Indicator	SDG 13: Climate Action	
Data/parameter:	Emission reductions achieved	
Unit	CO ₂ e	
Description	Emission reductions achieved	
Source of data checked by the assessment team	Calculated as per registered PDD and as per methodology	
Value(s) of monitored parameter	Monitoring duration	Values
	01/09/2017 to 31/12/2017	2,733
	01/01/2018 to 31/12/2018	8,331
	01/01/2019 to 31/12/2019	8,041
	01/01/2020 to 01/02/2020	590
	Total	19,695
	The applied OM & BM for the project are as following: Operating Margin: 0.994 tCO₂/MWh Build Margin: 0.812 tCO₂/MWh Total amount of CO₂e: 19,695 The applied Combined margin for the project activity is 0.948 tCO₂e/MWh. This high emission factor signifies the fact that the electricity being fed in the Indian grid (earlier INDIAN) is highly carbon intensive. Every MWh of electricity generated by the project activity prevents further emissions.	

Means of verification:	Assessment team by checking O&M policy and interview with O&M team, it is confirmed that the project proponent applied ex-ante fixed value of CEA version available. The same is assessed to be correct. Baseline situation of parameter The baseline was fossil fuel dominated grid as the project is a green field and no any activity occurred before the implementation of the project activity. Future target for parameter Optimal operation of Solar power project to generate clean energy and associated emission reductions.
Cross check mechanism	Not applicable

Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	
Data/parameter:	Quantitative employment and income generation-8.5.1 Quality of employment- 8.6.1	
Unit	-	
Description	Quantitative employment and income generation-8.5.1 Quality of employment- 8.6.1	
Source of data checked by the assessment team	Employment records for project activity- 8.5.1 The training records for project activity- 8.6.1	
Value(s) of monitored parameter	Assessment team checked that for Quality of employment: Trainings & workshops where conducted for the O&M staff. A total of 09 trainings are conducted for the Staffs on various topics for the current monitoring period. The training records for the monitoring period is checked by the assessment team and found correct. The details are as below:	
	Monitoring duration	Values
	01/09/2017 to 31/12/2017	1
	01/01/2018 to 31/12/2018	3 (2 local+ 1from O&M team)
	01/01/2019 to 31/12/2019	4 (2 local+ 2 from O&M team)
	01/01/2020 to 01/02/2020	1
	Total	9
	The training programmes help in making the workforce efficient and skilled at their job. This not only helps the company but also adds to growth of individual employees. Thus, the project has a positive impact on the parameter. The detail regarding locals and non-locals participated in the training is also included in the table above. Assessment team thus checked that the locals were also given equal	

opportunity as per the need of the organization and proper training were also provided to them for the operational related works.

The detail of the training is provided below:

Sl. No.	Training Topic	Date
1.	VCB Training	13/09/2017
2.	EHS Awareness	11/01/2018
3.	Heat Stroke	20/03/2018
4.	First Aid and Emergency Situation Handling	23/06/2018
5.	Preventive Maintenance of Battery Charger and Module Cleaning	06/01/2019
6.	Oil Spill Control	25/07/2019
7.	Training on Solar DC	19/09/2019
8.	Safety and Self Defensive Training	12/12/2019
9.	Fire Training	17/01/2020

Assessment team checked that for Number of people employed directly due to the project activity: The total number of person employed for the calendar year is as below:

Monitoring duration	Values
01/09/2017 to 31/12/2017	2
01/01/2018 to 31/12/2018	5
01/01/2019 to 31/12/2019	5
01/01/2020 to 01/02/2020	1
TOTAL	13

Monitoring Duration	01/09/2017 to 31/12/2017	01/01/2018 to 31/12/2018	01/01/2019 to 31/12/2019	01/01/2020 to 01/02/2020
Male/female	1 Male/1 female	3 male and 2 female	3 male and 2 female	1 male
Skilled	1 Man Skilled	3 Male Skilled	2 Women skilled	1 Male Skilled
Un-Skilled	1 Women unskilled	2 Women unskilled	3 male unskilled	-

The salary as provided to both skilled and non-skilled person is above the minimum wage of the locality. Before the implementation of the project activity local people are employed as Labour in the Agricultural field and the Job is also not permanent. They are paid as per the requirement of the field and day work. After the implementation of the project activity the local people are employed with a permanent job and paid as per the minimum salary wages of the area. This not only improved the livelihood of the local villagers/peoples but also helped in improving the happiness quotient of the area.

