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GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT

-

VERIFICATION

Project Title:	40 MW Orange Charanka Solar Power Project in Gujarat, India
Monitoring Period:	01/08/2018 to 29/02/2020 (Both days included)
GS project ID:	GS5866
Internal ID:	11520
Customer:	Orange Charanka Solar Energy Private Limited
Date:	18/06/2020
Revision:	01

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SUMMARY				
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*	
GS5866	16/06/2020	01	18/06/2020	
GS4GG Verification				
GS4GG Certified Product *(sought)***:**	GS VER			
GS4GG SDG Impact Statement *(sought)***:**	Impact Certification			
General Information				
Client	Orange Charanka Solar Energy Private Limited			
Project Title	40 MW Orange Charanka Solar Power Project in Gujarat, India			
Project Participants	Orange Charanka Solar Energy Private Limited			
Project Location	Charanka & Santalpur villages, District Patan, Gujarat, India			
Contact Person	Mr. Murali Krishnam Raju M			
Monitoring Period:	01/08/2018 to 29/02/2020 (Both days included)			
GS4GG Version: GS4GG Principles and Requirements 1.2 GS4GG Activity Requirements: RE Activity Requirements Applied Methodology Version: ACM0002 "Grid-connected electricity generation from renewable sources" Version 17.0 Current Methodology Version: ACM0002 "Grid-connected electricity generation from renewable sources" Version 20.0	GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2			
Monitoring Report Version: 01 Date: 24/04/2020	Final Monitoring Report Version: 02 Date: 15/06/2020			
Certified Project Design Document Version: Assessment team checked the registered GS PDD version 04 dated 19/04/2018. Date: Provided above Final Passport, Version 04 dated 18/04/2018				
Estimated Annual Emission Reductions for the Monitoring period for all SDG: SDG 7: 86,347 MWh /Year 136,735 MWh for this monitoring period SDG 8: Minimum 1 training to be carried out annually / The income to all the workers are made in line with the minimum wage specified by the government time to time. SDG 13: 84,421 tCO2/year 133,686 tCO_2e for this monitoring period				
Actual Emission reduction achieved for all SDG: SDG 7: 135,325 MWh for this Monitoring Period SDG 8: Trainings = 04 Trainings provided to staff /89,35,512 INR /34 number employment provided SDG 13: 132,305 tCO_2 for this Monitoring Period				
Selected Sustainable Development Goals (SDGs): 7; 8; 13				

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SUMMARY
Verification Summary
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Orange Charanka Solar Energy Private Limited to perform the 2nd periodical verification of "40 MW Orange Charanka Solar Power Project in Gujarat, India" (Ref. No. GS5866) applying the methodology ACM0002 Version 17.0. The management of Orange Charanka Solar Energy Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A desk review and an interviews have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed: a. The registered PDD including the monitoring plan & Transition Annex; b. Monitoring report(s); c. The applied monitoring methodology; d. Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; e. GS4GG guideline and related Annex. f. All information and references relevant to the project activity's resulting in emission reductions. Orange Charanka Solar Energy Private Limited (OCSPPL) has set up a 40 MW solar power project in the villages of Charanka, Santalpur, District Patan in the State of Gujarat, India. 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. Project activity is commissioning on 04/08/2017. The monitoring of emission reduction and sustainable development indicators has been carried out in accordance to respective registered PDD and Passport & Transition Annex. Applus+ Certification confirms that the project is implemented in accordance with the validated and registered PDD & Transition Annex. The monitoring plan complies with the applied methodology ACM0002 Version 17.0 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 132,305 tCO_2e emission reductions during period 01/08/2018 to 29/02/2020 (Both days included)

ASSESSMENT TEAM		
Team Members	**Type of Resource**[1]	**Organization** *(for OEs)*
Lead Auditor: Dr. Atul Takarkhede	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Auditor: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Expert: Dr. Atul Takarkhede	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. Simon Shen	☐ IR ☒ EI ☐ OE	Applus+ Certification

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

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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
CDM VVS version 02	CDM validation and verification standard for project activities, Version 02.0
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
OCSPPL	Orange Charanka Solar Energy Private Limited
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
SECIL	Solar Energy Corporation of India Limited
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body

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1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Orange Charanka Solar Energy Private Limited to perform the 2nd periodical verification of "40 MW Orange Charanka Solar Power Project in Gujarat, India" applying the methodology ACM0002 Version 17.0 and GS4GG guideline. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs.

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 registered PDD and Passport & Transition Annex and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM validation and verification standard for project activities, Version 02.0 for the project activities and Gold Standard (i.e. applicable GS4GG requirements);
- 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 ACM0002 Version 17.0.

