



“BUNDLED SOLAR POWER PROJECT BY VECTOR GREEN SUNSHINE PRIVATE LIMITED AND POLEPALLY SOLAR PARKS PRIVATE LIMITED”

Document Prepared By



VKU Certification Pvt. Ltd.

Regd. Off: Flat No. 306, Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh, India - 452020

URL: <http://vkucertification.com>

E-mail: info@vkucertification.com

Project Title	Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited
Version	02
Report ID	VKU.VER.65.22_VCS 1745

Report Title	Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited
Client	EKI Energy Services Limited
Pages	45
Date of Issue	14-March-2023
Prepared By	VKU Certification Pvt. Ltd
Contact	Regd. Off: Flat No. 306, Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh - 452020 URL: http://vkucertification.com E-mail: info@vkucertification.com
Approved By	Dr. Vikas Kumar Aharwal (Founder and Director) vikas.aharwal@vkucertification.com
Work Carried Out By	Sanjay Kumar - Team Leader cum Technical Expert TA 1.2 Vivek Kumar Ahirwar- Technical Reviewer cum Technical Expert TA 1.2 Shivani Chauhan- Validator/Verifier Trainee Apoorva Tripathi- Project Trainee

Summary:

M/s VKU Certification Pvt. Ltd. (here after referred as VKU) was commissioned by M/s EKI Energy Services Limited, has verified the greenhouse gas emission reductions reported for the project activity “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited (VCS ID 1745) in India, covering monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) under first crediting period from 24-March-2016 to 23-March-2026 (Inclusive of both dates) with regard to the relevant requirements for VCS Standard Version 4.3/5/.

The purpose of the verification is to have an independent review of ex-post determination of the monitored reductions in GHG emission reductions and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS Joint PD&MR/3/.
- To assess the project’s compliance with other relevant rules including the host country legislation.

- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide version 4.2/4/, VCS Standard Version 4.3/5/, VCS Validation and Verification Manual version 3.2/21/, CDM M&P, CDM Validation and Verification Standard 3.0/22/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

VKU followed the rule-based approach to perform this verification. During the course of verification, related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology and a total of 04 findings were raised, which includes: 03 Corrective Action Request (CARs); 01 Clarification Request (CL). All the raised findings were raised and successfully resolved by the PP. The same has been discussed in Appendix B of this verification report.

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated on the basis of the approved methodology (ACM0002) "Grid Connected Electricity Generation from Renewable Sources"-Version 17.0/7/ and "Tool to calculate the emission factor for an electricity system"- Version 6.0 /29/ and the monitoring plan included in the registered VCS Joint PD&MR/3/ Version 03 dated 21-March-2018.

In conclusion, it is VKU's opinion that the project activity "Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited (VCS ID 1745) in India, meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology (ACM0002) "Grid Connected Electricity Generation from Renewable Sources"-Version 17.0/7. The monitoring system is in place and the emission reductions are calculated without material misstatement.

Hence, VKU is able to certify that the emission reductions from the project during the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) under First crediting period from 24-March-2016 to 23-March-2026 (Including both dates) amount to 112,818 tCO₂e

CONTENTS

1	Introduction	5
1.1	Objective	5
1.2	Scope and Criteria	5
1.3	Level of Assurance.....	6
1.4	Summary Description of the Project	7
2	Verification Process.....	8
2.1	Method and Criteria.....	8
2.2	Document Review	9
2.3	Interviews	11
2.4	Site Inspections.....	12
2.5	Resolution of Findings	13
2.6	Eligibility for Validation Activities	13
3	Validation Findings.....	14
3.1	Participation under Other GHG Programs	14
3.2	Methodology Deviations.....	14
3.3	Project Description Deviations.....	15
3.4	Grouped Project	15
4	Verification Findings.....	15
4.1	Project Implementation Status	15
4.2	Safeguards	19
4.3	AFOLU-Specific Safeguards	21
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	21
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	22
4.6	Non-Permanence Risk Analysis.....	28
5	Verification Conclusion.....	28
	APPENDIX A: <ABBREVIATIONS>	31
	APPENDIX B: <AUDIT FINDINGS>	31
	APPENDIX C: <COMPETENCE STATEMENT>	44

1 INTRODUCTION

1.1 Objective

M/s EKI Energy Services Limited Commissioned (hereafter referred as EKI) M/s VKU Certification Pvt Ltd (here after referred as VKU) to carry out the fourth periodic verification of the project “Bundled Solar Power Project by Vector Green Sunshine private Limited and Polepally Solar Parks Private Limited” (VCS ID 1745) in India for the period from 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) under 1st crediting period¹ from 24-March-2016 to 23-March-2026 (Including both dates).

This report summarizes the findings of the verification of the project, performed on the basis of VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The purpose of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.2/4/, VCS Standard Version 4.3/5/ and GHG program applied, on the basis of the registered VCS Joint Project Description and Monitoring Report version 03 dated 21-March-2018 /3/.

This is the fourth verification of the first crediting period and the total number of days included in this verification are 588 covering the monitoring period from 23-March-2021 to 31-October-2022 (inclusive of both start and end dates) under the first crediting period from 24-March-2016 to 23-March-2026 (Including both dates).

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 Joint VCS project description and monitoring report (VCS Joint PD&MR) 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 data is recorded and stored as per the monitoring methodology and approved monitoring plan.

To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon units (VCUs) without any double counting, and to establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation

¹ The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times as per registered VCS Joint PD&MR version 03 dated 21-March-2018

1.2 Scope and Criteria

The verification scope is:

- To verify that the project is implemented as described in the registered VCS Joint PD&MR/3/
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

The project is assessed against the requirements of VCS Standard version 4.3/5/, VCS program guide version 4.2/4/, VCS validation and verification manual version 3.2/21/ and related rules and guidance. VKU has, based on the recommendations in the latest version of CDM Validation and Verification Standard/22/, VCS Validation and Verification manual version 3.2/21/ employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a **Reasonable level of assurance**.

The technical review was performed by a technical reviewer qualified in accordance with VKU's qualification procedure. The verification team and the technical reviewer team consist of the following personnel:

Role/Qualification	Last Name	First Name
VCS Team Leader & Technical Expert 1.2	Kumar	Sanjay
Technical Reviewer & Technical Expert 1.2	Ahirwar	Vivek Kumar
Validator/Verifier-Trainee	Chauhan	Shivani
Project Trainee	Tripathi	Apoorva

1.4 Summary Description of the Project

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

The project is a bundled project activity that includes the installation of a 20 MW solar project by Vector Green Sunshine Private Limited in Mansa, Punjab, India, and a 25 MW solar power project by Polepally Solar Parks Private Limited in Mahabubnagar, Telangana, India and the electricity generated displaces an equal amount of power from the grid, which is mostly supplied by fossil-fuel-fired power plants.

