



BUNDLED WIND POWER PROJECT IN RAJASTHAN BY ORANGE RENEWABLE POWER PRIVATE LIMITED



Document Prepared By

LGAI Technological Center S.A. (Applus+ Certification)

Project Title	Bundled Wind Power Project in Rajasthan by Orange Renewable Power Private Limited
Version	02
Report ID	Internal project ID: 11620

Report Title	Bundled Wind Power Project in Rajasthan by Orange Renewable Power Private Limited
Client	Orange Renewable Power Private Limited
Pages	37
Date of Issue	27-July-2020
Prepared By	LGAI Technological Center, S.A. (Applus+ Certification)
Contact	Campus UAB – Ronda de la Font del Carme, s/n

	08193 Bellaterra – Barcelona (Spain) Tel: +34 93 567 20 08 Fax: +34 93 567 20 01 www.appluscertification.com agustin.calle@applus.com carla.debat@applus.com
Approved By	LGAI Technological Center S.A. (Applus+ Certification) B.U. Managing Director: Juan Sendín Caballero
Work Carried Out By	Dr. Atul Takarkhede - Lead Auditor / Technical Expert:

Summary:

Verification purpose: The main purpose of this project activity is to generate clean form of electricity through renewable energy sources (wind energy). Orange Renewable Power Private Limited is the promoter and project proponent of the project activity. The project activity is a 59.4 MW (39.9 MW in Bhesada & 19.5 MW in Dalot) bundled wind power project consisting of 32 Wind Turbine Generators (WTGs). The combined capacity of the project activity is 59.4 MW. The electricity generated from the WTGs will be sold to state electricity board.

The project is registered with VCS with Project ID 1465¹. Start date of the project activity is the 31-March-2013. The monitoring period for this VCS verification is chosen from 01-May-2019 to 30-April-2020 (including both days) and the project activity achieved 100,491 tCO₂e emission reductions during this monitoring period thereon displacing 102,900 MWh amount of electricity from the generation-mix of power plants connected to the NEWNE regional grid (now Indian Grid), which is mainly dominated by thermal/fossil fuel based power plant.

A risk based approach has been followed to perform this verification activity. In the course of verification, 04 Corrective Action request (CAR) and 00 Clarification Requests (CLs) were raised and successfully closed. No FAR was raised during this verification. The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “Orange Renewable Power Private Limited.” to perform the 6th periodic

¹ https://www.vcsprojectdatabase.org/#/project_details/1465

verification of the “Bundled Wind Power Project in Rajasthan by Orange Renewable Power Private Limited” under VCS standard and guideline version 4.0. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and Final Verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against “ACM0002 - Version 16”
- the project's monitoring plan is assessed against “ACM0002 - Version 16”
- the projects compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guideline and standard version 4.0
- CDM validation and verification standard for project activities, Version 02
- CDM Project Standard for project activities, version 02
- CDM project cycle procedure for project activities, version 02
- VCS standard v4.0
- VCS program guideline v4.0

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

The scope of the verification is the independent and objective review of the Monitoring report (MR). The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM validation and verification standard for project activities, Version 02, review against registered PD and Final Validation report, CDM Project Standard for project activities, version 02, CDM project cycle procedure for project activities, version 02 and VCS program guideline and standard version 4.0.

The assessment team has employed a risk based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VERs. The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

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

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

CONTENTS

1	Introduction	6
1.1	Objective	6
1.2	Scope and Criteria	6
1.3	Level of Assurance.....	7
1.4	Summary Description of the Project	7
2	Verification Process.....	10
2.1	Method and Criteria.....	10
2.2	Document Review	12
2.3	Interviews.....	13
2.4	Site Inspections.....	13
2.5	Resolution of Findings	14
2.5.1	Forward Action Requests.....	15
2.6	Eligibility for Validation Activities	15
3	Validation Findings.....	16
3.1	Participation under Other GHG Programs	16
3.2	Methodology Deviations.....	16
3.3	Project Description Deviations.....	16
3.4	Grouped Project	16
4	Verification Findings.....	17
4.1	Project Implementation Status	17
4.2	Safeguards	21
4.2.1	No Net Harm	21
4.2.2	Local Stakeholder Consultation.....	22
4.3	AFOLU-Specific Safeguards	23
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	23
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	26
4.6	Non-Permanence Risk Analysis.....	26
	APPENDIX 1: Documents Reviewed or Referenced (Verification)	29