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 PDD and registered Passport & Transition Annex as well as its validation report, 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 project activities, Version 02.0 for the project activities 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

Orange Charanka Solar Energy Private Limited (OCSPPL) has set up a 40 MW solar power project in the villages of Charanka, Santalpur, District Patan in the State of Gujarat, India.

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 CO_2 emissions.

Project activity is commissioning on 04/08/2017. The monitoring of emission reduction and sustainable development indicators has been carried out in accordance to respective registered PDD, Passport and Transition Annex.

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 remote audit 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**
Dr. Atul Takarkhede	LA/TE	YES	YES	NA	YES
Mr. Sukanta Das	A	YES	YES	NA	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 registered PDD & Transition Annex, 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.

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2.3 On site assessment and follow up interviews

No Physical verification was conducted by the VVB for this GS verification due to high threat of COVID-19 in entire state of India. Government of India has ordered nationwide lockdown from 25/03/2020 to 14/04/2020 in first phase & further extended to 17/05/2020[2] to 31/05/2020[3].

Hence, in line with the COVID 19: INTERIM MEASURES published by GS on 06/04/2020, VVB has taken alternative measures to reach reasonable level of assurance. Further, no alternative monitoring approach have been used by project proponent during this monitoring period. The monitoring period is less than 2 years in line with GS COVID 19: INTERIM MEASURES guidelines. Thus, assessment team have conducted remote audit and used verification techniques & advanced communication technology solutions to verify information and compliance with applicable requirements to the extent possible, to ensure the completeness and credibility of the audit.

Thus, following means of verification have been implemented by assessment team:

- Cross-checks between information provided in the PDD/Passport/Transition Annex/Monitoring report and information.
- The DOE's sectoral & local expertise.
- Telephone & Skype video call Interviews with PP representative, O&M team and local stakeholders & consultant.
- Cross checks between the information provided by interviewed personnel & information provided in registered documents as well as previous verification documents;

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Kashyap	Anuj	Site Incharge (OCSPPL)	18/05/2020 (Skype)	Project implementation, O&M, JMR, Calibration, Sustainable monitoring, LSC etc.etc.	Dr. Atul Takarkhede
2.	Singh	Mayur	Local stakeholder (Villeger)	18/05/2020 (Skype)	Stakeholder meeting-Employment opportunities, Pollution aspects, Standard of Livings etc.	
3.	Tarsibhai	Ishwar	Local stakeholder (Villeger)	18/05/2020 (Skype)	Stakeholder meeting-Employment opportunities, Pollution aspects, Standard of Livings etc.	

[2] https://www.mha.gov.in/notifications/circulars-covid-19
[3] https://www.mha.gov.in/sites/default/files/17052020Lockdown_1.pdf

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
4.	Singh	Richa	Consultant	18/05/2020 (Telephone)	Monitoring report and Emission reduction calculations etc.	

The objective of the remote 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 & Transition Annex 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 PDD & Transition Annex
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder interviews.

To verify the implementation of project activity, onsite operation & maintenance, monitoring & management practices; assessment team has conducted Skype video call/telephonic interviews with onsite in-charge, O&M team and also had a detail discussion with the PP representative and reviewed third party statutory documents i.e. Commissioning certificates, Power Purchase Agreement, Complete set of JMRs covering monitoring period, Invoice (for cross check of Net electricity supplied to the grid as per registered PDD & Transition Annex and approved methodology), employment & training records, Salary records, CSR records, breakdown log, O&M schedule, grievance register and other relevant records.

After telephonic/Skype interviews with concerned onsite persons, document reviews & site videos/photographs submitted by PP; assessment team concluded that the project activity is still implemented and operated in-line with the registered PDD & Transition Annex. There is no change in the project design or operation and monitoring practices at site which can alter the applicability or additionality of the project activity. In addition to the interviews with PP, assessment team have checked the commissioning certificate, PPA and JMRs and found that the project activity is implemented as per the PDD, Transition Annex and Monitoring report submitted by the PP for current monitoring period. Assessment team therefore of the opinion that project is implemented as described in the registered PDD & Transition Annex and there is no change in monitoring practices as well as all monitoring parameters as envisaged in the PDD & Transition Annex. All the monitored values are supported by the evidences i.e. JMRs and found that information provided in the MR is in line with the submitted evidences.

Some snapshots of the remote audit through Skype and photographs of the project activity are provided in Appendix 4 of this report.

Interview summary of the local stakeholders is also given below:

Name of the stakeholder	Mayur Singh
Occupation	Villager
DOE QUESTION: Did PP/vendors have employed locals in the operation and maintenance of the project activity? Answer: Yes. PP as well as vendors have given preference to the local peoples residing in the vicinity of the area for various employment. Assessment team noted that locals were employed for the project activity and same is verified from the list of local employees submitted by PP. DOE also during the interviews with site in charge noted that that local people were employed for security and operation related work like vegetation improvement and other unskilled work and operation and electrical work.	