The project plant was commissioned on 24-March-2016 for Punjab and 27-June-2016 for Telangana, respectively, and has been operating smoothly since then except some scheduled shutdowns for regular maintenance and service. The commissioning dates are validated against registered VCS Joint PD&MR/3/, commissioning certificates/15/, previous verification reports and PPA/14/.

Project Proponents Name	Capacity in MW	Commissioning Date	Connection with Grid	State
Vector Green Sunshine Private Limited	20	24 -March-2016	Indian Grid	Punjab
Polepally Solar Parks Private Limited	25	27-June-2016	Indian Grid	Telangana

The main purpose of this project activity is to harness clean form of energy to generate electricity through renewable solar energy source. As per MR, the electricity generated from the project is supplied to the unified Indian Grid which is confirmed from registered VCS Joint PD&MR/3/, previous validation report /18/ verification report/30/ and onsite personnel interviews with PP/25/

This information was verified on-site and confirmed to be consistent with the information provided in the registered VCS Joint PD&MR /3/. The overall emission reductions obtained during this monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates) are 112,818 tCO₂e. The net power generated by the bundled project activity that was evacuated to the grid for current monitoring period is 116,875 MWh.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide version 4.2/4/, VCS standard document version 4.3/5/. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodology ACM0002, "Grid-connected electricity generation from renewable sources" (Version 17.0) /9/.

During onsite visit/25/ verification team reviewed 100% data for all the PV Modules involved in this project at site and hence no sampling is involved. The verification consisted of the following three phases

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

The following sections outline each step in more detail.

2.2 Document Review

The monitoring report (MR) version 1.0 dated 19-December-2022, Version 2.0 dated 16-January-2023, Version 03 dated 15-February-2023 and final Version 04 dated 17- February-2023; the emission reduction calculations spreadsheet version 1.0 of 19-December-2022/2/ and final version 2.0 of 16-January-2023 /2/, were assessed as part of the verification. In addition, the registered VCS Joint PD&MR /3/ in particular the baseline estimations and the monitoring plan for the project was reviewed. The following table lists the documentation that were reviewed during the verification:

/1/	EKI: VCS Monitoring report for “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited”, for the current monitoring period 23-March-2021 to 31-October-2022 (Inclusive of both dates) - Version 1.0 of 19-December-2022 - Version 2.0 dated 16-January-2023 - Version 03 dated 15-February-2023 - Version 04 dated 17- February-2023
/2/	EKI: Emission Reduction Calculation Spreadsheet, - Version 1.0 of 19-December-2022 - Version 2.0 dated 16-January-2023
/3/	EKI: Registered VCS Joint PD&MR for the project Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited, Version 3.0 dated 21-March-2018.
/4/	VCS: VCS Program Guide, Version 4.2 of 22-June-2022
/5/	VCS: VCS Standard, Version 4.3 of 22-June-2022
/6/	VCS: Monitoring Report Template VCS Version 4.1 of 20-January-2022
/7/	CDM Executive Board: Baseline and Monitoring Methodology (ACM0002).” Grid-connected electricity generation from renewable sources - Version 17.0
/8/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/9/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/10/	Monthly JMRs issued by state utility for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/11/	Certificate of Calibration for all the meters that belongs to project activity for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/12/	Invoice issued by PP to TSTRANSCO and PSPCL for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/13/	Commissioning certificate of the project activity issued by state electricity authority
/14/	Power Purchase Agreements signed between Project Proponent and state electricity authorities
/15/	Letter of declaration from PP regarding not having created or sought any other form of environmental credit for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/16/	Monthly generation reports issued by O&M contractor for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/17/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I

/18/	LGAI Technological Center S.A. (Applus+ Certification): Registered Joint Validation/Verification report “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited, Dated 26-March-2018
/19/	Site Visit Photographs videos and attendance sheet dated 03-January-2023 and 04-January-2023
/20/	https://registry.terra.org/app/projectDetail/VCS/1745
/21/	Validation and verification manual Version 3.2 dated 19-October-2016
/22/	CDM Validation and Verification Standard Version 3.0 dated 09-September-2021
/23/	Breakdown Details for the current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both dates)
/24/	Grievance Register present on-site
/25/	On site personnel Interviews dated 03-January-2023 and 04-January-2023
/26/	GPS Map camera during site visit and Google Earth during desk review.
/27/	REC website Renewable Energy Certificate Registry of INDIA https://www.recregistryindia.nic.in/index.php/publics/faqs
/28/	Technical Specification Details of Solar PV modules.
/29/	EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf
/30/	Verification reports for the Previous Verifications: • Joint Validation and Verification report dated 26-March-2018 covering the monitoring period of 24-March-2016 to 31-January-2018 (Inclusive of both dates) • Verification report dated 14-March-2020 covering the monitoring period of 01-February-2018 to 22-January-2019 (Inclusive of both dates) • Verification report dated 28-July-2021 covering the monitoring period of 23-January-2020 to 22-March-2021 (Inclusive of both dates)
/31/	O&M Agreement between Vector Green Sunshine Private limited and Jakson ventures private limited dated 27-September-2021. O&M Agreement between Vector Green Sunshine Private limited and Mahindra Teqo Private Limited dated 06-May-2022.

2.3 Interviews

An on-site inspection has been performed by the assessment team for both sites i.e., Gamilvala village in Mansa district, Punjab and Village Ippaturu, Nawabpet, District Mahbubnagar, Telangana on 03-January-2023 and 04-January-2023 respectively. During site visit the representatives of the PP and O&M contractors were interviewed personally by assessment team i.e., personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure.

The details of the people interviewed are mentioned in the table below.

S.No.	Site	Name	Designation	Topic
1	Vector Green Sunshine Private Limited	Gora Singh	CSS -Supervisor	- Data archiving, breakdown details and maintenance of generation records - Project Implementation and technical details of the Project like breakdown details, calibration of meters and monitoring of required monitored parameters and implementation of QA/QC Procedure.
2		Budh Singh	GS Supervisor	
3		Kuldeep Singh	GS	
1	Polepally Solar Parks Private Limited	S. Bhanuprasad	Starcubex-Senior Supervisor	
2		K. Brahmaiah	Starcubex-Supervisor	
3		T. Rakesh	Starcubex- Security Incharge	
4		B. Anjaneyulu	Starcubex- Security Guard Head	
5		K. Balakrishna	MTPL & Office Boy	
6		Md.Gousepasha	Starcubex- Safety personnel	

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording and archiving procedures. The assessment was drawn based on the feedback received during site visit coupled with the documentation.

S.No.	Site	Name	Category	Topic
1	Vector Green Sunshine Private Limited	Uttam Mallik	Local Stakeholder	- Project activity implementation and its impact on social, economic and environmental condition of the local people. - The ongoing communication procedure and the address of their grievance by the project proponent - The employment generation due to project activity implementation.
2		Laxmi Narayan		
3		Sitaram		
4		Mayank Solanki		
5	Polepally Solar Parks Private Limited	S. Naresh Babu		
6		Vikash Kumar Jha		
7		Shiva Kumar		
8		Nithin Yadav		
9		Murali		

There were no negative comments received during the stakeholder consultation interview conducted on site and more detail is enlisted in the section 4.2.2 below.