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)	30
APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS.....	32
APPENDIX 4: ABBREVIATIONS	34
APPENDIX 5: CALIBRATION DETAILS OF THE METERS.....	35
APPENDIX 6: Details of remote audit & Site photographs.....	36

1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “Orange Renewable Power Private Limited” to perform the 6th periodic verification of the “Bundled Wind Power Project in Rajasthan by Orange Renewable Power Private Limited.” under VCS standard and guideline version 4.0. The objective of this verification activity is to have an independent third party for the assessment of the project design, Monitoring report and Final Verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against “ACM0002 - Version 16”
- the project's monitoring plan is assessed against “ACM0002 - Version 16”
- the projects compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guideline and standard version 4.0
- CDM validation and verification standard for project activities, Version 02
- CDM Project Standard for project activities, version 02
- CDM project cycle procedure for project activities, version 02
- VCS standard v4.0
- VCS program guideline v4.0

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR) prepared as per the registered PD and registered approved methodology ACM0002 - Version 16. The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard and guideline version 4.0, including the approved baseline and monitoring methodology ACM0002 - Version 16. The verification was based on the requirements in the CDM

validation and verification standard for project activities, Version 02, CDM Project Standard for project activities, version 02, CDM project cycle procedure for project activities, version 02 and VCS program guideline and standard version 4.0

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement. Verification team conducted remote audit due to pandemic situation and equipments, technical details and metering/monitoring arrangement verified through photos/certificate shared by PP. The verification team has reviewed all the documents like commissioning certificates, technical specification, O&M practices, JMR, invoices, training records, grievance registers etc.

1.3 Level of Assurance

Applus+ Certification has planned and performed the verification by obtaining evidence and other information and explanations that assessment team considers necessary to give reasonable assurance that reported estimated GHG emission reductions are fairly stated. All documentary evidences were checked, a remote audit was conducted due to pandemic situation and technical details and metering/monitoring arrangement verified through photos/certificate shared by PP to arrive at a verification conclusion by the assessment team.

In our opinion, the estimated GHG emissions reductions were calculated correctly on the basis of the approved baseline and monitoring methodology “ACM0002 - Version 16” and the VCS standard.

1.4 Summary Description of the Project

The project is promoted by Orange Renewable Power Private Limited & Orange Jaisalmer Wind Energy Private Limited of which the “Orange Renewable Power Private Limited” is the representative of promoter of this bundled project and consist of 59.4 MW (39.9 MW in Bhesada & 19.5 MW in Dalot) bundled wind power project consisting 32 Wind Turbine Generators (WTGs). The purpose of the project activity is to generate clean electricity with utilization of wind energy.

The bundle project 39.9 MW Wind power project is located near village Bhesada, close to the city of Jaisalmer in state of Rajasthan & referred as “Project 1”. It is developed by “Orange Jaisalmer Wind Energy Private Limited” (OJWEPL). It consists of 19 machines of 2.1 MW class Suzlon S88 make.

The other project in the bundle is 19.5 MW wind Power Project located near village Dalot, close to the city of Pratapgarh in state of Rajasthan & referred as “Project 2”. It is developed by “Orange Renewable Power Private Limited” (ORPPL). It consists of 13 machines of 1.5 MW class ReGen V82 make.

There was no activity at the site prior to implementation of the project activity (Greenfield). The electricity generated by the project is exported to the Indian electricity grid. The project activity will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. Since wind power is Greenhouse Gas (GHG) emissions free, the power generated will prevent the anthropogenic gas emissions generated by fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas.