Name of the stakeholder	Ishwar Tarsibhai
Occupation	Local stakeholder (villager)
DOE QUESTION: In which area you belong to? Answer: Residing in the village near to the plant substation. DOE questions: In which department you are working? Answer: Working as office staff. DOE question: Did company pays salary regularly? Answer: Yes. PP paying salary regularly.	

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 02. 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: 04, CLs: 01, 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 raised during validation or previous 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 registered PDD, Passport & Transition Annex. The assessment team confirms, through the remote audit that all physical features of the proposed project activity including data collecting systems and storage have been implemented in accordance with the registered PDD & Transition Annex for GS4GG and Passport.

The technical features of the equipment's have been verified by the assessment team by reviewing following documentation:

- telephonic interviews of onsite personnels
- Technical detail analysis of the power plant from the documents submitted by the manufacturer.
- Commissioning certificates of the plant
- PPA for the project activity

Total installed capacity of the plant is 40 MW_{ac} (corresponding to 53.4 MWp). Technical details are as follows:

Make	JA Solar	JA Solar
Technology	60-cell multi Crystalline	60-cell multi Crystalline
Model	JAP 6(K) 60 265 4BB	JAP 6(K) 60 270 4BB
Capacity	265 Wp	270 Wp
No. of Modules	80784	118656
Capacity, MW (DC)	21.408 MWp	32.037 MWp
Total Capacity, MW (DC)	53.445 MWp	
Total Capacity, MW (AC)	40 MW	

Inverters

Make	ABB	Huawei
Model	PVS800-57	SUN2000-43KTL-IN-C1
Rated Capacity	1000 kVA	43 kVA
No. of Inverters	36	94
Rated Input Voltage	1000 V DC	1000 V DC

Transformers

Make	Raychem RPG	Raychem RPG	Crompton Greaves	Recons Power Equipments
Model No.	ADA1419025	ADA1419026	MT 7984	
Capacity	4000 kVA	4000 kVA	20/25 MVA	100 kVA
No. of Transformers	09	01	02	01
Voltage Ratio	4 x 380 V/ 11 kV	2 x 500 V/ 11 kV	11 / 66 kV	415 V / 11 kV

Power plant is commissioned on 04/08/2017. Assessment team checked the commissioning date of the project activity from the Commissioning certificate issued by the government authority i.e. Gujarat Energy Development Agency (GEDA) and found the same to be appropriate.

The project activity was in normal operational during the monitoring period and the same has been confirmed during interviews with PP and crosschecked from review of JMR & breakdown records submitted by PP. Power plant was working throughout the monitoring period and same have been conformed from JMR values. No unusual activates observed during the monitoring period and plant was undergone scheduled as well as emergency maintenance as per the recommendation of the manufacturers. No forced breakdown observed and the same is confirmed by the assessment team with the plant log details and JMRs.

The verification team has reviewed the commissioning certificates & PPA to conclude that the capacity of the project is same as mentioned in the registered GS PDD and explained by PP during interviews. The capacity of the project activity does not change after the registration of the project activity and same have been confirmed from the commission certificate, PPA and JMRs issued by State Utility and Invoices raised by the PP towards SECIL.

Also from review of other documents such as Commissioning certificate, PPA & JMR, it was observed that the rated capacity of the project is 40 MW. The capacity of the project is more than 15 MW and thus the same qualifies as large scale project activity.

Plant is located in Charanka, Santalpur, District Patan, Gujarat, India. Assessment team also checked the locations of the project activity in the registered PDD/passport & Transition Annex, validation report and previous verification monitoring report & verification report. Thus, location provided in MR are found in line with registered documents of the project activity and are as 23º 54' 26.45" N & 71º 12' 4.79" 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 review of commissioning certificate, PPA and interviews with PP. The grid structure as mentioned in the PDD & Transition Annex is still applicable for the project and ex-ante emission factor as proposed in the PDD & Transition Annex is used for emission reduction calculation. Assessment team noted that the project activity has entered a power purchase agreement for a period of 25 years with the SECIL. The electricity is fed in the Integrated Indian grid.

The commissioning details as provided in the MR Version 01 & 02 were checked with the commissioning certificates issued by State Utility. The commission certificate is issued by "Government agencies" which is a third party government firm and thus the commissioning dates are acceptable to the assessment team.

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 PDD & Transition Annex and no change in additionality/baseline is envisaged for the present monitoring period.

The amount of GS-VERs achieved during the present monitoring period is lower than the estimated value in the PDD & Transition Annex. This is due to the lower PLF months during the monitoring period. There is no any adverse impact on additionality due to this low PLF of project activity for current monitoring period.