Further the average hourly earnings of a person are higher than the local level. For e.g a person is getting a monthly salary of INR 62,000 then his average hourly earnings will be as follows:
 $= 62,000 / (30 * 7) = \text{INR } 210.$

	This is higher than the average wage per hour in India (Average hourly earning of a highly skilled worker for Zone C is INR 26.85²). Therefore assessment team confirm that project not only provide a sustainable employment opportunity to the skilled and unskilled person but also help to improve the living standard.
Means of verification:	Assessment team by checking all the training records and certificates, it is confirmed that the project proponent provided sufficient training for the employee/local people for skill and operation of the power plant. Also some interviews were made with employee/local people and they confirmed that they are receiving a lot of trainings. The training not only improves the operation level of the Project, and also enhances the technical skill of the staff. The safe and healthy working condition was provided to the staffs of the Project confirmed by site visit. As the O&M provider is certified with ISO standards Viz 9001 (QMS), 14001 (EMS) and 18001 (OHSAS). Thus all the personal working has to undergo training as per the requirement of the standards which covers Effective verbal & written communication", "HSE training to all employees who are deployed at site", "Inter departmental knowledge sharing" Baseline situation of parameter In the baseline, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures. Future target for parameter Continuation of regular trainings/workshops for employees & O&M staffs
Cross check mechanism	Not applicable

² <https://clc.gov.in/clc/min-wages>

During the site visit, the verification team confirmed that there is a grievance book with GS contact information in the lobby of the project owner's office. By checking grievance book, it was able to confirm there are no comments received from the local people for the present monitoring period.

The Local people are happy with the implementation of the project activity as it entrust employment and improve living standard of local people and villagers.

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>. Thus double counting for the current monitoring period is ruled out.

The project is registered under CDM mechanism having reference number: 7461 (<https://cdm.unfccc.int/Projects/DB/RWTUV1348660371.78/view>). The 2nd periodic verification (period: 01 Sep 2017 - 01 Feb 2020) under CDM is in Issuance request. The present verification under GS4GG is under GS CER –retroactive route. The same period is considered for GS4GG 2nd periodic verification as well.

Also during the site visit, Applus+ Certification conducted an interview with the project owner and local stakeholders please find the summary of the interview as below:

Sections	Debriefing
Trainings & salaries of the employees	During site visit Mr. Yogesh Kumar, of PP representative team was interviewed. It was noted that regular technical & nontechnical trainings were conducted and the salaries are in line with the industry standard.

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the GS4GG guideline.

Summary of ex-post values of each SDG outcome for the current monitoring period

Item	Baseline estimate	Project estimate	Net benefit
SDG 7: Affordable and Clean Energy	-	20775.38 MWh	20775.38 MWh
SDG 8 (Quantitative employment and income generation)	-	13 People employed directly from the project activity	13 People employed directly for the current monitoring period
SDG 8: Decent Work and Economic Growth- Quality of employment	-	09 employee training Conducted during the current monitoring period	09 employee training Conducted during the current monitoring period
SDG 13: Climate Action	19,695 tCO ₂ e	-	19,695 tCO ₂ e

Comparison of actual value of outcomes with estimates in approved GS4GG PDD:

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
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SDG 7: Affordable and Clean Energy	19106.51	20775.38
SDG 8 (Quantitative employment and income generation)	10	13 people employed directly
SDG 8 (Quality of employment)	03	9 employees training conducted during the current monitoring period
SDG 13: Climate Action	19,107 tCO ₂ e	19,695 tCO ₂ e

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring report Version 01 & Monitoring report Version 02 and corresponding ER calculation spread-sheets and are consistent with the applied methodology ACM0002 version 20.0 and the monitoring plan contained in the registered GS4GG PDD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring Report Version 01 & Monitoring report Version 02 and corresponding ER calculation spread-sheets. The verification process for the same has been clearly described in above section of the report. See below for the detailed data:

Baseline emissions

$$BE_y = E_{GBL, y} \times EFCO_2, \text{ grid, } y$$

Where,

$$E_{GBL, y} = 20775.38 \text{ MWh}$$

$$EFCO_2, \text{ grid, } y = EF_{\text{grid, CM, } y}, y = 0.948 \text{ tCO}_2\text{e/MWh}$$