All the WTGs in the project activity were commissioned on 31-March-2013 and have been operational since then. The details of the projects and the state of installation are mentioned in the table:

Project Site's Name	Capacity	Technology	State	Connection with Grid	Use of Electricity
Site 1 – Bhesada (OJWEPL)	19x2.1 39.9MW	Suzlon S88	Bhesada, Jaisalmer, Rajasthan	Indian	Sale to Grid
Site 2 – Dolat (ORPPL)	13x1.5 19.5 MW	ReGen V82	Dalot, Pratapgarh, Rajasthan	Indian	Sale to Grid

Assessment team confirms following during the verification remote audit:

1. Start date of the project activity is 31-March-2013 as mentioned in the registered VCS PD.
2. An undertaking letter dated 24-June-2020 has been submitted by PP for double counting with any other GHG program. PP also has given a written declaration that project has not claimed other form of GHG credit for the concerned monitoring period. Assessment team also checked that the projects are not registered under the REC mechanism of India and the same can be cross-checked at <https://recregistryindia.nic.in>. PP has given a written declaration that the credit claimed under VCS for the current monitoring period is not claimed under any other GHG mechanism.

3. Assessment team confirms that this is the 6th monitoring under VCS and covers the activity from 01-May-2019 to 30-April-2020 (inclusive of both dates). The Crediting Period of the project activity is from 31-March-2013 to 30-March-2022 which will be renewed twice.

Start date of crediting period for VCS verification: 31-March-2013 (Date of commissioning of plant)

The GHG credits from 01-May-2019 to 30-April-2020 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the “Double Counting”.

4. Assessment team checked and found that the Project proponent of the project activity is as below for the current monitoring period:

Organization name	Orange Renewable Power Private Limited
Contact person	Mr. Murali Krishnam Raju M.
Title	Senior Manager
Address	301B, 3 rd Floor, D-21 Corporate Park, Sector-21, Dwarka, New Delhi-110077
Telephone	+91(40) 4030 1004
Email	muraliraju.m@greenkogroup.com

Organization name	Orange Jaisalmer Wind Energy Private Limited
Contact person	Mr. Murali Krishnam Raju M.
Title	Senior Manager
Address	301B, 3 rd Floor, D-21 Corporate Park, Sector-21, Dwarka, New Delhi-110077
Telephone	+91(40) 4030 1004
Email	muraliraju.m@greenkogroup.com

5. Assessment team also checked the details of other entity and found correct. The details are as below:

Organization name	Infinite Solutions
Role in the Project	Project Consultant
Contact person	Mr. Jimmy Sah
Title	Head – Sustainability
Address	611, Chetak Centre Main, 12/2 RNT Marg, Indore- 452001
Telephone	+91-9644130430
Email	jimmy@infisolutions.org

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that the actual VER (100,491 tCO₂e) is 3% is lower than the estimated emission

reduction² (103,152 tCO₂e). This is due to the lower wind flow pattern at the site and results lower PLF.

The details calculation is as follows:

Year	Net Export (kWh)	VCUs (tCO ₂)	Total (tCO ₂)	Estimated values/annum (tCO ₂)	Estimated values (tCO ₂)	Difference
2019	81,091,806	71,235	100,491	102,870	103,152	-3%
2020	28,713,912	29,256				

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the “CDM validation and verification standard for project activities, Version 02 and “VCS standard and program guideline version 4.0” and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

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

1. A desk review of the Monitoring report against the registered PD and final validation report;
2. Follow-up interviews with project participant;
3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

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

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. Applus+ Certification has developed a

² Calculated for 366 monitoring days involved.

specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating the identified criteria.

Appointment of the assessment team

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

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

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

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

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

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

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

Document review

The Monitoring report version 1 submitted by the PP was reviewed against the approved methodology, registered PD, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Follow-up interviews

A remote audit is conducted by Applus+ Certification. Audit team performed interviews, via video/telephone conferences with project stakeholders to confirm selected

information and to resolve issues identified in the document review. The detail is provided in this report.