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 ACM0002 version 17.0, applied by the proposed GS project activity.

No deviation, correction or permanent change to the monitoring plan has been requested or observed.

Assessment team also checked the metering details of the connected solar plant and found the same to be appropriate. Feeder details were confirmed from the interviews with PP, Previous verification report and JMRs submitted for current monitoring period. The monitoring meters are installed at GETCO substation.

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:	LOW	Human error is likely	All the personal are well

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	
	Readings from Meters (if not automatic)		to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures and monitoring processes.	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 ACM0002 Version 17.0, applied by the proposed GS project activity.

No deviation, correction or permanent change to the monitoring plan has been requested or observed.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the transitional document. 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 PDD & Transition 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 11.0. The default values as mentioned in the registered PDD & Transition Annex and submitted 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 PDD & Transition Annex for the current monitoring period.
The ex-ante fixed value as per registered PDD v& Transition Annex is as below. The same values are used for the current monitoring period for the calculation of baseline emission.

$EF_{OM,y}$ = 0.9941 tCO_2e/MWh

$EF_{BM,y}$ = 0.9285 tCO_2e/MWh

$EF_{CM,y}$ = 0.9777 tCO_2e/MWh

b. Data and parameters monitored

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

Relevant SDG indicators = 7.2.1 Affordable and Clean Energy

$EG_{facility,y}$ = Quantity of net electricity supplied by the project plant to the grid (MWh)

The parameter $EG_{facility,y}$ 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 plant. For billing purpose, the meter readings shall be measured on monthly basis jointly by the representative of State electricity board and the Project Participant & online mode 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 PDD and registered Passport/Transition Annex. 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 CDM PDD, Passport & Transition Annex and onsite practice. Assessment team confirms the same during the Skype/telephonic interviews with PP. 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. Moreover, as per the requirement of the approved methodology and registered PDD and passport/Transition Annex assessment team cross checked the net electricity value as presented in the JMR with the invoice raised and found the values match with each other. The same is thus acceptable to the assessment team and thus emission reduction calculation is correct.

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 were checked during verification review from calibration certificates and interviews with PP & photographs submitted by PP.

The calibration details are as below:

As per the registered PDD & Transition Annex, calibration of meters is under the control of State Utility and frequency of calibration is not within the control of PP. However, as the PDD & Transition Annex the PP shall ensure at least once in five year calibration as per the national standard. During the monitoring period the meters have been calibrated and there has been no error or fault in the meters identified during the latest calibration as well.

All the meters are of "Secure Make with 0.2s Accuracy class. Below are the details of meter numbers and calibration dates, the meters are calibrated during the monitoring period have been detailed below:

Details	Main meter	Check meter
Meter Number	GJ3845A	GJ3846A
Make	Secure	Secure
Accuracy class	0.2S	0.2S
Location	Substation	Substation
Last calibration	30/08/2017	06/10/2017
Validity	29/08/2022	05/10/2022
Calibration Compliance	Yes	Yes

The Calibration details are presented in section D.2 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 PDD Version 04 dated 19/04/2018 & Transition Annex indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant SDG indicator	GS PDD	MR	Compliance
Net electricity supplied to the grid	SDG 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	Quantity of net electricity supplied to the grid during the year y.	Quantity of net electricity supplied to the grid during the year y.	Yes
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	SDG 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Quantitative employment, income generation and trainings provided to employees & O&M staff for this monitoring period	Quantitative employment, income generation and trainings provided to employees & O&M staff for this monitoring period	Yes
Take urgent action to combat climate change and its impacts	SDG 13: Take urgent action to combat climate change and its impacts	Emissions Reductions in tCO_2	Emissions Reductions in tCO_2	Yes

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

Relevant SDG Indicator	**SDG 7.2.1: Affordable and Clean Energy**
Data/parameter:	$EG_{facility,y}$
Unit	MWh
Description	Quantity of net electricity supplied by the project plant to the grid
Source of data checked by the assessment team	Monthly generation statement/JMR provided by State Utility
Value(s) of monitored parameter	135,325