2.4 Site Inspections

An On-site visit was undertaken by the verification team on 03-January-2023 to 04-January-2023 at the Project site in Mansa district, Punjab and Mahabubnagar district, Telangana to carry out the following;

- An assessment of the implementation and operation of the registered project activity as per the registered VCS Joint PD&MR/3/ and VCS MR/1/;
- A review of information flows for generating, aggregating and reporting the monitoring parameters
- Interviews/25/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS Joint PD&MR/3/
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;

- e) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS Joint PD&MR, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- f) A review of calculations and assumptions made in determining the GHG data and emission reductions;
- g) An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three situations described below: -

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

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

In summary, **1 CL and 3 CARs** were raised during this verification which were closed successfully and details are given under Appendix B of this report.

2.5.1 Forward Action Requests

This is fourth periodic verification of the project activity and no FAR was raised during previous Joint Validation and Verification /18/ and previous Verifications /30/.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as a part of the verification and does not hold holds the accreditation for Validation of projects under this or any relevant Sectoral Scope. Hence this section is not applicable for present verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is neither registered nor seeking registration under any GHG program and it is only registered under VCS with project ID: 1745. Assessment Team has verified the same from Verra Registry and similar exercise was performed for other GHG programs such as CDM/GS/GCC/UCR registries with similar project title/capacity and Project Proponents but the assessment team was not able to trace any such project registered under any of the above stated registries or under any other similar mechanisms. This was further confirmed through a declaration/15/ submitted by the PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program thus ensuring emission reduction generated from the project activity for current monitoring period from 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) will not be double counted hence accepted by the assessment team. Assessment team also checked the REC Mechanism database of India and found that the project activity is not accredited / registered under REC mechanism of India which was also verified from the REC website (Renewable Energy Certificate Registry of India) (recregistryindia.nic.in) /29/ Further, declaration/15/ for the same is also submitted by PP which was examined by the assessment team and found correct.

The details of the registries checked are as follows:

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>

The Project is not rejected by other GHG programs. A declaration/15/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

The details of the registries checked are as follows:

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>

3.2 Methodology Deviations

No methodology deviation was observed in current monitoring period and also no methodology deviation was observed during the previous Joint Validation and Verification /18/ and previous Verifications /30/.

3.3 Project Description Deviations

The following Project description deviations are taken during the current monitoring period from (23-March-2021 to 31-October-2022 (Inclusive of both start and end dates)–

Deviation No. 01 – PP has requested the deviation in change of Billing meter location located at switchyard for VGSPL (20 MW) project in Punjab, and not at substation end. The description has been updated in section 4.2 (QA/QC procedure) of revised MR (version 04) submitted by PP. The billing meter location for VGSPL Site is confirmed during site visit by assessment team thus it is found to be acceptable by VKU. The nature of this deviation is permanent.

Deviation No. 02 – PP has requested the deviation in the emergency preparedness of meters, In the event that the main meter, which is used to record the net electricity exported by the project, is found to faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the event that check meter fails it will also be repaired or replaced. In the event failure of main & check meter at same time, PP can use stand-by meter available at site for billing purpose. The description has been updated in section 4.3 of revised MR (Version 04). This deviation is reviewed by assessment team through desk review and found to be consistent with the practice followed at site. Although no such condition is identified in the current monitoring period, hence accepted by VKU. The nature of deviation is permanent.

3.4 Grouped Project

Since this is a solar power project and as per the registered VCS Joint PD&MR/3/ the project is not a grouped project therefore, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

After conducting the desk review along with the onsite audit, it was concluded that the project is implemented as per the requirement of the registered VCS Joint PD&MR/3/ and approved monitoring plan. During the current monitoring period, it was observed that there was no unforeseen incident/event evolved which can impact the operation of the project activity except the scheduled maintenance and service breakdowns calculated as 26 hours 48 minutes for PSPPL 25 MW Telangana site and 59 hours 62 minutes for VGSPL 20MW Punjab site. It is verified through breakdown log book records/23/ and also mentioned in section 03 and Appendix section of MR/1/. This does not have a significant impact on the ER calculation. The

project underwent continuous operation and only scheduled maintenance as per the manufactures specification which is acceptable to the assessment team as verified during the interview with PP personnel/25/ Senior engineers/Junior engineer/Assistant manager present at site during onsite visit. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

During the current monitoring period, the project activity has supplied 116,875 MWh of electricity, and thus contributing to 112,818 tCO_{2e} GHG reductions

Project location is confirmed by the assessment team through the GPS Map camera during site visit and Google Earth during desk review /26/. Moreover, assessment team confirms that the latitudes and longitudes as mentioned in the registered VCS Joint PD&MR/3/ are correct. The latitudes and longitudes of project activity are confirmed below.

Project Proponents Name	Village	Tehsil /Mandal	District	State	Latitude (N)	Longitude (E)
Vector Green Sunshine Private Limited	Gammiwala	Boha	Mansa	Punjab	29° 47'52.47"	75° 31'16.63"
Polepally Solar Parks Private Limited	Ippaturu	Nawabpet	Mahabubnagar	Telangana	16° 53'20.0"	78° 04'57.8"

Starting date of the operation of the project activity is 24-March-2016 which is the is the date of commissioning of 20 MW solar PV project activity by Vector Green Sunshine Private Limited. Assessment team checked the commissioning certificate/13/ and confirmed that the date of commissioning for the Solar power plant is correct. Assessment team also confirm during the onsite audit/25/ that there is no change in project design viz., capacity of the solar panels remained the same and the project is implemented as per the description provided in the registered VCS Joint PD&MR/3/. This has been further verified from the registered Joint Validation/Verification report/18/ and previous verification reports /30/.

Commissioning dates for project activity are given below:

S. No.	Solar Module	Date of Commissioning
1	20 MW Solar PV	24-March-2016
2	25 MW Solar PV	27-June-2016

The Technical parameters have been verified with the name plates as well as with the technical specifications of Solar Panels and also cross checked from the technical manual of the Manufacturers/28/. Assessment team confirms that the technical parameters are consistent with the registered VCS Joint PDMR/3/. The major technical specifications of the project activity are as follows.

The technical specification of 20 MW plant by Vector Green Sunshine Private Limited are as follows;

S. No.	Technical details of the equipment	Specification
1.	Technology Used	Multi Crystalline
2.	Number of modules installed	310 Wp - 67,760
3.	Sources(s) of the modules installed	Renesolar
4.	Module tilt angle	13.5 degree to 22 degree
5.	Make & Number of Inverters	TMEIC- 23 Nos.
6.	Make & Number of Power Transformers	CG- 10 MVA, 2 Nos.
7.	Make & Number of Inverter Transformer	Esennar- 3MVA, 1.5 MVA, 750 MVA (Total 7 Nos.) 3 MVA – 5 Nos. 1.5 MVA – 1 No. 750 MVA – 1 No.
8.	HT Panel	ABB
9.	Make & Number of UPS	EMERSON, 8 Nos.

