

VERIFICATION & CERTIFICATION REPORT

For the CDM-GS Project Activity

70 MW BHADLA SOLAR POWER PLANT BY
FORTUM FINNSURYA ENERGY PVT LTD (EKIESL
– CDM- APRIL- 16- 01)

GS REF. No. GS 5519
CDM REF. No. 10403

2nd Monitoring Period
02/04/2019 to 01/08/2020(including both days)

REPORT No.
CDM.20.VER.030

Date: 30/01/2021	KBS Ref. No.: CDM.20.VER.030	
Project Title:	70 MW Bhadla Solar power plant by Fortum Finnsurya Energy Pvt Ltd	
Client:	1. Fortum Finn Surya Energy Private Limited 2. EKI Energy Services Limited	
Monitoring Period:	02/04/2019 to 01/08/2020 (including both days)	
Summary:		
KBS Certification Services Private Limited has been commissioned by "EKI Energy Services Limited" to perform the 2nd periodic verification of its registered CDM-GS project, "70 MW Bhadla Solar power plant by Fortum Finn Surya Energy Pvt Ltd", GS Reference No. GS 5519 & CDM Ref. No. 10403, for the reported GHG emission reductions for the given monitoring period 02/04/2019 to 01/08/2020 (both dates included). The verification includes confirming the implementation of the monitoring plan of the registered CDM PDD /5/ and the application of the monitoring methodology as per CDM Methodology ACM0002: Grid-connected electricity generation from renewable sources, Version-17/16.1/. A remote audit was conducted to check the implementation of registered monitoring plan and verify the data submitted in the monitoring report. KBS confirms the following has been reviewed; (a) The registered CDM PDD, GS Passport and the monitoring plan and the corresponding validation opinion; (b) The CDM & GS validation reports; (c) CDM & GS previous monitoring and verification reports; (d) The applied monitoring methodology(ies); (e) Approved GS4GG Transition Annex ; (f) The monitoring report to verify that it is as per the standardized format; (g) Any other information and references relevant to the project activity's emission reductions; (h) CER calculations sheets and all supporting documents; KBS Certification Services Pvt. Ltd. confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. Based on the information seen and evaluated we confirm that the implementation of the project during the monitoring period from 02/04/2019 to 01/08/2020(including both the days), has resulted in sustainable development through the following outcomes: SDG 7: 199,411 MWh of net electricity supplied by the project activity to the grid SDG 8: 31 people employed directly and 13 employee trainings conducted SDG 13:194,964 tCO₂e emission reductions.		
Subject Group GS Verification Version of GS rules: Gold Standard for Global Goals (GS4GG)	Sectoral Scope(s): 01	Methodology: ACM0002: Grid-connected electricity generation from renewable sources, Version 17.0
Verification Team:		Monitoring report:
Team Leader and Technical Expert (TA 1.2)	Sanjay Kandari	First version 22/10/2020
Verifier	Shikha Sharma	Final version 21/12/2020
Independent Technical Reviewer Team		Verification status:
Date: 19/01/2021		
Technical Reviewer	Rohit Badaya	☐ Findings not closed.
		☐ Draft verification opinion
Manager T&C		☒ Final verification opinion
Date: 30/01/2021	Tushar Eknath Chaudhari	
Authorized Signatory:		

Date: 30/01/2021		
Managing Director	Kaushal Goyal	☒ No distribution without permission from client ☐ Unrestricted distribution ☐ Limited distribution
Revision history:		
Date	Rev. No.	
15/01/2021	0	
28/01/2021	1	

Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	CDM Validation and Verification Standard
CERs	Certified Emission Reduction(s)
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
CP	Commitment Period
EB	Executive Board
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
GS4GG	Gold Standard for Global Goals
JMR	Joint Meter Reading
kW	Kilo Watt
kWh	Kilo Watt Hour
LE	Leakage Emissions
MP	Monitoring Plan
MR	Monitoring Report
MWh	Mega Watt Hour
O & M	Operation and Maintenance
NVVN	NTPC Vidyut Vyapar Nigam Limited
PCP	Project Cycle Procedure
PDD	Project Design Document
PE	Project Emissions
PLF	Plant Load Factor
PP	Project Participant
PS	Project Standard
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard

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1. INTRODUCTION

1.1 Objective

KBS Certification Services Private Limited has been commissioned by “EKI Energy Services Limited” to perform an independent verification of its registered CDM-GS project, “70 MW Bhadla Solar power plant by Fortum Finn Surya Energy Pvt Ltd”, GS Reference No. GS 5519 & CDM Ref. No. 10403, for the reported GHG emission reductions and reported SD parameter values for the given monitoring period for the given monitoring period 02/04/2019 to 01/08/2020 (both dates included). The GS4GG projects must undergo independent third-party verification and certification of emission reductions as the basis for issuance of GS4GG Certified Emission Reductions (GS4GG CERs).

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

- The project activity has been implemented and operated as per the registered PDD, registered GS Passport and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan;
- The Monitoring report is in line with the approved GS4GG Transition Annex.

1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information and

- (a) The registered CDM PDD, including the monitoring plan, GS Passport and the corresponding validation opinion(s), approved GS4GG Transition Annex;
- (b) Previous verification reports, deviation requests, requests for revision of monitoring plan;
- (c) Monitoring report for the monitoring period under verification including CER calculations sheets and all supporting documents;
- (d) The applied monitoring methodology;
- (e) Relevant decisions, clarifications and guidance from the CMP and the Gold Standard Board;
- (f) All information and references relevant to the project activity's resulting in emission reductions

The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

KBS has, based on the recommendations in the latest version of Gold Standard for the Global Goals and CDM Validation and Verification Standard, employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

1.3 Description of the Project Activity

Title of project activity:	70 MW Bhadla Solar power plant by Fortum Finnsurya Energy Pvt Ltd (EKIESL-CDM-APRIL-16-01)
Gold Standard Id:	GS 5519 (UNFCCC Ref no. 10403)
Project Participants:	1. Fortum FinnSurya Energy Private Limited (India) 2. EKI Energy Services Limited (Australia)*
Applied methodology:	"ACM0002: Grid-connected electricity generation from renewable sources", version 17.0
Location of the project activity:	Rajasthan, India

The project activity consists of solar photovoltaic technology with an installed capacity of 70 MW AC (88.2 MWp) in the state of Rajasthan, India. The electricity generated by the project activity is sold to NTPC Vidyut Vyapar Nigam Limited (NVVNL), on behalf of NTPC[†], to be exported to grid, under a long term power purchase agreement /8/, which is valid for 25 years. The project reduces anthropogenic emissions of greenhouse gases (GHG's), by displacing equivalent amount of electricity from the generation- mix of power plants connected to the electricity grid (Indian Grid), which is mainly dominated by thermal/fossil fuel (Non-renewable) based power plants. Fortum FinnSurya Energy Private Limited (hereinafter referred as FFEPL) is the promoter of the project activity located in Village Bhadla, Tehsil Bap and district Jodhpur in the state of Rajasthan, India.

2. METHODOLOGY

KBS follows a rule based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard. Subsequently, after the contract is signed, the monitoring report of the project activity is made available at Gold Standard registry as per CDM procedures in accordance with Gold Standard rules. Since the Gold Standard prescribes the application of CDM rules and guidelines which are followed along with the Gold Standard rules.