Means of verification:	Assessment team checked that the parameter is calculated. Energy meters of 0.2s accuracy class provided at substation & continuously measure the export as well as the import from the solar plant. The net electricity exported is being calculated by subtracting import from the export. For billing purpose, the meter readings shall be measured on monthly basis jointly by the representative of State electricity board and the Project Participant & online and the PP has no control over the process. On the basis of this reading, Quantity of net electricity supplied to the grid is calculated and the JMR/State Energy Account issued by State Utility to Project Participant. Based on the JMR/State Energy Account the Invoice is raised by PP to State electricity board. The practice followed onsite is as per the registered PDD & Transition Annex. The meter reading is taken during a fixed billing cycle of every month. The details of the Meters are provided in appendix 2 of the report.
Cross check mechanism	The JMR is 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 13.2.1: Climate Action**
Data/parameter:	Emissions Reductions in tCO_2
Unit	tCO_2
Description	CO_2 emission reduction
Source of data checked by the assessment team	Emission reduction sheet
Value(s) of monitored parameter	132,305
Means of verification:	Assessment team checked that the parameter is calculated. The electricity exported & imported measured by Energy meter installed at substation. The JMR is cross-checked with the invoice copies. Emission reduction calculated in thus correct and accurate.
Cross check mechanism	All the formulas are applied in line with the registered CDM PDD/GS Passport & Transition Annex.

Relevant SDG Indicator	**SDG 8.5.1: Decent Work and Economic Growth**
Data/parameter:	**Quality of employment**
Unit	Number of Trainings provided to employees
Description	Trainings provided to employees
Source of data checked by the assessment team	Training Records, HSE & HR records
Value(s) of monitored parameter	Assessment team checked Number of Trainings provided to employees & O&M staffs. A total of 04 training programmes to its employees and O&M staffs. The training records for the monitoring period is checked by the assessment team and found correct.
Means of verification:	The value for this parameter is taken from Plant records / Letter from O&M contractors for employment generation. Verification team interviewed some employees & local stakeholders.
Cross check mechanism	Not applicable

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Relevant SDG Indicator	**SDG 8.5.1: Decent Work and Economic Growth**
Data/parameter:	**Quantitative employment and income generation**
Unit	Number of staffs involved in the project
Description	Number of people employed directly due to the project activity
Source of data checked by the assessment team	Plant employment records, HR and PP declaration
Value(s) of monitored parameter	Assessment team checked that for Quantity of employment and income generation. Employment is given in office work, O&M, Security etc. A total of 34 employments given during monitoring period. The employment records for the monitoring period is checked by the assessment team and found correct. Further below is the breakup of employment generated during the monitoring period Skilled: 10; Unskilled: 24; Locals: 26; Other: 08
Means of verification:	The value for this parameter is taken from Plant employment records, HR and PP declaration. Verification team interviewed some employees and Local stakeholders.
Cross check mechanism	Not applicable

Skilled	Unskilled	Locals	Other
10	24	26	08

During the interviews with PP, the verification team confirmed that there is a grievance book at project site. Every stakeholder has access to the grievance register and can lodge grievance any time. Same if any is resolved as per the standard operating procedures of the company. By checking grievance book submitted by PP, it was able to confirm there are no comments received from the local people for the present monitoring period. 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.

Assessment team also checked the other registry like UNFCCC and VCS and found that project is registered to UN. Thus, double counting avoidance undertaking for the current monitoring period is submitted by PP.

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 remote audit Mr. Anuj Kashyap, 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	-	135,325 MWh	135,325 MWh
SDG 8: Decent Work and Economic Growth	-	No. of employment opportunities created: 34 No. of trainings conducted: 04 INR: 89,35,512	No. of employment opportunities created: 34 No. of trainings conducted: 04 INR: 89,35,512
SDG 13: Climate Action	132,305 tCO_2e	-	132,305 tCO_2e

Comparison of actual value of outcomes with estimates in approved GS PDD

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
SDG 7: Affordable and Clean Energy	1,36,736 MWh for the Monitoring Period	135,325 MWh
SDG 8: Decent Work and Economic Growth	01 Training	No. of employment opportunities created: 34 No. of trainings conducted: 04 Cost spent on O&M: 89,35,512 Lakh INR
SDG 13: Climate Action	1,33,686 tCO_2e	132,305 tCO_2e

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 17.0 and the monitoring plan contained in the registered PDD & Transition Annex. 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 for the amount of electricity supplied by project activity, BE_y is calculated as:

The baseline emission is calculated in line with para 44 of ACM0002, Version 17, using equation below:

$$\mathbf{BE_{y} = EG_{PJ,y} \times EF_{grid,CM,y}}$$

Where,
BE_y = Baseline emissions in year y (tCO_2/yr)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the 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" (tCO_2/MWh)

AS per para 46 of ACM0002, version 17, when the project activity is installation of Greenfield power plant, then:

$EG_{PJ,y} = EG_{facility,y}$

Where,
$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)
$EF_{grid,CM,y}$ = Baseline Emission factor
= 0.9777 tCO_2/MWh

BE_y = 135,325 x 0.9777 = 132,305 tCO_2e (round down figure)

Thus, the baseline value of each SDG outcome are summarised as follows;

Item	Baseline value
SDG 7: Affordable and Clean Energy	No Activities in the baseline
SDG 8: Decent Work and Economic Growth	No Activities in the baseline
SDG 13: Climate Action	Emission of 132,305 tCO_{2e}

<u>Project emissions:</u>

The project is a solar power project, no fossil fuel is be consumed according to the methodology ACM0002 Version 17.0 & according to registered PDD, PE_y = 0 tCO_2e

<u>Leakage:</u>

As per ACM0002 Version 17.0, No leakage emission needs to be considered.