Hence,

$$\begin{aligned} BE_y &= 20775.38 \text{ MWh} \times 0.948 \text{ tCO}_2\text{e/MWh} \\ &= 19,695 \text{ tCO}_2\text{e (rounded down)} \end{aligned}$$

Project emissions:

The project is a Solar power project, no fossil fuel is be consumed according to the methodology AMS.I.D version 17 & according to registered transitional annex, $PE_y = 0 \text{ tCO}_2\text{e}$

Leakage:

No leakage emission needs to be considered as per the registered documents

Emission reductions:

Thus the emission reductions are:

$$ER_y = BE_y - PE_y$$

$$= 19,695 \text{ tCO}_2\text{e}$$

The actual emission reduction for the monitoring period is increased by 3.08%. During the onsite visit assessment team confirm that there is no project design change which can impact the increase of the actual ER value and the partial increase of actual value is because the project experienced favourable solar radiation and is nature dependent. Therefore, the partial increase is acceptable to the assessment team because project is implemented as per the description and specification provided in the registered PDD without any design change.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the registered PDD. The same practice is followed onsite and it is confirmed by the assessment team during the verification site visit. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered PDD.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel.

It's verified during the on-site verification, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also the training record has been checked by the assessment team and it is confirmed that the monitoring personnel are get sufficient train to perform the monitoring.

Also, during the site visit the VVB witnessed the stakeholder consultations feed-back conducted by the PP and observed that the no complaints or disputes were highlighted by the stakeholder for the project. All the stakeholders are of the opinion that the project proponent had taken care of all the agreed issues during the initial stakeholder consultation at the start of the project.

All the data and documents, either hard copies or soft copies, is kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

4. **REFERENCE**

LIST OF DOCUMENTS	
S. No.	Document/Evidence/Reference/Web link, Version, Date
/01/	Monitoring Report Version 01 dated 04/02/2020, Monitoring report version 02 dated 24/04/2020 Monitoring report version 03 dated 04/08/2020
/02/	ER sheets version 1.0 dated 04/02/2020 ER Sheets version 2.0 dated 24/04/2020
/03/	Certified Project Design Document Version: Assessment team checked the registered GS passport version 01 dated 04/09/2017 and final Transitional Annex having GS registration date 13/02/2018. https://registry.goldstandard.org/projects/details/1381 - GS registration link https://cdm.unfccc.int/Projects/DB/RWTUV1348660371.78/view - CDM registration link
/04/	AMS.I.D version 17 Tool to calculate the emission factor for an electricity system"
/05/	CDM Validation and Verification Standard Version 2.0 for the project activities
/06/	GS4GG guideline
/07/	Training records of the employees (both skilled/non-skilled)
/08/	O&M policy
/09/	Monthly reports issued by state utility and invoices raised by PP for the complete monitoring period
/10/	Calibration certificates of the complete monitoring period
/11/	Commissioning certificates for power plant
/12/	Log book records for scheduled maintenance of the power plant for the complete monitoring period
/13/	Sample work contract for both skilled and non-skilled manpower
/14/	CSR report
/15/	Grievance register
/16/	HSE procedures
/17/	Power purchase agreement
/18/	O&M agreement
/19/	Technical manual from the Manufacturer

5. **FINAL VERIFICATION STATEMENT**

Applus+ Certification has been engaged by M/s Precision Technik Private Limited (PTPL) to perform the 2nd periodical verification of the "GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India" (GS Ref. No. 6003).

The management of M/s Precision Technik Private Limited (PTPL) is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered transitional annex and the applied methodology AMS.I.D version 17.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and Gold Standard. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the transitional annex and approved by the GS;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the CDM-PDD/transitional annex and the monitoring plan approved by the GS;
- the development and maintenance of records and reporting procedures are in accordance with the registered 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.