Resolution of Clarification and Corrective Action Request

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

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

Internal quality control

As final step of a verification of the final documentation including the verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

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

2.2 Document Review

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

2.3 Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Lalwani	Sunil	ORPPL	05-June-2020 (Remote Audit)	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism	Dr. Atul Takarkhed e
2.	Sharma	Sunil	ORPPL		Operation & Management, Monitoring practices, Calibration requirements, data storage, QA/QC	
3.	Behru	-	ORPPL		Operation & Management, Monitoring practices, Calibration requirements, data storage, QA/QC	
4.	Kumar	Suresh	ORPPL		O&M, Monitoring practices	
5.	Murali	Raju M	ORPPL (Greenko)		Management practices	
6.	Singh	Richa	Infinity Solutions		GHG calculations, MR and ER preparation, Data collection, data storage, QA/QC	

2.4 Site Inspections

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

No physical verification was conducted by the DOE for this verification due to high threat of COVID-19 in entire state of India. Government of India has order nationwide lockdown from 25-March-2020 to 14-April-2020³ 4. Further extended to 03-May-2020⁵ and again extended up 17-May-2020⁶. Lockdown is further extended till 30-June-2020

³ <https://www.mha.gov.in/sites/default/files/MHAorder%20copy.pdf>

⁴ https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India

⁵ <https://www.mha.gov.in/sites/default/files/MHA%20DO%20letter%20dt.14.4.2020%20to%20Chief%20Secretaries%20and%20Administrators%20for%20strict%20implementation%20of%20Lockdown%20Order%20during%20extended%20period.pdf>

⁶ <https://www.mha.gov.in/sites/default/files/MHA%20Order%20Dt.%201.5.2020%20to%20extend%20Lockdown%20period%20for%202%20weeks%20w.e.f.%204.5.2020%20with%20new%20guidelines.pdf>

with some relaxations⁷ and Rajasthan state government made quarantine mandatory for persons travelling from other states⁸. Furthermore, the VCS program does not explicitly mandate site visits as part of the validation and verification process during such unprecedented circumstances, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per section 4.1.2 of the VCS Standard, v4.0).

The DOE has taken alternative measures to reach reasonable level of assurance and conducted remote audit through telephonic interview on 05-June-2020 (refer section 2.3) with the representative of PP and consultants. All domestic & International travel, passenger movement by trains, interstate buses for public transport, movement by individuals are prohibited⁹. The project sites are not accessible in these locations due to lockdown, as access to project site and sub-station was restricted, video call was not possible. Thus, remote audit conducted through video call and the same was recorded. Further, during interview with PPs, the implementation of project activity and monitoring procedure and systems in place was confirmed. Technical specifications of the plant verified through the photographs/name plates of WTGs (refer Appendix 6) shared by PPs and the same was cross checked with the previous verification report. The previous verification (5th VCS Verification - 01/04/2018 to 30/04/2019 (inclusive of both dates)) was also conducted by Applus + Certification and site visit was conducted on 27-June-2019 by the DOE for this verification. Assessment team also checked through interviewing PP whether the monitoring plan as described in the VCS PD is actually practiced onsite.

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

2.5 Resolution of Findings

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues from validation which need to be clarified for Applus+ Certification's positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+

⁷ https://www.mha.gov.in/sites/default/files/MHAOrderDt_30052020.pdf

⁸ <http://dipr.rajasthan.gov.in/content/dam/dipr/Downloads/Order%5CCircular/Order%5CCircular2020/home-deptt-13052020-1.pdf>

⁹ <https://www.mha.gov.in/sites/default/files/MHA%20Order%20Dt.%201.5.2020%20to%20extend%20Lockdown%20period%20for%202%20weeks%20w.e.f.%204.5.2020%20with%20new%20guidelines.pdf>

Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the appendix 2.

The final MR Version 2 submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	01	00
Description of project activity	00	01	00
Application of selected baseline and monitoring methodology and selected standardized baseline			
Applicability of methodology and standardized baseline	00	00	00
Deviation from methodology	00	00	00
Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	01	00
Calibration details	00	01	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	00	00
Others (please specify)	00	00	00
Total	00	04	00

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

2.5.1 Forward Action Requests

This is 6th periodic verification of the project activity and no FAR was raised from validation.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

This section is not applicable for present verification

3.2 Methodology Deviations

This section is not applicable for present verification.