<u>Emission reductions:</u>

Thus the emission reductions are:

$ER_y = BE_y - PE_y$

= 132,305 – 0 = 132,305 tCO_2e

The actual achieved emission reduction for this monitoring period is 1.03% lower than estimated value in the GS PDD (132,305 tCO_2e against estimated 1,33,686 tCO_2e for 578 operational days with 84,421 tCO_2e/annum). The reductions in actual emission reduction are justified, since during the current monitoring period, the plant underwent scheduled maintenance and breakdown. Also being a solar power project, the generation is nature dependent.

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3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the registered PDD & Transition Annex. The same practice is followed onsite and it is confirmed by the assessment team during the interviews with PP. 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 & Transition Annex.

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

It's verified during the interviews with PP & document review, 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.

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**
1.	Monitoring Report Version 01 dated 24/04/2020, Monitoring report version 02 dated 15/06/2020
2.	ER sheets version 01 dated 24/04/2020 ER Sheets version 02 dated 15/06/2020
3.	Registered PDD Version 04 dated 19/04/2018, Transition Annex for the project activity Final Passport, Version 04 dated 18/04/2018 Final GS Validation report version 01 dated 20/04/2018 Final MR for 1st Verification version 05 dated 23/02/2019 Final Verification Report for 1st Verification version 05 dated 07/03/2019
4.	ACM0002 Version 17.0 Tool to calculate the emission factor for an electricity system"
5.	CDM validation and verification standard for project activities, Version 02.0
6.	GS4GG guideline
7.	Training records of the employees (both skilled/non-skilled)
8.	O&M policy
9.	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
20.	Declaration for no double counting of the emission reductions
21.	ERPA dated 16/03/2020 signed for the purchase of the credits from the project activity
22.	Skype and telephonic interviews carried out with PP as part of remote audit due COVID-19 situation in India

LIST OF DOCUMENTS	
S. No.	**Document/Evidence/Reference/Web link, Version, Date**
23.	Various Circulars for Covid-19 issued by Ministry of Home Affairs of Government of India time to time https://www.mha.gov.in/notifications/circulars-covid-19

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Orange Charanka Solar Energy Private Limited to perform the 2nd periodical verification of the "40 MW Orange Charanka Solar Power Project in Gujarat, India" (GS Ref. No. GS5866).

The management of Orange Charanka Solar Energy Private Limited 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 PDD 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 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. A reasonable level of assurance has been achieved during this verification. The verification can confirm that:

- the project is operated as planned and described in the project design document and PDD approved by the EB and GS;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB and 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 "40 MW Orange Charanka Solar Power Project in Gujarat, India" for the monitoring period 01/08/2018 to 29/02/2020 (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: 01/08/2018 to 29/02/2020 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	0 tCO_2e equivalents
Project emissions	0 tCO_2e equivalents
Baseline emissions	132,305 tCO_2e equivalents
Emission reductions	132,305 tCO_2e equivalents

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Vintage wise breakup of verified emission reduction is given below:

Vintage	Period	Emission Reduction Achieved (tCO_2e)
Year 2018	01/08/2018 to 31/12/2018	32,776
Year 2019	01/01/2019 to 31/12/2019	84,137
Year 2020	01/01/2020 to 29/02/2020	15,392
Total	**01/08/2018 to 29/02/2020**	**132,305**

Date: 18/06/2020

Lead Auditor: Dr. Atul Takarkhede
Tech. Expert: Dr. Atul Takarkhede
Auditor: Mr. Sukanta Das
Tech. Reviewer: Mr. Simon Shen

Approver *(Applus+ Certification Business Unit Managing Director)*
Mr. Juan Sendín Caballero

ASSESSMENT TEAM	
Team Leader Dr. Atul Takarkhede	**Technical Reviewer:** Mr. Simon Shen
Signature:	Signature: Meng SHEN.
Approver: Mr. Juan Sendín Caballero	
Signature:	