A desk review of the project documentation is undertaken, which is followed by a remote audit by the members of verification team in accordance with the latest version of CDM AS. The verification protocol is filled by the verification team that is based on standard auditing practices and latest version of CDM VVS, to capture the assessment of applicable CDM requirements viz., latest version of CDM Project Standard, registered CDM PDD, applied methodology/ies and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document, and is available on request. Following are the major milestones for the verification under consideration.

Duration of verification

Verification contract	27/08/2020
On site verification/ Remote audit	23/10/2020
Draft Verification Report	15/01/2021
Final Verification Report	28/01/2021

* Is a project participant as per LoA dated 19/06/2020, available on UNFCCC web page <https://cdm.unfccc.int/Projects/DB/Appendix1506003422.59/view>

[†] NTPC has been identified by the Government of India as the Implementation Agency for setting up of Grid-connected Solar PV Projects under the State Specific Building Scheme and for facilitating purchase & sale of 33kV or above Grid-connected solar PV under the National Solar mission of India (Gol).

2.1 Review of Documentation

A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'References'

2.2 Site Visits

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on-site visit. For this project activity, PP has contractual commitment for the verification process with KBS and site visit was not undertaken due to COVID-19 travel restrictions /30/. Therefore, the site visit could not be postponed for this project activity.

However as per the COVID 19 Interim Measures by GS4GG/30/, the VVB may use alternative measures for auditing like remote audits.

As per para 4.1.1 (b) of COVID 19 Interim Measures/30/, Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification of the PA. Along with desk review, audit team has conducted remote audit interview corresponding to the PA as follows:

- A complete desk review of the GS MR /26/, registered CDM PDD /5/, GS4GG Transition Annex/31/, Joint Meter Reading, Invoices, Power Purchase Agreement, commissioning certificates, calibration certificates etc. as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- Verification team has performed Microsoft Teams application interview with PP in order to check implementation, current situation, evaluation of data management, QA/QC system, project technology, training provided, monitoring, calibration etc. Interview questions were filled as per Verification team interview checklist and also videos were captured. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Verification team has performed interview with randomly selected Local stakeholders and employees to check the monitoring of GS4GG sustainable parameters like employment and training.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in the MR and supporting documents.

Details of interviewees, topics covered and additional information presented below:

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Sadevra	Vivek	Manager Sustainability, Fortum Gurugram	23/10/2020 (Microsoft teams application interview)	General aspects of the project, Changes since validation, Quality management system, Monitoring data management, Data analysis, Implementation of the monitoring plan, GHG emission reduction calculation, Involved personnel and responsibilities, Training and practice of the operational personnel, Monitoring data management, Maintenance, Compliance to regulatory requirements, Environmental and social issues, Projects contribution to sustainable development	Sanjay Kandari (Team Leader, Technical Expert (1.2), Local Expert) Shikha Sharma (Verifier)
2.	Kumar	Hemant	Manager Asset Management, Fortum-Rajasthan			
3.	Dogra	Deepak	Assistant Manager			
4.	Prakash	Sahu	Manager, Climate change Operations			
5.	Birbal	Singh	Village resident/ stakeholder (Employee of Fortum)		GS sustainable parameters like employment and training.	

List of questions asked from the local stakeholder with summary of their responses:

Questions	Responses
Does the local stakeholder has a knowledge about the project activity providing employment?	Yes. The stakeholders are well aware of the project activity providing employment to local people.
Have they been asked for feedback or any complaints related to the project by PP?	Yes.
Any opinion on the project?	The response from the stakeholder was positive and no negative impacts have occurred on them due to the project activity.

As discussed during the remote audit, many villagers have received employment opportunities due to the implementation of the project activity.

2.3 Reporting of Findings

During the course of verification the findings may be raised as under;

CAR is raised if one of the following occurs:

- 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(s) have not been resolved by the project participants.

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

FAR is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

The verification report contains (section 6) all CARs, CLs and FARs raised during this verification in transparent manner and provides clear information of the issues raised, response received and its resolutions, including the changes in the documents.

2.4 Verification Assessment

Based on the desk review and remote audit, the team leader follows the verification protocol to identify and record the findings in the context of the project activity. The findings are communicated to the client in the findings document (section 6 of report). The project documentation, including responses to the findings is reviewed by the team leader in consultation with team members, wherever appropriate. The team leader prepares the draft verification report subject to closure or non-closure of the findings.

2.5 Internal Quality Control

The draft verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by KBS are duly followed and

the verification report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to Gold Standard. The final decision is taken by the Manager Technical and Certification. The technical reviewer and Manager T&C can be same person.

The final decision is authorized by Managing Director, KBS once the report is approved by the Manager T&C.

2.6 Sampling Approach

No Sampling Approach is used during verification.

2.7 Remaining Issues (FARs from Previous Validation or Verification)

Discussion:

This is the 2nd periodic verification of the project activity. There was no FAR raised during the GS review of 1st verification.

Findings: No remaining issues pending.

Opinion: No remaining issues pending.

2.8 Compliance of project implementation with registered PDD

Discussion: The verification team determined the implementation and operation management system through the remote audit and interviews with the PP. The verification team checked whether the actual management system was implemented in accordance with the management system described in the registered CDM PDD/5/ and the GS4GG Transition Annex/31/.

The project activity is the operation of a solar power plant with an installed capacity of 70 MW (AC) (88.2 MWp) at Bhadla, Jodhpur, Rajasthan. The promoter of the project activity is Fortum FinnSurya Energy Private Limited, as confirmed during the remote interview. The project was commissioned on 31/03/2017, as confirmed from the commissioning certificate /9/ and involves electricity generation using clean renewable energy source.

Geographical co-ordinates of the project activity have been checked through the means of Google earth software and verified to be as follows:

Location	Latitude (N)	Longitude (E)
Village Bhadla, Tehsil Bap, District Jodhpur, Rajasthan, India.	27° 28' 7.00"	71° 58' 17.00"

Technical specifications of the project activity, as confirmed from the name plates, and manufacturer's specifications /13/ are as follows:

Technical detail of the equipment	Remark
Technology	Solar PV Module
Solar photovoltaic module	First solar series 4 TM PV Module
No of Modules	112.5Wp:- 88800, 115Wp:-587000, 117.5Wp:- 85200
Make	First Solar
Capacity	112.5Wp, 115Wp,117.5Wp
No of inverters	70
Make	ABB
Capacity	1000KVA
No. of transformers	18 (ITD) + 2 (PT)
Technical & Operational Lifetime	25 years

Above mentioned details are also consistent with the details mentioned in the registered CDM PDD and the GS4GG Transition Annex /31/. Through remote auditing (Microsoft Teams application interview) and document review, the verification team confirms that all physical features of the project activity including technology, data collection systems and storage systems have been implemented in accordance with the registered CDM project design document /5/ and the GS4GG Transition Annex /31/. The project activity harnesses the solar energy available at project site to generate electricity and this generated electricity is sold to NTPC Vidyut Vyapar Nigam Limited (NVVNL), on behalf of NTPC*, to be exported to grid, under a long term power purchase agreement/8/, which is valid for 25 years.