3.3 Project Description Deviations

In the 1st monitoring period (31-March-2013 to 31-March-2015), there were three deviations observed from the project description as described in the registered PD.

1) In the registered PD, the monitoring method for Net Electricity ($EG_{facility,y}$) was described in a very simplified manner. It described that, ($EG_{facility,y}$) will be calculated based on the difference in “export”, “import” and “transmission loss”, however, the PD did not explain the exact method of calculations. In the current monitoring report the detailed method of calculating ($EG_{facility,y}$) has been described under section 3.2 “Data and Parameters Monitored”.

2) The registered PD also described the source of data to be “JMRs”, which is correct. However, it has been clarified that the source of data is JMR along with “share certificate” provided by the O&M contractor. The above change in no way impact the project’s Additionality, Baseline and applicability of methodology

3) Apart from the above, the registered PD also describes the voltage of Substation to be 220kV. However, it is corrected in the MR as the voltage of OJWEPL PSS is 220kV, OJWEPL GSS is 400kV and ORPPL GSS is 132kV. This change in the description as well does not impact the project’s Additionality, Baseline and applicability of methodology in any way.

3.4 Grouped Project

This is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the remote audit interviews with PP & plant in-charge and subsequent document verification; commissioning certificates, PPA, JMR and invoices, it was concluded that the project is implemented as per the requirement of the registered VCD PD and approved monitoring plan. During the current monitoring period, it was observed that no unforeseen incident/event evolved which can impact the operation of the project activity which was verified from breakdown records. The project undergone continuous operation and only scheduled maintenance is observed as per the manufactures specification which is acceptable to the assessment team and evident from JMRs.

“Project 1”: Geo-coordinates of 39.9 MW Wind power project in Jaisalmer

S. No	WTG No	PSS Feeder	Village	Taluk	District	Latitude	Longitude
1	RSA204	SEL 194	Luna Kala	Pokaran	Jaisalmer	26.64770	71.55631
2	RSA231	SEL 195	Luna Kala	Pokaran	Jaisalmer	26.65686	71.56304
3	RSA271	SEL 195	Luna Kala	Pokaran	Jaisalmer	26.65871	71.57321
4	RSA225	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.62153	71.58829
5	RSA226	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.62558	71.58246
6	RSA274	SEL 195	Naya Luna kala	Pokaran	Jaisalmer	26.64083	71.58605
7	RSA275	SEL 195	Naya Luna kala	Pokaran	Jaisalmer	26.63274	71.59008
8	RSA276	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.62773	71.59484
9	RSA277	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.62148	71.59838
10	RSA278	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.61782	71.60192
11	RSA289	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.61714	71.62101
12	RSA293	SEL 195	Motisar	Bhaniyana	Jaisalmer	26.63957	71.60723
13	RSA294	SEL 195	Motisar	Bhaniyana	Jaisalmer	26.64486	71.59981
14	RSA341	SEL 195	Motisar	Bhaniyana	Jaisalmer	26.65391	71.60882
15	RSA343	SEL 195	Motisar	Bhaniyana	Jaisalmer	26.64118	71.61789
16	RSA345	SEL 195	Motisar	Bhaniyana	Jaisalmer	26.62983	71.62431
17	RSA348	SEL 194	Motisar	Bhaniyana	Jaisalmer	26.61089	71.63743
18	RSA349	SEL 194	Motisar	Bhaniyana	Jaisalmer	26.60612	71.64224
19	RSA207	SEL 194	Naya Luna kala	Pokaran	Jaisalmer	26.62894	71.56688