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

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	18/05/2020
Monitoring report is not clear about inclusion of the first and last dates of the monitoring period. Corrections sought. Further, during review of the MR, editorial mistakes found in section A.1 & A.2 of the MR. Corrections requested.			
Project Participant's response		Date:	11/06/2020
The monitoring period is 01/08/2018 to 29/02/2020 including both the first and last days. Corrections for the same is done now. All the corrections are done in the revised section A.1 & A.2 of the MR.			
Documentation provided as evidence by Project Participant			
Revised MR Version 2.0			
Auditor's assessment comment		Date:	15/06/2020
Monitoring report in now explicitly mentioned that both first and last dates are included in the monitoring period. CAR closed. Editorial mistakes have been now corrected in section A.1 & A2 of the revised MR. CAR thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	18/05/2020
PP requested to submit evidences for the SDG 8: 1. Training records or the monitoring period. 2. Provide breakup of employees as number of locals, skilled and unskilled etc. 3. Sample salary slips for review of assessment team Further, the workplace Health & Safety trainings are emerging from the safeguarding principles and not as contribution towards SDG 8. Corrections requested. Moreover, as per the interviews with PP, a grievance register is placed at site and is being monitored continuously for any comments from Stakeholder. However, the Register is not submitted to the assessment team. CAR is thus raised.			
Project Participant's response		Date:	11/06/2020
Below evidences are submitted for the assessment of the SDG 8: 1. Training records or the monitoring period. 2. Employees Records as number of locals, skilled and unskilled etc.			

3. Sample salary slips Further, HSE trainings have also been conducted during the monitoring period which impacts positively to the Safeguarding principle 3.3 'Community Health, Safety and Working Conditions'; however, as these HSE trainings do not contribute to the SDGs, therefore removed. The grievance register is submitted to the assessment team with this submission
Documentation provided as evidence by Project Participant
Training Records Employee Records Sample Salary Slips Grievance Register

Auditor's assessment comment	Date:	15/06/2020
PP have submitted the Training Records, Employee Records, Sample Salary Slips & Grievance Register. Breakup of the employees have been also submitted. Further, workplace Health & Safety trainings that are emerging from the safeguarding principles and not as contributing towards SDG 8 have been removed from training table and found appropriate. Also grievance register submitted for assessment. CAR closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	18/05/2020
As per the interviews with PP, a grievance register is placed at site and is being monitored continuously for any comments from Stakeholder. However, the Register is not submitted to the assessment team. CAR is thus raised.			
Project Participant's response		Date:	11/06/2020
The onsite grievance register is submitted to the assessment team with this submission			
Documentation provided as evidence by Project Participant			
Grievance Register			
Auditor's assessment comment		Date:	15/06/2020
Grievance register is submitted to the assessment team and it was found that no grievance was received during monitoring period related to project activity. CAR thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	18/05/2020
Export and import values for the month of October 2019 not found inline with the JMR and invoice submitted for the month. Correction sought. Further, PP requested to rounddown the baseline emissions for conservative estimation of the ER. Corrections in the ER sheet and MR sought.			
Project Participant's response		Date:	11/06/2020

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	18/05/2020
Export and import values for the month of October 2019 was wrongly inserted before which was editorial error; now it has been revised and is in line with the JMR and invoice. The baseline emissions Reductions are rounded down in the revised ER Sheet and the MR.			
Documentation provided as evidence by Project Participant			
Revised MR Version 2.0 Revised ER Sheet version 2.0			
Auditor's assessment comment		Date:	15/06/2020
PP have submitted revised ER sheet with corrected export & import values for October 2019 and rounddown of ER values. CAR thus closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	05
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	18/05/2020
SDG 13: No impact on aesthetics Parameter not found in PDD, Transition annex or VAL report. Please clarify			
Project Participant's response		Date:	11/06/2020
No impact on aesthetics' has been removed from the revised MR. It was editorial mistake.			
Documentation provided as evidence by Project Participant			
Revised MR Version 2.0			
Auditor's assessment comment		Date:	15/06/2020
MR have been revised and editorial correction found Ok as parameter is not part of monitoring plan. CL closed.			

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Appendix 2: Calibration details of monitoring meters

The calibration details of Main and Check Meter at Delivery Point is as below:

Details	Main meter	Check meter
Meter Number	GJ3845A	GJ3846A
Make	Secure	Secure
Accuracy class	0.2S	0.2S
Location	Substation	Substation
Last calibration	30/08/2017	06/10/2017
Validity	29/08/2022	05/10/2022
Calibration Compliance	Yes	Yes

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Appendix 3: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Dr. Atul Takarkhede	**Dr. Atul Takarkhede** counts with 10 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. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. He has Ph.D. (Environmental Science) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical reports related to environmental science. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
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