The technical specification of 25 MW plant by Polepally Solar Parks Private Limited are as follows:

S. No.	Technical details of the equipment	Specification
1.	Technology Used	Thin film
2.	Number of modules installed	290,430 95Wp = 29880 (FS-395-PLUS) 97.5Wp = 189180 (FS-397-PLUS) 100WP = 71370 (FS-3100-PLUS)
3.	Sources(s) of the modules installed	First Solar

4.	Module tilt angle	14 degrees (Fixed) with frameless technology ²
4.	Make & Number of Inverters	SMA- 30 Nos
5.	Make & Number of Power Transformers	Schneider Electric- 25/30 MVA, 1No.
6.	Make & Number of Inverter Transformer	Silchar Technologies- 1.8 MVA 15 Nos.
7.	HT Panel	Technocraft- 24 Nos.
8.	LT Panel	Arrow Engineers- 16 Nos.
9.	Make & Number of UPS	Delta, 3 Nos. (10KVA, 3KVA & 3KVA)

The assessment team confirmed through onsite visit photographs/19/ and interviews /25/ with PP representative that there is no proposed or actual change to the project design during this monitoring period. It was observed that the monitoring plan was implemented as per the registered VCS Joint PD&MR/3/ and applied methodology, (ACM0002), Version 17.0/7/. The organizational role and responsibility as mentioned in the registered VCS Joint PD&MR /3/ is followed onsite.

Assessment team concludes the following:

- a) There are 2 material discrepancies between project implementation and the project description found from the registered VCS Joint PD&MR /3/ regarding the metering location and emergency preparedness plan which is appropriately addressed in section 3.3 above in this report.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.
- c) There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/7/.
- d) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG trading/15/.
- e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since previous verification which is confirmed through declaration/15/.
- f) The project is registered under VCS only and PP is seeking to get GHG emission reduction from VCS only.

- g) The project activity complies with indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR. In which SDG indicator taken by PP are;
- **SDG 7- 7.2 i.e. (Renewable energy share in the total final energy consumption)** As a part of this project activity lifetime, 492,796 MWh renewable electricity has been supplied to Indian grid that helps to strengthen the renewable energy share in the energy mix. VVB has referred previous verification reports and thus found the above claimed renewable electricity supplied to Indian grid correct which have also been verified during previous verifications. During the Current Monitoring Period from 23-March-2021 to 31-October-2022 (Inclusive of both dates): - 116,875 MWh of renewable electricity has been supplied to Indian grid
 - **SDG 13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity PP has prevented the release 475,692 tCO_{2e} into the atmosphere. During the Current Monitoring Period from 23-March-2021 to 31-October-2022 (Inclusive of both dates): - 112,818 tCO_{2e} has been prevented to release in the environment. Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region.

In view of the information as verified above the assessment team is able to conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

Being a solar power project, it does not involve any significant impacts due to implementation of project activity on air, water, soil quality and ambience. The project activity does not even require any major construction activity as it only requires the installation of the solar PV panels, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories, thus no major impacts are foreseen at this stage.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013³. This report clearly mentioned that solar PV project activity operations do not result in direct air pollution, noise pollution.

The project activity has no significant impact on the environment. Solar power projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006⁴ and thus an EIA is not required. Ministry of Environment, Forest and Climate Change (MoEFCC) Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011,

³ <http://164.100.94.214/sites/default/files/uploads/report-on-developmental-impacts-of-RE.pdf>

⁴ <http://www.environmentwb.gov.in/pdf/EIA%20Notification,%202006.pdf>

has re-affirmed this and exempted solar power plants from EIA and Environmental Consent requirement.

Thus, there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS Joint PD&MR/3/; sections 2.2 describe the Local Stakeholder Consultation Process as in-line with VCS requirement. The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. The followings were the local stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

All the stakeholders have been invited through public notice to attend the stakeholders meeting. The details of the Stakeholder Meetings are as follows:

For 20 MW solar power project at Punjab.

- Date of invitation – 12-May-2016
- Date of Meeting – 20-May-2016
- Location of Meeting - Project site, Punjab

For 25 MW solar power project at Telangana

- Date of invitation – 16-August-2016
- Date of Meeting – 22-August-2016
- Location of Meeting - Project site, Telangana

During site visit it was observed that the ongoing process of interacting with local stakeholders is established. Project Proponent has kept a grievance register/24/ at the plant site office and sought comments/grievances/suggestions from local stakeholders such as the local community, government agencies, and non-governmental organisations (NGOs). Furthermore, the PP has kept the option for local stakeholders to express comments/grievances/suggestions by direct mail.

Site wise email IDs details are as follows –

- **VGSPPL** (20 MW, Mansa district, Panjab) – uttam.mallick@vector-green.com
- **PSPPL** (25 MW, Mahabubnagar district, Telangana) – ummanaboyina@vector-green.com

During the current monitoring period, no substantial comments/grievances/suggestions have been received from the aforementioned stakeholders.

The verification team has interacted with local stakeholders during on-site assessment and details for the same are summarized in section 2.3 of this report. There were no negative comment or feedback received from local stakeholders in current monitoring period as per the interaction by the verification team.

4.3 AFOLU-Specific Safeguards

As the project comes under the category of NON-AFOLU projects therefore this section not Applicable

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS Joint PD&MR /3/ and the monitoring report/1/. The monitoring plan laid in the registered VCS Joint PD&MR/3/ is being followed at the site/23/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/. The emission reductions are purely based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of each monitoring parameter has been discussed later in section 4.5.

The project activity is expected to reduce emissions by 112,884 tCO₂e for the present monitoring period, whereas the actual emission reductions achieved were 112,818 tCO₂e. The actual emission reductions made were 0.06% lower than what was anticipated. This is mainly due to low PLF which depends upon the number of annual days of sunshine availability and many other climatic conditions, which are not within the control of the project participant. Therefore, the lower emission reduction of 0.06% is acceptable by the assessment team.

In section 4,5 of this report and section 5.4 of MR /1/ calculations has been stated in ER sheet/2/ which has been verified by the assessment team from Joint Meter Readings issued to PP by State Utility/10/& Invoices issued by PP to state electricity authority /12/ submitted to VVB by PP. Hence VVB verified that the calculation method and formulae used in calculating baseline emissions is in compliance with the methodology used i.e., ACM0002 Version 17 /7/.