In our opinion, the GHG emission reductions for "GHG abatement through Solar Power Generation at Jaisalmer, Rajasthan, India" for the monitoring period 01/09/2017 to 01/02/2020 (Both days included) as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: 01/09/2017 to 01/02/2020 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	0 tCO ₂ e equivalents
Project emissions	0 tCO ₂ e equivalents
Baseline emissions	19,695 tCO ₂ e equivalents (Rounded down)

Emission reductions

19,695 tCO₂e equivalents (Rounded down)

VINTAGE WISE EMISSION REDUCTION IS AS FOLLOWS:

Monitoring duration	Values
01/09/2017 to 31/12/2017	2,733
01/01/2018 to 31/12/2018	8,331
01/01/2019 to 31/12/2019	8,041
01/01/2020 to 01/02/2020	590
Total	19,695

Date: 19/08/2020

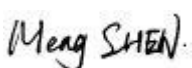
Lead Auditor: Mr. Sukanta Das

Tech. Expert: Mr. Sukanta Das

Tech. Reviewer: Mr. Denny Xue

Approver (*Applus+ Certification Business Unit Managing Director*)

Mr. Juan Sendín Caballero

ASSESSMENT TEAM	
Team Leader Mr. Sukanta Das	Technical Reviewer: Mr. Simon Shen
Signature: 	Signature: 
Approver: Mr. Juan Sendín Caballero	
Signature: 	

Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Sukanta	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	11/03/2020
During the document verification following documents are missing: Commission Certificate of the power plant is missing Technical Manual of the power plant is missing.			
Project Participant's response		Date:	24/04/2020
Commissioning certificates along with technical manual is being provided.			
Documentation provided as evidence by Project Participant			
Commissioning Certificates, Technical manual and MR V2			
Auditor's assessment comment		Date:	05/06/2020
Following are the observation of the DOE: Commission Certificate and Technical Manual of the power plant are now submitted to the assessment team. CAR is thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Sukanta	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	11/03/2020
During the document verification it is observed that the log records for plant break down is not provided to the assessment team for the monitoring period. Corrective action is sought for the same.			
Project Participant's response		Date:	24/04/2020
Log book along with plant break down details in GS4GG MR V2 is being included.			
Documentation provided as evidence by Project Participant			
GS4GG MR V2 and logbook.			
Auditor's assessment comment		Date:	05/06/2020
The plant log records for the monitoring period is checked by the assessment team and found that no unforeseen incident observed during the monitoring period. The Power plant undergone scheduled maintenance as per the manufacturer specification. CAR is thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Sukanta	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	11/03/2020
The Monitoring plan in the MR is not as per the registered Monitoring plan of GS4GG PDD. Corrective action is sought.			

Moreover, following observation is made by the DOE regarding monitoring parameter:

For the parameter SDG 7: Monthly Generation Record / Joint Meter Reading sheets and invoices for cross check for the complete monitoring period is missing. The parameter is thus reserved.

For the parameter SDG 8: Decent Work and Economic Growth are linked with Quality of employment which is acceptable to the assessment team. However following discrepancies found:

- The Letter from O&M contractor for employment generation
- Annual Training Records- (Attendance sheet, Minutes of Meeting for the training provided- Safety, operational, soft skills etc) and (HSE & HR) & Employee feedback forms are not submitted to the DOE. Moreover, Annual training details for the monitoring period are also missing in the MR.

Corrective action is sought for the same.

For the parameter SDG 8: Decent Work and Economic Growth are linked to Quantitative employment and income generation. The same is acceptable to the assessment team. Following discrepancies are observed for the current monitoring period:

- The daily attendance register is not provided to DOE.
- Plant employment records- supportings
- Moreover, PP claimed that many people are employed however it is not mentioned whether they are temporary/permanent or skilled/unskilled basis. Annual data for the Jobs opportunity provided for the monitoring period is missing in the MR. As per registered passport and transitional annex the supporting to claim the data like Employee pay- rolls, Salary slip and Attendance register is not submitted to the DOE.
- PP also claimed that the payment will be based on work and no any gender inequality for payment for work of equal value. The supporting is missing.
- Also, it is not mentioned whether local people are employed because of the implementation of the project activity. As per PP the parameter has a positive impact as the project results in direct employment and income generation. PP is requested to provide evidence how income generation and direct employment in the region is improved.