It was confirmed through remote interviews that the energy generation is metered by tri-vector electronic meters installed on the 132/220 KV RSDCL GSS II Pooling substation and 220/400 KV RRVNPL substation. The metering point at both substations is inclusive of main & check meters. The meters located at 220/400 KV substation are considered for billing purpose and the transmission losses between both substations are apportioned to each solar project developers in proportion to their generation. The calibration frequency for meters is once in 5 years, which is as per the registered CDM PDD/5/ and it can be concluded that the calibration requirements have been met as verified from the calibration certificates /12/. Therefore, the verification team confirms that no calibration delay has been observed during the current monitoring period and the monitoring equipment's have been installed in the project activity according to registered monitoring plan.

The monitoring plan required for the ex-post monitoring of the Quantity of net electricity generation supplied by the project plant/unit to the grid (EG_{PJ,y}) is as per the registered monitoring plan/4/. The location of energy meters were found to be installed at the respective places as observed through schematic metering arrangement /13/, captured videos and photographs by the verification team.

Verification team has reviewed the power purchase agreement /8/ to confirm the power from the project activity is being supplied to the grid† in compliance to the applied methodology ACM0002:

* NTPC has been identified by the Government of India as the Implementation Agency for setting up of Grid-connected Solar PV Projects under the State Specific Building Scheme and for facilitating purchase & sale of 33kV or above Grid-connected solar PV under the National Solar mission of India (GoI).

† Generated electricity is sold to NTPC†, to be exported to grid, under a long term power purchase agreement/7/, which is valid for 25 years.

Grid-connected electricity generation from renewable sources, Version-17/16.1/, registered CDM PDD/5/ and the GS4GG Transition Annex /31/.

The power from the project activity is being sold to NTPC Vidyut Vyapar Nigam Limited (NVVN), assessment team has reviewed the copy of invoices/11/ raised by project proponent to the buyer to confirm the same. The rated capacity of solar PV modules, location/identification number, meter serial number and make were verified from the name plates /13/ and the photographic evidences /13/ and found to be consistent with the information provided in the GS MR/26/.

The project boundary and all key equipment are in line with the registered CDM PDD/5/ and the GS4GG Transition Annex /31/. The verification team confirmed during the remote auditing (video conferencing) that the CDM project is completely operational and the name plate details of all key equipment's are in line with the registered CDM PDD/5/ and the GS4GG Transition Annex /31/.

The details of operation of solar PV modules installed were cross checked through interviews and found consistent. Some internal and external (grid) outages have been observed during the monitoring period, as confirmed from the breakdown records /24/ which has not affected the applicability of the applied methodology as reported in the MR/2/.

The allocation of the responsibilities is followed as described in the registered CDM PDD /5/ and the GS4GG Transition Annex /31/. Routines for the archiving of data are defined and documented. Calculations, laid down in the monitoring report are in line with registered CDM PDD /5/.

Interviews (refer section 2.2 of this report) were carried out with the plant personals during the Microsoft teams application interview to verify the actual monitoring system practiced by PP. It was found that the plant personals are well aware of their roles & responsibilities. The actual monitoring system presently practiced complies with the monitoring plan provided in the registered CDM PDD/5/, the GS4GG Transition Annex /31/ and the monitoring methodology/16.1/.

As per the registered CDM PDD /5/ and the GS4GG Transition Annex /31/, annual average of estimated electricity generation and estimated emission reduction over 7 years of crediting period are 122,108 MWh/year and 119,384 tCO₂e per year. However, the actual emission reductions are 194,964 tCO₂e for the current monitoring period, which is higher than the estimated emission reduction in registered CDM PDD/5/ and the GS4GG Transition Annex /31/ i.e., 159,615 tCO₂e for current monitoring period (488 days). This is due to the fact that an increase in sunshine hours was observed and the monitoring period covers two high electricity generation periods, as confirmed during the remote interview. The increase in PLF (24.32% for the current monitoring period, as compared to 20.00% considered during validation) of the project activity is the reason for increased emission reductions. The new IRR value of 14.17% due to the increase in PLF has been found within the breaching value of 15.28 % and therefore, the increase in PLF does not impact the additionality of the project activity.

Verification team, based on the on the remote audit and document review, was able to conclude that the commissioning and operation of the project activity are as per the validated CDM PDD /5/ and the GS4GG Transition Annex /31/. Some breakdowns and failures were observed as confirmed during the interviews and through the breakdown records /24/, however, there is no event or situation occurred during this monitoring period which has impacted the applicability of methodology /16.1/. The calculations, laid down in the monitoring report are in line with validated CDM PDD /5/ and the GS4GG Transition Annex /31/.

Interviews (refer section 2.2 of this report) were carried out with the CME to verify the actual monitoring system practiced by CME. The actual monitoring system presently practiced complies with the monitoring plan provided in the validated CDM PDD /5/ and the monitoring methodology/16.1/. Monitoring procedure of GHG data is found sufficient and in accordance with the procedures stipulated under the validated monitoring plan.

Findings: CAR 01, CAR 02 were raised and successfully closed out.

Opinion:

The verification team confirms that:

- a) The project activity is implemented as per the registered CDM PDD /5/ and GS4GG transition annex /31/.
- b) The project activity was fully operational during the monitoring period with the generated power being supplied to northern Indian grid and the actual operation of the proposed CDM project activity is in line to the registered CDM PDD /5/.
- c) No approvals of the deviation, request for revision in monitoring plan, request of notification or request for approval of changes from the project activity as described in the registered CDM PDD/5/ were requested in the current monitoring period.
- d) The actual emission reductions are higher than the expected emission reductions for the current monitoring period, due to an increase in the no. of sunshine hours and increased PLF (as explained above in the section);
- e) It has reviewed the registered CDM PDD /5/, including the monitoring plan and the corresponding validation report /6/, previous MR and verification report /7/, the applied monitoring methodology/16.1/, relevant decisions from the CMP and the CDM EB and found that the final MR for this monitoring period is in line with all the above mentioned documents.

2.9 Compliance of monitoring activities with registered monitoring plan

Discussion:

The monitoring has been carried out in accordance with the monitoring plan contained in the GS Passport /29/ and the approved transition annex /31/. During the course of verification, all relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement / determination method and applied QA/QC procedures. It is confirmed that the monitoring parameters have been measured / determined without material misstatements.

The verification team reviewed the actual monitoring during the remote audit and from document review and compared it against the requirements of the monitoring plan in the GS Passport /29/, the approved transition annex /31/ and found inline.

The verification team assessed the monitoring techniques and each monitoring value in the monitoring report; and provided a short summary on the verification of every parameter listed in the monitoring plan.