Since project activity is a solar power project, no other kind of fossil fuel is used hence according to para 36 of the methodology zero project emissions are considered for this project activity. For leakage emissions; zero emissions are considered according to section 5.6 of the applied methodology/7/, Hence, LEy= 0 & PEy= 0 for this project activity.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification, all relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

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

The below tables describe how the parameter **EG_{PJ,y} (MWh)** is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met: -

Parameter	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, EG _{PJ,y} (MWh)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous monitoring, and at least monthly recording for net electricity generation supplied by the project plant/unit to the grid in year y in MWh. Net electricity generated and supplied by the project (Solar) plant/unit to the grid = Electricity Export to the grid - Electricity Import from the grid. (The billing is raised based on substation meters for PSSPL (25 MW) project in Telangana and switchyard meters for VGSPL (20 MW) project in Punjab)
	Is measuring and reporting frequency in accordance with the	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered

	monitoring plan and monitoring methodology? (Yes / No)	VCS Joint PD&MR /3/ and monitoring methodology/7/. This was verified by assessment team during desk review and by assessment team during onsite visit and interviews with site personnel /25/
	Monitoring equipment	Monitoring equipment- ABT cum Tri vector meter are used which are Static type for (Main, Check & Standby meter). Accuracy Class of meters: 0.2s
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment is 0.2s, which is as per the registered VCS Joint PD&MR /3/ which is as per the norm /17/ defined in the PPA/14/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range which is as per registered VCS Joint PD&MR/3/.
	Calibration frequency /interval:	Calibration frequency of the meters is once in 5 years as per the registered VCS Joint PD&MR monitoring plan /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the	Yes. The calibration frequency is once in 5 years as outlined in the registered VCS Joint PD&MR /3/ which is in accordance with the national standards/17/.

	local/national standards, or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by the state utilities of Punjab and Telangana.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of energy meters is valid for the entire current monitoring period as verified from MR/1/ and calibration certificates /11/ submitted.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately which is with is the range as verified from the calibration certificates submitted for both Telangana and Punjab sites/11/.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{PJ,y}$ for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER sheet/2/. The monthly values were verified from the JMRs issued by state utility /10/ and cross checked with Invoices /12/ issued to state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 116,875 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,y}$ were further cross checked with the monthly invoices /12/ raised by the PP to state utility and found to be consistent.
	Does the data management ensure correct transfer of data	On site personnel interview with the project stakeholder of the

	and reporting of emission reductions and are necessary QA/QC processes in place?	project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#01, CAR#01 and CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Parameters fixed ex ante:

S. No.	Parameter	Unit	Description	Value
1	EF _{BM, grid, y}	tCO ₂ /MWh	Build Margin CO ₂ Emission Factor in year y	0.9083 tCO ₂ /MWh is consistent with the registered VCS Joint PD& MR/3/.
2	EF _{OM, grid, y}	tCO ₂ /MWh	Operating Margin CO ₂ Emission Factor in year y	0.9843 tCO ₂ /MWh is consistent with the registered VCS Joint PD& MR/3/.
3	EF _{CM, grid, y}	tCO ₂ /MWh	Combined Margin CO ₂ Emission Factor in year y	0.9653 tCO ₂ /MWh is consistent with the registered VCS Joint PD& MR/3/.

Calibration of meters:

During the verification assessment of the project activity, accuracy of the installed meter has been checked and found appropriate. The installation and working conditions of the meters were checked during the site inspection and were found to be satisfactory. Details of meters are provided in below table:

Meter Calibration details of 25 MW solar project by Polepally Solar Parks Private Limited

Meter Details	Main Meter	Check Meter	Standby Meter
S. No.	XC510829	XC510830	APX00481
Make	Secure	Secure	Secure
Accuracy Class	0.2 s	0.2 s	0.2 s
Date of Meter Calibration	30-August-2019	30-August-2019	30-August-2019
Due date of Meter Calibration	29-August-2024	29-August-2024	29-August-2024
Delay in Calibration	No Delay	No Delay	No Delay

Meter Calibration details of 20 MW solar project by Vector Green Sunshine Private Limited

Meter Details	Main Meter	Check Meter	Grid Meter
S. No.	15191785	15191778	PBB 37438
Make	L&T	L&T	Secure
Accuracy Class	0.2 s	0.2 s	0.2 s
Date of Meter Calibration	08-January-2019	08-January-2019	08-January-2019
Due date of Meter Calibration	07-January-2024	07-January-2024	07-January-2024
Delay in Calibration	No Delay	No Delay	No Delay

Assessment on Calibration of meters:

As the calibration frequency of the meters is once in five years as sated in MR/1/ and registered VCS Joint PD&MR/3/, the calibration reports/ certificates/11/ are valid for the entire current monitoring period and there is no delay in the calibration found. From the verification of above table, verification team also confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 23-March-2021 to 31-October-2022 (inclusive of both start and end date).

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPA signed by the PP with state utility/14/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of Validation and Verification manual version 4.2/21/. The registered VCS Joint PD&MR/3/ & MR /1/ and site visit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly JMRs /10/ issued by the state utility and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations.

In view of the above discussion the assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations:

The emission reduction as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for this project activity is considered zero).

The formula provided for the calculation of baseline emissions is:

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

Where:

BE_y = Baseline emissions in year y (tCO₂/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 project activity in year y (MWh/yr)

$EF_{grid, CM, y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using version 6.0 of the “Tool to calculate the emission factor for an electricity system” (tCO₂/MWh).

The baseline emissions for the project activity for the current monitoring period are as follows.

Baseline Emission factor = 0.9653 tCO₂/MWh

Parameter	Unit	Value
EG _{PJ, y}	MWh	116,875
EF _{grid, CM, y}	tCO ₂ e	0.9653
BE _y	=	116,875 MWh x 0.9653
	=	112,818 tCO₂e (Round down value)

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified.

The actual emission reduction achieved is 0.06% less than the estimated figure to match the monitoring period as per registered VCS Joint PD&MR/3/, which is due to the low PLF achieved by the project activity during the current monitoring period which is completely governed by the availability of solar and other climatic factors, which is a natural phenomenon and same is beyond the control of PP.

This comparison is submitted in the ER sheet along with a justification confirming that this event of lower power generation was an unforeseen situation and also not under the direct control of PP. Since the emission reduction is less than the estimated emission reduction, no further justification is not required.

All the data were made available and have been monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS standard requirements/5/.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk that could lead to material errors, omissions or misstatements rating determined by the project proponent for the project activity and no risk was identified in the audit/verification plan hence not applicable.

5 VERIFICATION CONCLUSION

VKU Certification Pvt. Ltd. has performed the periodic fourth verification of the project activity “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited” in India (VCS 1745) under first crediting period from 24-March-2016 to 23-March-2026 (Including both dates), for the period 23-March-2021 to 31-October-2022 (Inclusive

of both start and end dates), with regard to the relevant requirements for VCS Standard version 4.3/5/

The project proponents of the project “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited” is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS Joint PD&MR version 3.0 dated 21-March-2018/3/.
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project's conformity with the requirements of VCS Standard version 4.3/5/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- The project has been implemented and operated as per the registered VCS Joint PD&MR/3/;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard Version 4.3/5/.
- The monitoring plan in the registered VCS Joint PD&MR/3/ is as per the applied baseline and monitoring methodology/7/.