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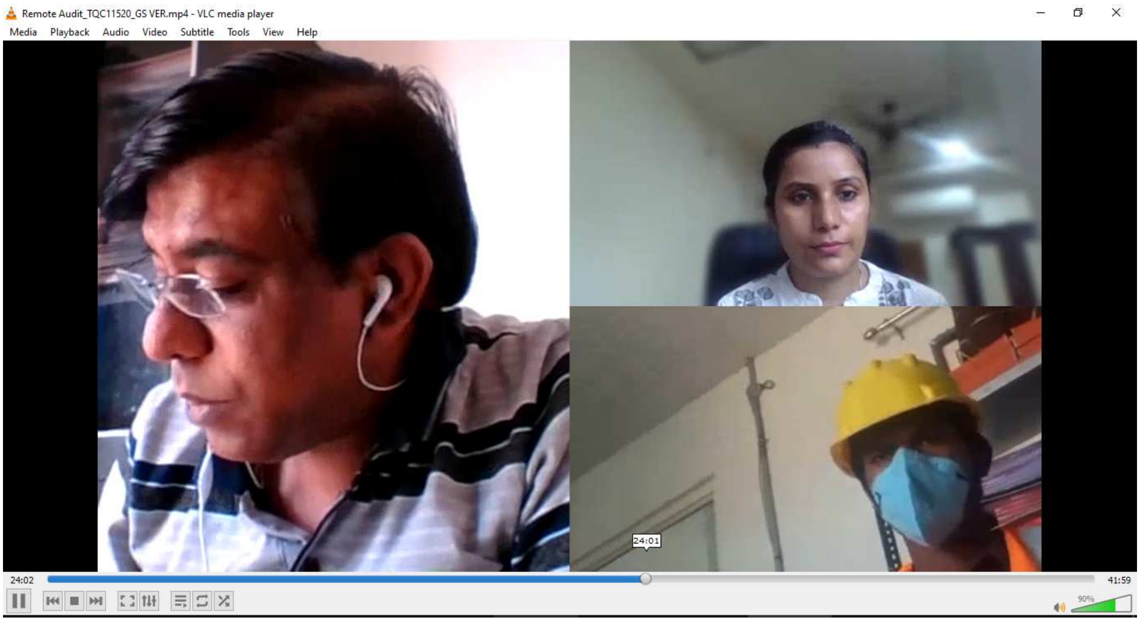
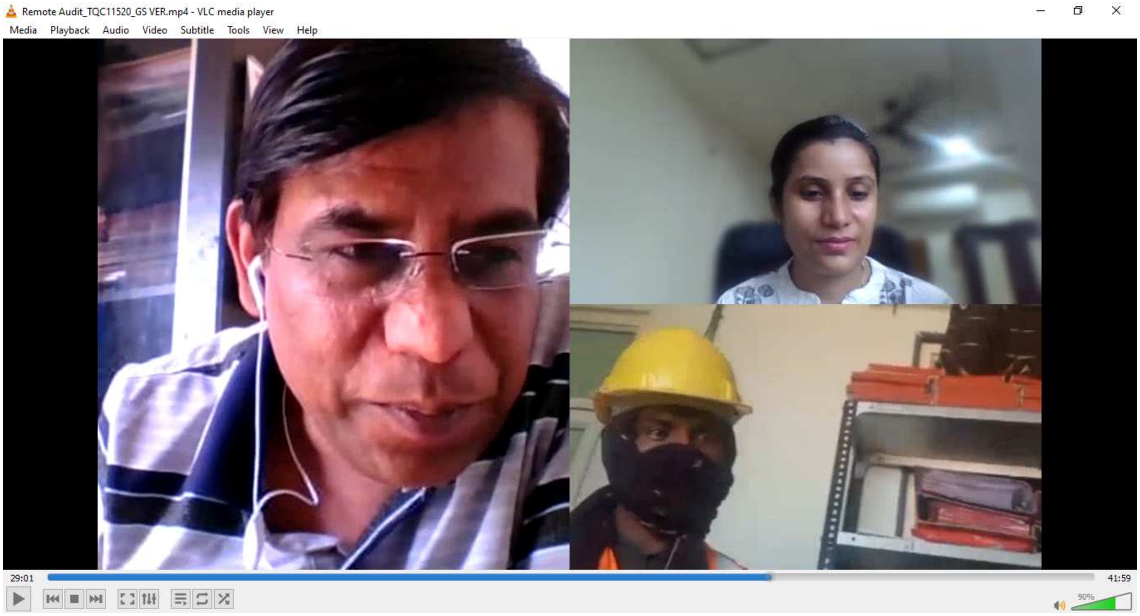
Appendix 4: Remote Audit Snaps and Site Photographs




Remote Audit_TQC11520_GS VER.mp4 - VLC media player
Media Playback Audio Video Subtitle Tools View Help
29:01
41:59


Remote Audit_TQC11520_GS VER.mp4 - VLC media player
Media Playback Audio Video Subtitle Tools View Help
34:04
41:59

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Onsite Photographs


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