Ex-Post Parameters:

1. Data/Parameter

	As per GS monitoring report	Verification team assessment								
Relevant SDG Indicator	SDG 7: Affordable and Clean Energy Indicator 7.2.1: Renewable energy share in the total final energy consumption	The SDG indicator is as per approved transition annex /31/.								
Data/parameter:	EG _{PJ, y}	The data/parameter is as per approved transition annex /31/.								
Unit	MWh	The unit as is as per approved transition annex /31/.								
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	The description is as per approved transition annex /31/.								
Measured/calculated/default	Measured	The parameter is measured through energy meters as verified during the remote audit.								
Source of data	Monthly joint meter reading reports (70MW)	The source of data is correct and as per approved transition annex /31/.								
Value(s) of monitored parameter	<table><tr><th>Monitoring duration</th><th>Values (MWh)</th></tr><tr><td>02/04/2019 to 31/12/2019</td><td>111,224.98</td></tr><tr><td>01/01/2020 to 01/08/2020</td><td>88,186.92</td></tr><tr><td>Total</td><td>199,411.90</td></tr></table> 199,411.90 MWh	Monitoring duration	Values (MWh)	02/04/2019 to 31/12/2019	111,224.98	01/01/2020 to 01/08/2020	88,186.92	Total	199,411.90	The value has been confirmed from the ER sheet /28/ and cross checked with the JMR/10/, invoices /11/ and found OK.
Monitoring duration	Values (MWh)									
02/04/2019 to 31/12/2019	111,224.98									
01/01/2020 to 01/08/2020	88,186.92									
Total	199,411.90									

Monitoring equipment	The details of the monitoring equipment's corresponding to monitoring parameter is given in the below table: For 132/220 KV RSDCL GSS II substation <table><tr><th>Meter Serial Number</th><th>Calibration Date</th><th>Calibration Due Date</th><th>Meter Make</th><th>Accuracy Class</th></tr><tr><td>16195106</td><td>13/03/2018, 01/03/2020</td><td>28/02/2025</td><td>L & T</td><td>0.2s</td></tr><tr><td>16195107</td><td>13/03/2018, 01/03/2020</td><td>28/02/2025</td><td>L & T</td><td>0.2s</td></tr><tr><td>16195098</td><td>13/03/2018, 01/03/2020</td><td>28/02/2025</td><td>L & T</td><td>0.2s</td></tr></table> For 220/400 KV RRVPNL substation <table><tr><th colspan="5">Meter Details (Bay 5)</th></tr><tr><th>Meter Serial Number</th><th>Calibration Date</th><th>Calibration Due Date</th><th>Meter Make</th><th>Accuracy Class</th></tr><tr><td>16195149 (Main Meter)</td><td>23/10/2017</td><td>22/10/2022</td><td>L & T</td><td>0.2s</td></tr><tr><td>16195153 (Check Meter)</td><td>23/10/2017</td><td>22/10/2022</td><td>L & T</td><td>0.2s</td></tr></table> <table><tr><th colspan="5">Meter Details (Bay 6)</th></tr><tr><th>Meter Serial Number</th><th>Calibration Date</th><th>Calibration Due Date</th><th>Meter Make</th><th>Accuracy Class</th></tr><tr><td>16195151 (Main Meter)</td><td>23/10/2017</td><td>22/10/2022</td><td>L & T</td><td>0.2s</td></tr><tr><td>16195243 (Check Meter)</td><td>23/10/2017</td><td>22/10/2022</td><td>L & T</td><td>0.2s</td></tr></table> Calibration frequency: Once in Five years as per	Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class	16195106	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s	16195107	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s	16195098	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s	Meter Details (Bay 5)					Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class	16195149 (Main Meter)	23/10/2017	22/10/2022	L & T	0.2s	16195153 (Check Meter)	23/10/2017	22/10/2022	L & T	0.2s	Meter Details (Bay 6)					Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class	16195151 (Main Meter)	23/10/2017	22/10/2022	L & T	0.2s	16195243 (Check Meter)	23/10/2017	22/10/2022	L & T	0.2s	The technical details of the meters specified in the GS MR/26/ were found consistent with the actual records and on ground as checked through recorded videos and photographs. The accuracy of the main, check energy meter and the standby meter are 0.2s as verified through recorded videos and photographs/13/, which is as per the registered CDM PDD/5/ and approved transition annex /31/ and hence acceptable. It was confirmed through remote interviews that the energy generation is metered by tri-vector electronic meters installed on the 132/220 KV RSDCL GSS II Pooling substation and 220/400 KV RRVPNL substation. The metering point at both substations is inclusive of main & check meters. The meters located at 220/400 KV substation are considered for billing purpose and the transmission losses between both substations are apportioned to each solar project developers in proportion to their generation. Calibration frequency is once in five years
	Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class																																																									
	16195106	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s																																																									
	16195107	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s																																																									
	16195098	13/03/2018, 01/03/2020	28/02/2025	L & T	0.2s																																																									
	Meter Details (Bay 5)																																																													
	Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class																																																									
	16195149 (Main Meter)	23/10/2017	22/10/2022	L & T	0.2s																																																									
	16195153 (Check Meter)	23/10/2017	22/10/2022	L & T	0.2s																																																									
	Meter Details (Bay 6)																																																													
Meter Serial Number	Calibration Date	Calibration Due Date	Meter Make	Accuracy Class																																																										
16195151 (Main Meter)	23/10/2017	22/10/2022	L & T	0.2s																																																										
16195243 (Check Meter)	23/10/2017	22/10/2022	L & T	0.2s																																																										

	registered CDM PDD monitoring plan /04/.	which is in compliance with the registered CDM PDD /5/ and approved transition annex /31/ and hence acceptable. The monitoring equipment's have been installed in the project activity according to registered monitoring plan /5/. The Calibration performance was checked from the calibration reports /12/ and found that the meters were within the respective accuracy level as verified from the calibration results. The Calibration of all the meters have been done by Darsh Calibrations Pvt. Ltd. /12/ and it has been observed that under the current monitoring period, there was no delay in calibration.
Measuring/reading /recording frequency:	Plant end dedicated metering: The electricity exported / supplied by the plant is first metered by plant end dedicated meter. This can be considered as stand by meter. Common metering at the substation: All the plants (including the project activity solar plant and other investors solar plant) are further connected to a common metering point at Pooling substation 132/220 KV GSS II and further electricity is transferred to 220/400 KV RRVPNL substation. The common metering point consists of both main & check meters (ABT Meters) having accuracy class of 0.2s. The export/import losses between these two substations are apportioned based on pooling substation readings. The difference of final apportioned value of export and import is used for monthly values of net electricity supplied to the grid by the project activity and same value will be considered for ER calculations	The measurement and recording frequency is as per the approved transition annex /31/. The same is verified during the remote audit interview and found OK.

Calculation method (if applicable):	Continuous measurement & monthly recording	Net electricity exported by the project activity to the grid is monitored continuously and reported on monthly basis in form of Monthly Joint meter readings (JMR) /10/. However, since the monitoring period start date (02/04/2019) does not match the date of the billing cycle for April 2019, therefore the net electricity exported to the grid for April 2019, has been apportioned using the daily generation data from the standby meter which was found to be conservative and acceptable by the verification team. The details of roles and responsibilities for the monitoring is provided in the GS MR /26/. The plant personnel were interviewed during remote auditing and the assessment team confirms that the details as provided are followed at site and are effective reliable for the accounting of emission reductions. The verification team has verified all the JMRs /10/ for this monitoring period and confirms that the same values are applied in the GS ER calculation sheet /28/.
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QA/QC procedures:	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 5 years.* 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 will be applied appropriately to confirm the conservativeness of metering. The metering arrangement, accuracy class of meters, calibration frequency and apportioning approach is under control of state electricity board and PP do not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered the monitoring parameter	The Calibration of all the meters have been done by Darsh Calibrations Pvt. Ltd (accredited by NABL) /12/ which is accepted to the verification team. The calibration certificates /12/ are verified and found that the error in calibration test is within the accuracy class of the respective meter. The verification team has verified all the electricity bills/protocols /09/ for this monitoring period and confirms that the same values are applied in the GS ER calculation sheet /28/.The monthly reported data (under GS ER sheet /28/) was also cross-checked (as prescribed in the registered PDD /5/) with the invoices /11/ and conservative data after applying the error factor for daily generation was taken for the emission reduction calculation.
Purpose of data:	Calculation of baseline emissions	It is as per approved transition annex /31/ and hence accepted.
Additional comments:	The data will be kept for two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later.	It is as per approved transition annex /31/ and hence accepted.