VKU Certification; verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls is in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 4.0 dated 17-February-2023 for the “Bundled Solar Power Project by Vector Green Sunshine Private Limited and Polepally Solar Parks Private Limited” in India for the period 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) are fairly stated. The GHG emission reductions are calculated on the basis of approved methodology ACM0002 version 17.0 /7/ and the monitoring plan included in the registered VCS Joint PD&MR, version 3.0 dated 21-March-2018/3/

Hence VKU is able to certify that the emission reduction from the project during the monitoring period 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates) amounts to 112,818 tCO₂e.

The following table shows the Net Emission Reduction from 23-March-2021 to 31-October-2022 (Inclusive of both start and end dates)

Year	Baseline emissions removals (tCO ₂ e)	or	Project emissions removals (tCO ₂ e)	or	Leakage emissions (tCO ₂ e)	or	Net GHG emission reductions removals (tCO ₂ e)
Year 2021 (23-March-2021 to 31-December-2021)	53,332		0		0		53,332
Year 2022 (01-January-2022 to 31-October-2022)	59,486		0		0		59,486
Total	112,818		0		0		112,818

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DVNL	Dakshinanchal Vidyut Vitran Nigam Limited
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PD	Project Description
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

Type	Date	09-January-2023
CL#01	Reference	Section 01/DR Section 02/DR Section 04/DR
Description of the Non-Conformance		
In section 1.1 of MR: PP is requested to submit the commissioning certificate of 25 MW Polepally Solar Parks Private Limited, Telangana site In section 1.9 of MR: PP is requested to give a brief explanation and submit a declaration confirming the project is not participating in any other GHG program or taking any other kind of benefits as per guideline of VCS MR Template version 4.1 In section 1.10 of MR: PP is requested to submit the declaration stating they are not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limit. Additionally, PP is requested to clarify whether the present project activity has applied under IREC or domestic REC mechanism as per the instructions to fill MR v4.1 In section 4.3 of MR: PP is requested to submit the O&M contract.		
1 st Response from PP	Date	16-January-2023
- Submitting herewith copy of commissioning certificate of 25 MW PSPPL site. - Submitting herewith declaration for the project is not participating in any other GHG program or taking any other kind of benefits. - Submitting herewith declaration for the project is not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limit. Also, declaring that the present project activity has not applied under IREC or domestic REC mechanism. - Submitting herewith valid O & M contract for the project activity.		
1 st Assessment by Audit Team	Status	Closed
	Date	30-January-2023
In section 1.1 of MR: Assessment team confirms that PP has submitted the commissioning certificate of 25 MW Polepally Solar Parks Private Limited, Telangana site. Hence accepted. In section 1.9 of MR: The assessment team confirms that PP has submitted the declaration confirming that the project is not participating in any other GHG programs or receiving any other type of benefit in accordance with the guidelines of VCS MR Template version 4.1. In section 1.10 of MR: Assessment team confirms PP has submitted the declaration certificate stating they are not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limits, such as REC and I-REC.		

4. In section 4.3 of MR: PP has submitted the O&M contracts and verified by assessment team and accepted.

Hence CL#01 is Closed

Type	Date	09-January-2023
CAR#01	Reference	Section: MR/DR Section 01/DR Section 03/DR Section 04/DR
Description of the Non-Conformance		
1. In section 1.2 of MR: PP is requested to indicate whether the project is AFLOU or not according to VCS MR template version 4.1. 2. In section 1.11 of MR: PP is requested to adhere to all the guidance requirements under section 1.11. For example, one of the requirements of the guidance is to give explanation of how project activities result in SD contributions described in table 1 below. Likewise, PP is requested to state how the project activity follows where necessary the requirement guidelines of the MR template v4.1. • PP is requested to use the correct unit for the emissions avoided. 3. In section 2.1 of MR: Although no EIA is required for solar project but according to VCS Standard V 4.3 section 3.17.2 requires a project to identify the potential negative impact thus, PP is requested to further elaborate on the potential environmental and social impacts of the project 4. In section 2.2 of MR: PP is requested to mention the date of the local stakeholder meeting took place initially as per the VCS MR template version 4.1 • PP is requested to update about the existing method of recording grievance that is followed at site and also submit evidences for the same to assessment team. • As per the template to fill MR, PP is requested to state the mechanism employed for on-going communication with the local stakeholders. 5. In section 3.1 of MR: PP is requested to mention the current monitoring period ERs achieved and amount of electricity supplied to grid • PP is requested to insert a reference of technical specifications of all SPVs involved in project activity. • PP is requested to mention the capacity of the module installed at site for 20 MW site. • The mechanism involved in inclination at both sites it not mentioned • The type of solar panel module at site is not mentioned as the solar panel installed at Mansa Site and Polepally site are different • The number of inverters used in the PA is mentioned as 7 nos however there are 3 types of inverters used in Mansa site. PP is requested to give the breakup of 7 nos inverters used along with the rating. 6. In section 3.2 of MR: PP is requested to clarify the document used to cross verify is VCS PD or VCS Joint PD&MR.		

• PP is requested to mention if there are any deviations taken during the previous verifications and validation • During the site visit it was mentioned in Polepally power plant and Vector Green plant at Punjab that DSM system is in place. This was not stated in the registered PD or in the previous MR. PP is requested to clarify. 7. In section 4.2 of MR: PP states under QA/QC procedures under monitoring parameters that the billing is based on the readings at the substation. However, at Mansa site the billing is based on the meters installed at the transformer yard at the site. PP is requested to clarify 8. In section 4.3 of MR: PP is requested to update the diagram of organization structure for monitoring as per VCS project and submit the SLD of the project activity. • PP is requested to submit some sample log book sheet and electronic records for the current monitoring period. • PP is also requested to state the monitoring mechanism available at site when both the meters present at site are not under operating conditions. 9. In section 5.2 and 5.3 of MR: PP is requested to mention the reference of the methodology para/section referred for not including any project and leakage emissions. In addition to this, PP is also requested to state the mechanism involved in the cleaning of the solar panels at both the sites 10. In section 5.4 of MR: PP is requested to clarify when the estimated and achieved emission reductions are same then how there was an increase in emission reduction achieved during the current monitoring period.		
1st Response from PP	Date	16-January-2023
1. Necessary description added to section 1.2 of revised MR (Version 02) regarding AFLOU project. 2. Reference of the contributions mentioned in the SDG contribution table has been added to section 1.11 of revised MR (version 02) • Necessary explanation added to section 1.11 of revised MR (version 02) of how the PA result in SD contributions mentioned in Table 1. • For emission reduction, Unit is now corrected in section 1.11 of revised MR (version 02). 3. There are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity. Necessary description & references added to section 2.1 of revised MR (Version 02). 4. Date of invitation & date of meeting, conducted initially during registration for both the sites are now mentioned in section 2.2 of revised MR (version 02) • Grievance register maintained at site for continuous stakeholder consultation. Submitting herewith copy of the same to DoE for verification. • Necessary details added for mechanism employed for on-going communication with the local stakeholders in section 2.2 of revised MR (version 02) 5. Necessary details has been added for current monitoring period ERs achieved and amount of electricity supplied to grid in section 3.1 of revised MR (Version 02) • Reference of technical specifications of all SPVs involved in project activity now added to section 3.1 of revised MR (version 02)		

- Necessary details regarding capacity of the solar module installed at VGSPL site (20 MW) has been added to section 3.1 of revised MR (version 02)
- Necessary details regarding module title angle have been added to section 3.1 of revised MR (version 02)
- Necessary details regarding type of solar panels for both the sites are added to section 3.1 of revised MR (version 02).
- Breakup of 7 nos. inverters used along with the rating for Mansa site has been added to section 3.1 of revised MR (version 02).