Project Participant's response		Date:	24/04/2020
1	For the parameter SDG 7: Joint Meter Readings and invoices covering the monitoring period is being provided.		
2	For the parameter SDG 8: • The Letter from O&M contractor for employment generation is being provided • Annual training record along Minutes of meeting and supporting are being provided. Also Annual training records to MR V2.		
3	For the parameter SDG 8: • Attendance register is being provided with this submission. • Employment provided varies in nature, both skilled and unskilled are hired on permanent and temporary in nature. The pay-rolls, salary slip and attendance register are being submitted with this submission. • PTPL complies with fair employment practices and honours internationally accepted humans and labour rights and labour standard. PTPL is committed to equality of opportunity in all employment practices, policies and procedures. A number of local people are employed permanently and local people are preferred during temporary services.		
Since before the implementation of the project activity, the local who are employed by the project activity, are not engaged with any full time employment activity. Project results in the direct employment and			

income generation. Salary slips, attendance records is being provided to support the explanation.		
Documentation provided as evidence by Project Participant		
JMR and Invoices, Letter from O&M Contractor, Attendance Register and Pay slips.		
Auditor's assessment comment	Date:	05/06/2020
Following are the observation of the DOE:		
FOR SDG 7 the form B and the invoice for the complete monitoring period is submitted. CAR is thus closed FOR SDG 8, the supporting documents are now submitted. CAR is thus closed. FOR SDG 8, the explanation is acceptable to the DOE. CAR is thus closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Sukanta Das	Ref. to checklist in above tables:	
Description of the audit finding		Date:	11/03/2020
The ER value is not rounded down which is not conservative. Cross check mechanism is not mentioned in the ER sheet. Section E.4 and E.5 need detail assessment. The table is not correct. Corrective action is sought. The actual vs estimation value is not mentioned in the MR and neither presented in the ER sheet. The emission reduction calculation is thus reserved till the submission of proper documents.			
Project Participant's response		Date:	24/04/2020
ER sheet is being provided. Cross check mechanism and round down values are being included.			
Documentation provided as evidence by Project Participant			
ER sheet, JMR and Invoices			
Auditor's assessment comment		Date:	05/06/2020
All the JMR and invoices are now submitted to the assessment team. The value as mentioned in the ER is correct and conservative. Cross check mechanism now forms the part of ER sheet version 02. CAR is thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Sukanta Das	Ref. to checklist in above tables:	
Description of the audit finding		Date:	11/03/2020
The calibration details are missing in the MR. Calibration date/Calibration frequency/Due date of Calibration is missing. Moreover, Calibration certificates are also missing. Corrective action is sought for the same.			
Project Participant's response		Date:	
Calibration details is being included in GS4GG MR V2. Also the certificates are being provided.			
Documentation provided as evidence by Project Participant			
GS4GG MR V2 and Commissioning Certificates			
Auditor's assessment comment		Date:	05/06/2020

The Calibration details are now submitted to the assessment team. Delay observed in calibration for the present monitoring period and appropriate error factor applied for the present monitoring period. CAR is thus closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Sukanta Das	Ref. to checklist in above tables:	
Description of the audit finding	Date: 11/03/2020		
As per the monitoring report a grievance register is placed at site and is being monitored continuously for any comments from Stakeholder. The Register is not submitted to the assessment team. CAR is thus raised.			
Project Participant's response	Date: 24/04/2020		
Grievance register copy is being submitted to the DOE assessment team.			
Documentation provided as evidence by Project Participant			
Grievance Register			
Auditor's assessment comment	Date: 05/06/2020		
No complaint observed from the local people in the grievance register and hence assessment team is of the opinion that local are happy with the implementation of the project activity as it not only provided a sustainable income to them but also improved their living standard. CAR is thus closed.			

Appendix 2: Calibration details of monitoring meters

	Main Meter	Check Meter
Serial Number	11071570	11071571
Accuracy Class	0.2s	0.2s
Make	Larsen & Turbo Limited	Larsen & Turbo Limited
Calibration Date	30/Nov/2014	30/Nov/2014
Calibration Due Date	29/Nov/2017	29/Nov/2017
Calibration Date	8/Mar/2018	8/Mar/2018
Calibration Due Date	7/Mar/2021	7/Mar/2021
Meter Change and Calibration date	11/Sep/2019	
Serial Number	16113796	
Accuracy Class	0.2s	
Make	Larsen & Turbo Limited	
Calibration Due Date	10/Sep/2022	

*Note: The period **29 November 2017 to 08 March 2018** is not covered under the validity of calibrated energy meters. Therefore error factor as per the accuracy class (0.2%) of meters is applied during the duration. As a conservative approach, full month from November 2017 to March 2018 have been considered for the application of error factor. The cells have been highlighted in light grey in "Rajasthan" sheet of the emission reduction calculation sheet.

Appendix 3: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Sukanta DAS	Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
Mr. Simon Shen	Mr. Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years