* http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

2. Data/Parameter

	As per GS monitoring report	Verification team assessment										
Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	The SDG indicator is as per approved transition annex /31/.										
Data/parameter:	Quantitative employment and income generation	The data/parameter is as per approved transition annex /31/.										
Unit	Number	The unit as is as per approved transition annex /31/.										
Description	Number of people employed directly due to the project activity. Number of men and number of women employed by the project activity. Type of job like temporary/permanent or skilled/unskilled, etc also monitored and it is ensured that peoples will get equal payment for equal work.	The description is as per approved transition annex /31/.										
Measured/calculated/default	N/A	N/A										
Source of data	Plant records / Letter from O&M contractor for employment generation/ VVB interview with employees, local stakeholders etc.	The sources of data is correct and as per approved transition annex /31/.										
Value(s) of monitored parameter	<table><tr><th>Employment Type</th><th>No. of Employees</th></tr><tr><td>Skilled</td><td>07</td></tr><tr><td>Semiskilled</td><td>07</td></tr><tr><td>Unskilled</td><td>17</td></tr><tr><td>Total</td><td>31</td></tr></table>	Employment Type	No. of Employees	Skilled	07	Semiskilled	07	Unskilled	17	Total	31	The verification team has reviewed the List of employees /35/ and plant records /34/. Total employment by the project activity is 31 personnel including skilled, semi-skilled and unskilled workers /35/. During remote audit, the verification team has interviewed people employed by the project and through the review of supportive /34/ /35/ was able to confirm that quantitative employment and income generation has improved due to the project activity.
Employment Type	No. of Employees											
Skilled	07											
Semiskilled	07											
Unskilled	17											
Total	31											
Monitoring equipment	N/A	N/A										
Measuring/reading/recording frequency:	Monthly monitoring and annual compilation	It is as per approved transition annex /31/.										

Calculation method (if applicable):	The total number of persons working in the plant would be calculated based on the daily log available at site. This parameter also monitor number of men/women employed by the project activity. The project activity ensures that “equal pay for work of equal value” for both men and women and there is no any discrimination against women. "The employment covers number of men and number of women employed by the project activity. The job is of type temporary/permanent or skilled/unskilled, etc. Also it is ensued that peoples will get equal payment for equal work. The payment will be based on work and no any gender inequality for payment for work of equal value. The employment generated refers to overall jobs created during project implementation and during project Operation and Maintenance. This is primary and direct effect on employment generated due to project activity. The effect of employment generation is not be 'one off' or an effect generated in design, construction, distribution or start-up or decommissioning of the Project.	It is as per approved transition annex /31/.
QA/QC procedures:	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register.	Verification team has done the remote audit interview and checked the supportive /34/ /35/ to verify the same, which is as described earlier.
Purpose of data:	To monitor the SDG 8 Indicator	It is as per approved transition annex /31/.
Additional comments:	N/A	N/A

3. Data/Parameter

	As per GS monitoring report	Verification team assessment
Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth SDG Indicator 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	The SDG indicator is as per approved transition annex /31/.
Data/parameter:	Quality of employment	The data/parameter is as per approved transition annex /31/.
Unit	NA	NA

Description	Training of staff	The description is as per approved transition annex /30/.								
Measured/calculated/default	N/A	NA								
Source of data	The training records for all the employees/Letter from O&M contractor for employment generation/ VVB interview with employees, local stakeholders etc.	The source of data is correct and as per approved transition annex /31/.								
Value(s) of monitored parameter	<table><tr><th>Monitoring Duration</th><th>No. of Trainings</th></tr><tr><td>02/04/2019 to 31/12/2019</td><td>06</td></tr><tr><td>01/01/2020 to 01/08/2020</td><td>07</td></tr><tr><td>Total</td><td>13</td></tr></table>	Monitoring Duration	No. of Trainings	02/04/2019 to 31/12/2019	06	01/01/2020 to 01/08/2020	07	Total	13	The verification team has reviewed the training records /31/. During remote audit, the verification team has interviewed people employed by the project and through the review of supportive /31/ was able to confirm that trainings has been provided by PP.
Monitoring Duration	No. of Trainings									
02/04/2019 to 31/12/2019	06									
01/01/2020 to 01/08/2020	07									
Total	13									
Monitoring equipment	Together with the technology supplier the Project organise training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures.	It is as per approved transition annex /31/.								
Measuring/reading/recording frequency:	Annually	It is as per approved transition annex /31/.								
Calculation method (if applicable):	N/A	N/A								
QA/QC procedures:	The training records for all the employees	Verification team has done the remote audit interview and through supportive /31/ to verify the same and as described earlier.								
Purpose of data:	To monitor the SDG 8 Indicator	It is as per approved transition annex /31/.								
Additional comments:	N/A	N/A								

4. Data/Parameter

	As per GS monitoring report	Verification team assessment								
Relevant SDG Indicator	SDG Indicator 13: Climate Action	The SDG indicator is as per approved transition annex /31/.								
Data/parameter:	ERy	The data/parameter is as per approved transition annex /31/.								
Unit	tCO2	The unit as is as per approved transition annex /31/.								
Description	Emission reduction achieved during monitoring period	The description is as per approved transition annex /31/.								
Measured/calculated/default	Calculated as per registered PDD and as per methodology	It is calculated and as per as per approved transition annex /31/.								
Source of data	Calculated as per registered PDD and as per methodology	The source of data is correct and as per approved transition annex /31/.								
Value(s) of monitored parameter	<table><tr><th>Monitoring Duration</th><th>Values(tCO2e)</th></tr><tr><td>02/04/2019 to 31/12/2019</td><td>108,744</td></tr><tr><td>01/01/2020 to 01/08/2020</td><td>86,220</td></tr><tr><td>Total</td><td>194,964</td></tr></table>	Monitoring Duration	Values(tCO2e)	02/04/2019 to 31/12/2019	108,744	01/01/2020 to 01/08/2020	86,220	Total	194,964	The value has been confirmed from the ER sheet /28/ and found OK.
Monitoring Duration	Values(tCO2e)									
02/04/2019 to 31/12/2019	108,744									
01/01/2020 to 01/08/2020	86,220									
Total	194,964									
Monitoring equipment	Calculated as per registered PDD	It is as per approved transition annex /31/ and hence accepted.								
Measuring/reading /recording frequency:	As per monitoring period	The emission reductions are calculated monthly as per approved transition annex /31/ and hence accepted.								
Calculation method (if applicable):	The baseline emissions are the product of electrical energy baseline EGPJ,y expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.	The calculation method is as per approved transition annex /31/ and hence accepted.								
QA/QC procedures:	NA	NA								
Purpose of data:	Calculation of emission reductions	It is as per approved transition annex /31/ and hence accepted.								
Additional comments:	Data would be stored in paper & electronic form for two years after the end of crediting period or of the last issuance of the CERs for this project activity, whichever occurs later.	It is as per approved transition annex /31/ and hence accepted.								