6. The project activity has been implemented as described in the VCS Joint PD & MR, necessary details have been added to section 3.2 of revised MR (Version 02)

- there was no deviation taken during the previous verification and validation of the project activity, necessary details have been added to section 3.2 of revised MR (Version 02)
- The project activity has been implemented & got registered as per ACM0002: Grid-connected electricity generation from renewable sources (Version 17) and followed the registered monitoring plan at site and do not have any deviation regarding methodology that impact ER estimation of the project activity.

Telemetry instrument is installed at site to monitor real time generation data and send to SLDC, it does not have any impact on ER estimation/calculation as per applicable methodology.

7. Necessary description revised for billing meter location at respective site in section 4.3 of revised MR (Version 02).

8. Diagram of organization structure for monitoring as per VCS project has been revised in section 4.3 of revised MR (version 02) , submitting herewith SLD of respective site VGSPL (20 MW) and PSPPL (25 MW) to DoE for verification.

- Submitting herewith sample log sheet and electronic generation data (copy of DGR for the month of Oct.22) to DoE for verification.
- Necessary description added to section 4.3 of revised MR (version 02) for monitoring mechanism available at site when both the meters present at site are not under operating conditions

9. Reference of the methodology para/section referred for not including any project and leakage emissions is now added to in section 5.2 & 5.3 of revised MR.

- Some project activities may involve project emissions that can be significant. As per applicable methodology, project emission from fossil fuel consumption, Project emissions from the operation of dry, flash steam or binary geothermal power plants and Project emissions from water reservoirs of hydro power plants can be significant. The solar panels cleaning done with wet method once in a fortnight with minimal water usage, the above-mentioned operations not applicable to solar plant project, Hence Project emission considered as zero.

10. The values has been corrected for estimated and achieved emission reductions in section 5.4 of revised MR (version 02).

1 st Assessment by Audit Team	Status	Open	Date	09-February-2023
--	--------	------	------	------------------

1. **In section 1.2 of MR:** Assessment team confirms that the project is a solar project, not an AFOLU, and that a description has been added. Hence accepted
2. **In section 1.11 of MR:** Assessment team confirm PP has provide the hyperlink for the project contribution achieved towards SDGs.
 - Assessment team also confirms that PP has updated the unit of emission avoided. Hence accepted
3. **In section 2.1 of MR:** The project activity is solar power project and no harmful impacts were identified by PP during any phase of project implementation and monitoring and no EIA was also done as it comes under white category of projects, hence accepted.
 - PP is requested to update the name of the DNA in this section. (Open)
4. **In section 2.2 of MR:** The assessment team confirms that PP has included all local stakeholder consultation details in the amended MR. Hence accepted
 - Assessment team confirms PP has submitted the Grievance Register as well. Hence accepted
 - Assessment team confirms PP has updated the Grievance mechanism procedure for ongoing consultation with stakeholders. Hence accepted
 - PP is requested to provide the email id and provision notification for submitting the grievances through email-mechanism. (Open)
5. **In section 3.1 of MR:** PP has updated the description and necessary update in the ERs achieved and amount of electricity supplied to grid has been done and accepted by team.
 - The technical specifications are as per the registered VCS PD&MR. hence accepted.
 - The capacity of each module is installed at site are 20 MW site has been updated by PP and it is in line with the commissioning certificate submitted. Hence accepted.
 - The tilt of modules at both sites is mentioned as per the commissioning certificate submitted. Hence accepted.
 - PP has included the type of solar panel module at the site as the solar panel installed at Mansa Site and Polepally site are different. Hence accepted
 - The number of inverters used in the PA are provided as per the project activity actual scenario observed on site. Hence accepted.
6. **In section 3.2 of MR:** PP has revised the section 3.2 in revised MR version 02 submitted to team and found to be correct hence accepted.
 - Assessment team confirms that PP has taken no methodology deviations during current and during the previous verifications and validation.
 - Assessment team confirms that PP mentions that no project description deviations were raised in current and previous verification. However, the assessment team has observed a DSM mechanism in place on both sites which is not stated by PP in revised MR. Kindly Clarify. (Open)
7. **In section 4.2 of MR:** Assessment team confirms that PP has updated the QA/QC procedure as per the actual practice followed at site i.e., the billing meter is placed at substation for PSSPL which is as per the registered Joint VCS PD&MR but the billing meter is placed at switchyard for VGSPL site which is found to be inconsistent with the Joint PD&MR description. PP is requested to clarify. (Open)

- PP is requested to clarify how this statement mentioned by PP in the deviation is consistent with the registered VCS Joint PD&MR, since the registered PD&MR refers to the billing meters placed at substation. (Open)
- PP is requested to mention the complete details about the deviation appropriately in this section. (Open)

7. In section 4.2 of MR; Assessment team confirms that PP has updated the QA/QC procedure as per the actual practice followed at both sites and same was taken as a deviation in revised MR version 03 which is as per the Validation and verification manual Version 3.2 guidance. Hence accepted.

8. In section 4.3 of MR; Assessment team confirms that PP has now taken a deviation for updating the monitoring mechanism for the meters and process for continuous monitoring and emergency preparedness in section 4.3 in revised MR version 03. Hence accepted.

Hence CAR#01 is OPEN

3rd Response from PP

Date

17-February-2023

6. Regarding DSM, PSPPL (25 MW, Telangana), DSM has been implemented on pilot scale, but as per Gov. notification (Lr. No. CE/SLDC/E.RE DSM/DNo. 555, dated 28-December-2022, tentative date for effective commercial implementation date of RE DSM regulations is 01-April-2023, hence it is not applicable for this monitoring period.

- For VGSPL (20 MW, Mansa, Punjab), billing has been still done as per export-import values.
- The project description deviation Numbering has been updated in section 2.1.2 of section 3.2 of revised MR (Version 04)
- Regarding billing meter location at VGSPL (20 MW, Mansa, Punjab, the deviation description statement has been revised in revised MR (version 04)
- Regarding emergency preparedness and response, the description statement has been revised in revised MR (version 04).