Ex- Ante Parameters:

Parameter	Value	Verification Assessment
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EF_{grid,OM,y} Operating Margin CO2 emission factor in year y	0.9777 tCO₂e/MWh	The Operating Margin emission factor has been calculated as per Tool to calculate the emission factor for an electricity system, version 05" as 3-year generation weighted average using data for the years 2012-13, 2013-14, & 2014-15. The data is obtained from "CO2 Baseline Database for Indian Power Sector" version 11 /14/, published by the Central Electricity Authority, Ministry of Power, Government of India. The value is fixed for the entire crediting period as per the GS4GG Transition Annex /31/. The value of the Ex-ante parameter has been correctly taken as per the GS4GG Transition Annex /31/ and hence, accepted by the verification team.
EF_{grid,BM,y} Build Margin CO2 emission factor in year y	0.9285 tCO₂e/MWh	The Build Margin emission factor has been calculated as per Tool to calculate the emission factor for an electricity system, version 05" as 3-year generation weighted average using data for the years 2012-13, 2013-14, & 2014-15. The data is obtained from "CO2 Baseline Database for Indian Power Sector" version 11 /14/, published by the Central Electricity Authority, Ministry of Power, Government of India. The value is fixed for the entire crediting period as per the GS4GG Transition Annex /31/. The value of the Ex-ante parameter has been correctly taken as per the GS4GG Transition Annex /31/ and hence, accepted by the verification team.
EF_{grid,CM,y} Combined Margin CO2 emission factor in year y	0.9777 tCO₂e/MWh	The combined grid emission factor has been calculated based on the data obtained from "CO2 Baseline Database for Indian Power Sector" version 11 /14/, published by the Central Electricity Authority, Ministry of Power, Government of India. The value is fixed for the entire crediting period as per the GS4GG Transition Annex /31/. The value of the Ex-ante parameter has been correctly taken as per the GS4GG Transition Annex /31/ and hence, accepted by the verification team.

Findings: CAR 02, CAR 03 were raised and successfully closed out.

Opinion:

The verification team confirms;

- a) The monitoring plan implemented is in line with approved GS4GG Transition Annex /31/.
- b) The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the GS passport and Transition annex/31/.
- c) The values included in the monitoring report and corresponding emission reduction sheets are verified, cross checked and included under each monitoring parameter, wherever appropriate

In summary, the verification team confirms that all the ex-post parameters are monitored in accordance with the GS Passport /29/ and the approved transition annex /31/.

2.10 Evaluation of SD parameters

The verification team checked the sustainable development indicator parameters during the remote audit and interview.

As per the sustainability monitoring plan in the GS passport, verification team evaluate all sustainable development indicators as followed table:

No	Relevant SDG Indicator/Safeguarding Principle	Data / Parameter	Monitoring frequency	Verification Team's opinion	Verified score
1.	SDG Indicator 13.2.1	ERy	As per monitoring period	The emission reductions are calculated monthly as per the formula ($EG_{\text{facility},y} = EG_{\text{Export}} - EG_{\text{Import}}$) mentioned in the approved transition annex /31/, the same has been crosschecked with the JMR /10/, invoices /11/ and hence accepted.	+ (Positive)
2.	SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	Quantitative employment and income generation	Monthly monitoring and annual compilation	The verification team has reviewed the HR records (i.e List of employees /35/ and plant records /34/). Total employment by the project activity is 31 personnel including skilled, semi-skilled and unskilled workers /35/. During remote audit, the verification team has interviewed people employed by the project and through the review of supportive /34//35/ was able to confirm that quantitative employment and income generation has improved due to the project activity.	+ (Positive)
3.	SDG Indicator 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	Quality of employment	Annually	The verification team has reviewed the training records/32/. During remote audit, the verification team has interviewed people employed by the project and through the review of supportive /32/ was able to confirm that the training has been provided by PP.	+ (Positive)
4.	SDG Indicator 7.2.1 Renewable energy share in the total final energy consumption	$EG_{PJ,y}$	Measured continuously and the same is recorded once in a month.	Net electricity exported by the project activity to the grid is monitored continuously and reported on monthly basis in form of Monthly Joint meter readings (JMR) /09/. However, since the monitoring period start date (02/04/2019) does not match the date of the billing cycle for April 2019, therefore the net electricity exported to the grid for April 2019, has been apportioned using the daily generation data from the standby meter which was found to be conservative and acceptable by the verification team.	+ (Positive)

				The details of roles and responsibilities for the monitoring is provided in the GS MR /28/. The plant personnel were interviewed during remote auditing and the assessment team confirms that the details as provided are followed at site and are effective reliable for the accounting of emission reductions. The verification team has verified all the JMRs/10/ for this monitoring period and confirms that the same values are applied in the ER calculation sheet /28/. The Calibration performance was checked from the calibration reports /12/ and found that the meters were within the respective accuracy level as verified from the calibration results. The Calibration of all the meters have been done by Darsh Calibrations Pvt. Ltd. /12/ and it has been observed that under the current monitoring period, there was no delay in calibration.	
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In summary, verification team confirms that all monitored sustainable development indicators are in accordance to the GS passport. It is also confirmed that all three categories (i.e., Environment, Social Sustainability and Development and Economic and Technological Development) are rated as positive hence the project fulfils the eligibility requirement.

Implementation of continuous input/grievance mechanism:

As part of the grievance mechanism in place, the local stakeholders are encouraged to approach the PP through following avenues i.e. in-person and grievances register at site office to express their grievance, if any. The telephone numbers and email id of the project's Management Board and of the GS consultancy company are prominently displayed for easy approach by the local stakeholders. The grievance is recorded in the comments book /36/ maintained and accessed by PP.

During the remote audit, it was verified that comment books are maintained at the project site so that local stakeholders can provide feedback on the project. The presence of the comments books /36/ is verified by interviewing the local stakeholders and the PP. The verification team checked the comments books and noticed that no complaints were registered. This is due to the fact that no comments were available from relevant parties that required further action, interview of the stakeholders confirmed the same. The local stakeholders were interviewed to be aware of the grievance mechanism that is in place and are prior informed about the contact details of the responsible entities.

Through the remote audit and interview of local stakeholders, the verification team gained conformance that the established grievance mechanism is functioning, and for this verification period there were no comments from the stakeholders that required attention by the PP.

Opinion:

The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the GS Passport, monitoring methodology and the PDD and approved GS4GG Transition Annex/31/. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above. The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the GS Passport, applied methodology and registered CDM PDD.

2.11 Assessment of Data & calculation of GHG Emission Reductions

The baseline emissions (BE_y) by the project activity during the monitoring period are:

$$BE_y = EF_{CO_2, grid, y} * EG_{BL, y}$$

$$EG_{BL, y} = 199,411.90 \text{ MWh}$$

$$EF_{CO_2, grid, y} = 0.9777 \text{ tCO}_2\text{e/MWh}$$

$$BE_y = 194,964 \text{ tCO}_2\text{e (Rounded down)}$$

As per the applied methodology, no project and leakage emissions are applicable in solar projects. Therefore, Emission Reduction (ER) = Baseline emission – Project emission – Leakage emission

$$ER_y = BE_y - PE_y - LE_y$$

$$ER_y = 194,964 \text{ tCO}_2\text{e} - 0 - 0$$

$$ER_y = 194,964 \text{ tCO}_2\text{e}$$

The calculation provided in the ER sheet and MR was assessed appropriate by the verification team.

The verification team confirms that a complete set of data for this monitoring period is available to verify the emission reduction calculation, and the same was found in accordance with the registered CDM PDD/5/.

The net electricity supplied to the grid has been sourced from the joint meter readings, the same forms the basis of emission reduction calculation. The verification team has verified the net electricity generation for respective months by the project activity and found the values used are consistent

between the JMR/10/ and GS ER sheet/28/. However, since the monitoring period start date (02/04/2019) does not match the date of the billing cycle for April 2019, therefore the net electricity exported to the grid for April 2019, has been apportioned using the daily generation data from the standby meter which was found to be conservative and acceptable by the verification team. This was found to be consistent with the registered CDM PDD (Section B.7.3) /5/.

No lack of evidence and missing data were detected during this monitoring period.

The verification team confirms that the emission reductions are real and measurable.

As assessed by the verification team, the following details are confirmed for the reported monitoring period 02/04/2019 to 01/08/2020 (Including both the days).

	Amount	Unit
Baseline emissions (BE)	194,964	tCO ₂ e
Project emissions (PE)	0	tCO ₂ e
Leakage emissions (LE)	0	tCO ₂ e
Certified emission reductions (CERs)	194,964	tCO ₂ e

2.12 Recommendations / Forward action request

No FAR has been raised during this monitoring period.

3. VERIFICATION & CERTIFICATION STATEMENT

KBS Certification Services Private Limited has been commissioned by “EKI Energy Services Limited” to perform the 2nd periodic verification of its registered CDM-GS project, “70 MW Bhadla Solar power plant by Fortum Finn Surya Energy Pvt Ltd”, GS Reference No. GS 5519 & CDM Ref. No. 10403, for the reported GHG emission reductions for the given monitoring period 02/04/2019 to 01/08/2020 (including both dates) in the GS Monitoring Report Version 01 (first version) dated 22/10/2020 /25/.

The verification is based on the registered CDMPDD, GS4GG Transition Annex, GS Passport and the monitoring report for this project. Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, as well as those defined by the Gold Standard Board.

The management of the “EKI Energy Services 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 final GS Monitoring Report Version 02, dated 21/12/2020 /26/. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the “EKI Energy Services Limited”. The development and maintenance of records and reporting procedures are in accordance with GS Monitoring Report Version 02, dated 21/12/2020 /26/.

It is our responsibility to express an independent GHG verification on the GHG emissions and on the calculation of GHG emission reductions from the project for the monitoring period 02/04/2019 to 01/08/2020 (including both dates) based on the reported emission reductions in the GS Monitoring Report Version 02, dated 21/12/2020 /26/ for the same period. The assessment of SDG indicators and SD parameters is provided in this report.

Based on an understanding of the risks associated with reporting GHG emissions data & SD parameter data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

KBS confirms the following;

Reporting period: 02/04/2019 to 01/08/2020 (including both dates)

Verified and certified SDG outcomes in the above reporting period:

Vintage	SDG 7 (Affordable and Clean Energy)	SDG 8(Decent Work and Economic Growth)	SDG 13(Climate Action): Gold Standard Voluntary emission reductions (GS VERs)
From 02/04/2019 to 31/12/2019	111,224.98 MWh	06 trainings conducted + 31 people employed	108,744 tCO ₂ e
From 01/01/2020 to 01/08/2020	88,186.92 MWh	07 trainings conducted + 31 people employed	86,220 tCO ₂ e
Total -02/04/2019 to 01/08/2020	199,411.90 MWh	13 trainings conducted + 31 people employed	194,964 (round down) tCO ₂ e

Verification team also confirms that the SD parameters are correctly monitored and all the monitored indicators are rated as positive. Hence, the project results in sustainable development.

Location: Faridabad

Date: 30/01/2021

A handwritten signature in black ink, appearing to read 'Kaushal', is positioned above the printed name.

Kaushal Goyal

Managing Director

KBS Certification Services Pvt.Ltd.

4. REFERENCES

No.	Author	Title	References to the document	Provider
1.	Project participant	CDM initial monitoring report	Version 01, dated 14/08/2020	Project participant
2.	Project participant	Final CDM Monitoring report	Version 02 dated 21/12/2020	Project participant
3.	Project participant	Draft CDM ER calculation sheet	Corresponding to hosted MR version 1.0	Project participant
4.	Project participant	Final CDM ER calculation sheet	Corresponding to final MR version 2.0	Project participant
5.	PP	CDM Registered PDD	Version 03, dated 23/08/2019	UNFCCC website
6.	Earthood Services Private Limited	Revised Validation Report (Validation opinion on changes in PDD) https://cdm.unfccc.int/filestorage/2/6/0/260917GFQZXACUIMVWL3D45RTEJSKN/10403%20PRC%20Validation%20Opinion.pdf?t=UTZ8cW0xZmJ0fDBv7k2rJzdjaNZ9f108Jo9v	Version 01, dated 29/08/2019	UNFCCC website
	LGAI Technological Center, S.A. (LGAI Tech. Center S.A)	Validation Report https://cdm.unfccc.int/filestorage/3/N/J/3NJV4HADGRO0CUTPEYK9SQ17XWLM86/2017_1316_FVR.pdf?t=NER8cW0xZmJzfDAWm4HNV7IKUf5PCRQZriXQ	Version 01, dated 16/08/2017	
7.	PP	MR for the previous (i.e. First) monitoring period (06/11/2017- 01/04/2019) https://cdm.unfccc.int/filestorage/O/S/3/OS3UBQ42CXHVPNA1IYW8TLJFD07M95/10403%20MR.pdf?t=eEd8cW0xZmZsfDDymJkelD0fKW4irrnFvzmE	Version 2.0, dated 23/08/2019	UNFCCC website
	Earthood Services Private Limited	Verification Report for 1 st monitoring period (06/11/2017- 01/04/2019) https://cdm.unfccc.int/filestorage/T/7/0/T70X1WPHJ34ZAKG6B8VCS9DUEOM5Y2/10403%20Verification%20Report_Revised.pdf?t=OEJ8cW0xZmZxfDAH aMfR5NTnodtmVTzTftD	Version 1.0, dated 04/09/2019	
8.	PP and NTPC Ltd.	Power Purchase Agreement (70 MW Solar power on Long term basis, i.e valid for 25 years)	Certificate issue date: 25/04/2016 PPA Effective	PP

		Certificate No. IN-DL416879320035780	date: 26/04/2016	
9.	Rajasthan Renewable Energy Corporation Limited	Commissioning certificate Serial No. F12 (1025) RREC/Solar/ Fortum Finn Surya/ D-192	Certificate issue date: 12/04/2017 Commissioning date: 31/03/2017	PP
10.	PP	Joint Meter readings covering the monitoring period (02/04/2019 to 01/08/2020)	-	PP
11.	PP	Invoices raised for the sale of electricity during the monitoring period (02/04/2019 to 01/08/2020)	-	PP
12.	Darsh Calibrations Pvt. Ltd.	Calibration/testing Certificates of energy meters covering the monitoring period (02/04/2019 to 01/08/2020)	-	PP
13.	Manufacturing agency	Technical specifications of the meters, name plates (pictures) of the equipment's Schematic metering arrangement	-	PP
14.	CEA	CO ₂ baseline database for Indian Power Sector http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver11.pdf	Version 11	Web link
15.	UNFCCC	CDM Project webpage https://cdm.unfccc.int/Projects/DB/Appendix1506003422.59/view	-	Web link
16.	UNFCCC	/16.1/ ACM0002- Grid-connected electricity generation from renewable sources /16.2/ Tool to calculate the emission factor for an electricity system	Version 17.0 Version 05.0	UNFCCC
17.	UNFCCC	CDM Validation and Verification Standard for PA	version 02	UNFCCC
18.	UNFCCC	Clean development mechanism project standard for PA	version 02	UNFCCC
19.	UNFCCC	Guidelines for Application of materiality in verifications version 2.0	-	Publicly Available
20.	UNFCCC	CDM-MR-FORM - Monitoring report form for CDM project activity, Version 07.0: https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	-	UNFCCC
21.	KBS	Verification contract	Dated 27/08/2020	KBS
22.	PP	Certificate of incorporation	dated 22/11/2014	PP