3rd Assessment by Audit Team

Status

Closed

Date

13-March-2023

6. In section 3.2 of MR; Assessment team confirms through desk review of Gov. notification (Lr. No. CE/SLDC/E.RE DSM/DNo. 555, dated 28-December-2022, submitted by PP. The tentative date for effective commercial implementation date of RE DSM regulations is 01-April-2023 which is found to be consistent with the details available on government website.

- PP has updated the project description deviation in revised MR version 04 and mentioned the deviation numbers taken by PP in the current monitoring period in section 2.1.2 of section 3.2. Hence Accepted
- PP has updated the project description deviation in revised MR version 04 and now the statement mentioned by PP in the deviation is consistent with the current practice at site observed during site visit. Hence accepted.

- PP has updated the project description deviation in revised MR version 04 and now this addresses the complete details about the deviation appropriately in this section. Hence accepted.

Hence CAR#01 is Closed

Type	Date	09-January-2023
CAR#02	Reference	MR Template Section 04/DR
Description of the Non-Conformance		
1. PP to ensure editorial correction throughout the report. Please ensure proper formatting and spacing between sentences, letters and Blank pages. PP is also requested not to tamper the MR template while drafting the MR for the current monitoring period 2. PP is requested to use the consistent font colour throughout the MR. 3. On title Page of MR: PP is requested to update the font size and font colour according to the VCS MR template version 4.1 • PP is requested to update the format of table according to the VCS MR template version 4.1		
1 st Response from PP	Date	16-January-2023
1. Necessary corrections has been done regarding formatting throughout revised MR (Version 02). 2. Font size and colour are now consistent throughout the revised MR (version 02). 3. Title page of MR is now revised according to VCS MR template version 4.1 requirement.		
1 st Assessment by Audit Team	Status	Closed
Date	30-January-2023	
1. PP has updated the formatting in throughout the MR according to the MR template version 4.1. Hence Accepted. 2. PP has updated the font size and font colour according to the MR template version 4.1. Hence accepted 3. PP has updated the font size and font colour according to the VCS MR template version 4.1, and the table of content as well. Hence accepted. Hence CAR#02 is Closed.		

Type	Date	09-January-2023
CAR#03	Reference	Section: Appendix 1/2 ER SHEET/DR/OSV
Description of the Non-Conformance		

1. In Appendix 1 (METER CAIBRATION DETAILS) of MR: PP is requested to update the calibration details of the meters installed at site as they are found to be inconsistent with the calibration certificates submitted. 2. In Appendix 2 (BREAKDOWN DETAILS) of MR: PP is requested to submit the breakdown and DGR details sheet for both sites. (PSPPL-25MW) and (VGSPL-20 MW) 3. In ER SHEET: PP is requested to update the ER value for the month of August 2021 as it is found inconsistent with the invoice provided.				
1 st Response from PP		Date	16-January-2023	
1. Calibration details updated, submitting herewith applicable calibration certificate for current monitoring period to DoE for verification. 2. Submitting herewith breakdown details & DGR sheet for both the sites ((PSPPL-25MW) and (VGSPL-20 MW). 3. Submitting herewith revised ER sheet, net unit billed and JMR reading are now consistent for the month of August 2021 (for VGSPL, 20 MW plant).				
1 st Assessment by Audit Team	Status	Open	Date	09-February-2023
1. In Appendix 1 (METER CAIBRATION DETAILS) of MR: Assessment team confirms that all calibration certificates are provided and found to be consistent with the details mentioned. However, Joint VCS PD&MR states the use of all 3 meters in both sites, however MR states the use of only main and check for 20MW site. Kindly clarify. (Open) 2. In Appendix 2 (BREAKDOWN DETAILS) of MR: Assessment team confirms that PP has submitted the breakdown and DGR details sheet for both sites. (PSPPL-25MW) and (VGSPL-20 MW. Hence Accepted. 3. In ER SHEET: Assessment team confirm PP has update the value in revised ER sheet for the month of August 2021 (for VGSPL, 20 MW plant). Hence accepted Hence CAR#03 is Open				
2 nd Response from PP		Date	15-February-2023	
1. Necessary description added as per Joint VCS PD&MR in the revised MR (Version 03)				
2 nd Assessment by Audit Team	Status	Open	Date	17-February-2023
1. In Appendix 1 (METER CAIBRATION DETAILS) of MR: Assessment team confirms that PP has updated the meter details as per the registered VCS Joint PD&MR. • However, PP is requested to provide the calibration certificates of the additional meter added. • PP is requested to clarify the name of meter mentioned here as it is not consistent with the registered VCS PD&MR				
3 rd Response from PP		Date	17-February-2023	

The grid meter is in custody of central grid authority and calibration has been done by grid authority itself. Hence the calibration certificate is not available with PP. PP has confirmed the calibration details with grid authorities and mentioned in revised MR (Version 04)

The name of meter mentioned as per VCS PD & MR for VGSPL, 20 MW plant. (Mansa, Punjab site).

3rd Assessment by Audit Team	Status	Closed	Date	13-March-2023
--	---------------	--------	-------------	---------------

1. In Appendix 1 (METER CAIBRATION DETAILS) of MR: Assessment team confirms that PP has updated the meter details as per the registered VCS Joint PD&MR and found that the details are consistent with the registered VCS Joint PD&MR and the calibration is conducted by the grid authorities and confirmed with PP by interviewing and desk review. Hence accepted

Assessment team confirms that the name of meter mentioned in meter calibration table is consistent with the registered VCS PD&MR. Hence accepted.

Hence CAR#03 is Closed

Type	Date	DD/MM/YYYY		
FAR	Reference			
Description of the Non-Conformance				
1stResponse from PP	Date	DD/MM/YYYY		
1stAssessment by Audit Team	Status	Open/Closed	Date	DD/MM/YYYY

APPENDIX C: COMPETENCE STATEMENT

Team Leader-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 3.1, 6.1, 13.1, 13.2)	YES

Validator/Verifier-Trainee-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Shivani Chauhan
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Environmental Science) M.Sc. (Environmental Science)
Year of Experience	2 years as Intern and 6 months as Employee
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

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

Reviewed by	Vandana Gupta (Quality Manager)	Date	02.02.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	02.02.2023

Project Trainee-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Apoorva Tripathi
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	NA, Fresher
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

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

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

Technical Reviewer-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Indonesia, Bangladesh, Nepal, Ghana, Uganda, Kenya etc
Education Qualification	B.E. (Mechanical Engineering) M. Tech (Energy Management)
Year of Experience	10 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 2.1 - Process GHG Emission Expert TA 6.1 - Solid waste and wastewater TA 6.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 2.1, 6.1, 6.2)	YES

Reviewed by	Vikas Kumar Aharwal (Director)	Date	05/09/2020
Approved by	Vikas Kumar Aharwal (Director)	Date	09/09/2020