23.	PP	Project site SOP Emergency Plans	- 24/02/2020	PP
24.	PP	- Excel sheet of DGR covering the entire monitoring period - Scanned copies of Log book for standby meter and check meter readings - Major Breakdown details	-	PP
25.	Project participant	GS Monitoring Report	Version 01, dated 22/10/2020	Project participant
26.	Project participant	Final GS Monitoring Report	Version 02, dated 21/12/2020 (final)	Project participant
27.	Project participant	GS ER Sheet	Version 01, dated 22/10/2020	Project participant
28.	Project participant	Final GS ER Sheet	Version 02, dated 21/12/2020 (final)	Project participant
29.	Project participant	Registered GS passport	Version 03, dated 09/01/2018	Publicly available
30.	Publicly available	Gold Standard specific rule/guidelines/standard: 1. Gold Standard for the Global Goals (GS4GG) 2. GS-annexes to the GS4GG 3. COVID 19 Interim Measures	-	Publicly available
31.	Project participant	GS4GG Transition Annex approved by GS	-	Project participant
32.	Project Owner	Training records (Safety, First aid, Fire fighting, protective equipment's, emergency, EHS, etc.) for all the employees for the entire monitoring period.	2019,2020	Project participant
33.	Project participant	Video evidence of stakeholder consultation	-	Project participant
34.	Project participant	Plant records- attendance records, salary register, employee agreement copy	-	Project participant
35.	Project participant	List of employees	-	Project participant
36.	Project participant	Grievance Comments book	-	Publicly available

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5. FINDINGS DOCUMENT

Table 1. Remaining FAR from validation and/or previous verifications

No FARs raised from validation and previous verification

FAR ID	xx	Section no.	XX	Date:DD/MM/YYYY
Description of FAR				
Project participant response				Date:DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date:DD/MM/YYYY

Table 2. CL from this verification

CL ID		Section no.		Date:
Description of CL				
Project participant response				Date:
Documentation provided by project participant				
DOE assessment				Date:

Table 3. CAR from this verification

Table 4. CAR from this verification

CAR ID	01	Section no.	2.8	Date:28/10/2020
Description of CAR				
On cover page of the GS MR, the name of one of the Project Participant "Fortum FinnSurya Energy Private Limited" was found to be missing.				
Project participant response				Date:21/12/2020
Fortum FinnSurya Energy Private Limited as Project participant name has been to the cover page.				
Documentation provided by project participant				
GS4GG MR V2				
DOE assessment				Date: 28/12/2020
The information provided in the revised GS MR version 02 has been checked and it has been confirmed that the promoter of the project is Fortum Finnsurya Energy Private Limited, where as "EKI Energy Services Limited" has been added as project partner per the LoA dated 19/06/2020. The details of the project participants are now appropriately mentioned to be consistent with the CDM final MR and have been confirmed during the remote interviews.				
Hence, CAR 01 is closed.				

CAR ID	02	Section no.	2.8, 2.9	Date:28/10/2020
Description of CAR				

PP needs to revise the following:

1. Under section A.1 of the GS MR, the estimated amount of annual average CERs was found to be inconsistent with the value mentioned on the cover page.
2. Under section B.1 of the GS MR, the annual average of estimated electricity generation was found to be inconsistent with the value mentioned on the cover page.
3. Under section D.2 of the GS MR, PP needs to mention vintage wise values of the monitored parameter "Quantitative employment and income generation"

Project participant response	Date: 21/12/2020
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1. The estimate amount of annual average CERs have been revised.
2. The annual average of electricity generation have been revised.
3. *Quantitative employment and income generation* is mentioned as the overall current status of SDG indicator through the implementation of project activity.

Documentation provided by project participant

GS4GG MR V2.

DOE assessment	Date: 28/12/2020
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The validation team confirms that the revised information provided in the GS MR version 02 has been checked and it has been confirmed that the information mentioned in section A.1, B.1 is now consistent with the ER calculation sheet and throughout the MR. Whereas, the revised information for parameter "Quantitative employment and income generation" was found to be consistent with the attendance records, salary register and employee agreement copy provided by the PP.

Hence, CAR 02 is closed.

CAR ID	03	Section no.	2.9	Date: 28/10/2020
Description of CAR				
1. Under section E.5 of the GS MR, for SDG 7, "Values estimated in ex ante calculation of approved PDD" was found to be inconsistent. 2. Under section E.6 of the GS MR, PP needs to mention the value of observed PLF, during the monitoring period.				
Project participant response				Date: 21/12/2020
1. Ex-ante values have been revised. 2. Observed PLF is being mentioned over the revised MR.				
Documentation provided by project participant				
GS4GG MR V2.				
DOE assessment				Date: 28/12/2020
1. Validation team has checked the revised value and confirms that it is now consistent with the ER calculation sheet. 2. The details related to increase in emission reductions have been provided and have been confirmed to be due to increase in sunshine hours and two high electricity generation periods. Therefore, increase in PLF (24.32% for the current monitoring period, as compared to 20.00% considered during validation) of the project activity is the reason for increased emission reductions. The new IRR value of 14.17% due to the increase in PLF has been found within the breaching value of 15.28 % and hence, % and therefore, the increase in PLF does not impact the additionality of the project activity.				
Hence, CAR 03 is closed.				

Table 5. FAR from this verification

No FAR raised from this verification

FAR ID	xx	Section No.	Date:DD/MM/YYYY
Description of FAR			
Project participant response			Date:DD/MM/YYYY
Documentation provided by project participant			
DOE assessment			Date:DD/MM/YYYY

6. CERTIFICATE OF COMPETENCE

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

Personnel Name:		Ms. Shikha Sharma	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		

Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal
Approved by (Manager C & T)	Sanjay Kandari
Approval date:	14/01/2020

Personnel Name:		Rohit Badaya	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy distribution	TA 2.1: Energy distribution		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Solid waste and wastewater TA 13.2 Manure		
Approved By	Manager Competency & Training		
Approval date:	29/12/2018		

History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
4.0	14/12/2013	Guidance included/improved	Manager CDM Quality 23/12/2013	Managing Director 23/12/2013
3.1	29/10/2012	Updated for EB69 Annex6	Manager CDM Quality 29/10/2012	Managing Director 29/10/2012
3.0	31/08/2012	Revised for VVS Track	Manager CDM Quality 08/09/2012	Managing Director 10/09/2012
2.0	21/12/2011	Comprehensively revised	Manager CDM Quality 21/12/2011	Managing Director 21/12/2011