1. “Project 2”: Geo-coordinates of 19.5 MW Wind power project in Pratapgarh

S. No	WTG No	Village	Taluk	District	Latitude	Longitude
1	ORPDT_01	Ambirama	Arnod	Pratapgarh	23.5622	74.8370
2	ORPDT_02	Ambirama	Arnod	Pratapgarh	23.5653	74.8353
3	ORPDT_03	Ambirama	Arnod	Pratapgarh	23.5674	74.8357
4	ORPDT_04	Ambirama	Arnod	Pratapgarh	23.5708	74.8410
5	ORPDT_05	Ambirama	Arnod	Pratapgarh	23.5713	74.8352
6	ORPDT_06	Ambirama	Arnod	Pratapgarh	23.5747	74.8396
7	ORPDT_07	Ambirama	Arnod	Pratapgarh	23.5773	74.8426
8	ORPDT_08	Ambirama	Arnod	Pratapgarh	23.5602	74.8371
9	ORPDT_09	Ambirama	Arnod	Pratapgarh	23.5946	74.8387
10	ORPDT_10	Ambirama	Arnod	Pratapgarh	23.5843	74.8449
11	ORPDT_11	Ambirama	Arnod	Pratapgarh	23.5872	74.8486
12	ORPDT_12	Ambirama	Arnod	Pratapgarh	23.5884	74.8428
13	ORPDT_13	Ambirama	Arnod	Pratapgarh	23.5919	74.8410

The WTGs from ORPDT_01 to ORPDT_07 are connected to Feeder 07 while rest of the WTGs are connected to Feeder 08.

The project activity is a 59.4 MW (39.9MW in Bhesada & 19.5 MW in Dalot) bundled wind power project consisting of 32 Wind Turbine Generators (WTGs). The project is promoted by Orange Renewable Power Private Limited & Orange Jaisalmer Wind Energy Private Limited of which the “Orange Renewable Power Private Limited” is the representative of promoter of this bundled project. The purpose of the project activity is to generate clean electricity with utilization of wind energy.

The first project in the current bundle project is a 39.9 MW Wind power project near village Bhesada, close to the city of Jaisalmer in state of Rajasthan (“Project 1”). It is developed by “Orange Jaisalmer Wind Energy Private Limited” (OJWEPL). It consists of 19 machines of 2.1 MW class Suzlon S88 make.

The other project in the bundle is 19.5 MW wind Power Project located near village Dalot, close to the city of Pratapgarh in state of Rajasthan (“Project 2”). It is developed by “Orange Renewable Power Private Limited” (ORPPL). It consists of 13 machines of 1.5 MW class Re-Gen V82 make. Verification team confirmed from the registered PD and from previous verification reports that the location of the project activity including the coordinates is same as mentioned in the registered VCS PD.

The project boundary includes the electricity generation equipment at the project site, sub-station and the NEWNE grid.

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

Project 1: Suzlon’s wind energy technology by implementing S88 model 2100 kW WTGs

The brief technical details of the WTG are as follows

OPERATING DATA	
Rated power	2.1 MW
Cut-in wind speed	4 m/s
Rated wind speed	14 m/s
Cut-out wind speed	25 m/s
50 years gust wind speed	59.5 m/s
Hub height	80 m & 100 m
Rated power	2,100 kW
Rated voltage	690 / 600V

“Project 2”: ReGen’s wind energy technology by implementing V82 model 1500 kW WTGs

Rated power	1500 kW
Cut-in wind speed (10 min. mean)	3 m/s
Rated Wind Speed (10 min. mean)	approx 12.5 m/s
Cut-out wind speed (10 min. mean)	22 m/s
Survival wind speed	52.5 m/s

The WTGs in both the sites are commissioned on 31-March-2013. Assessment team checked the commissioning certificate and confirmed that the dates of Commission for the plants are correct.

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

The organisational role and responsibility as mentioned in the registered PD is followed onsite. All the emergency preparedness as mentioned in the registered PD is followed onsite and no discrepancies were found regarding the same. All the monitoring equipment was calibrated once in three year and thus complied with registered monitoring plan.

The project activity fulfilled the contribution of sustainable development to the host country by implementing environmental friendly technology and creating employment opportunities to the local community. Same is confirmed during remote audit interviews with PP.

The ex-ante fixed grid emission factor of 0.9766 tCO₂/MWh has been used for the baseline emission calculation which is line with the registered VCS PD.

The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that the actual VER is 3% lower than the estimated emission reduction which is due to low PLF during the monitoring period.

All required equipments and procedures are available and implemented in an appropriate manner.

It was observed that the monitoring plan was implemented as per the requirement of the registered PD, FVR and approved methodology ACM0002 - Version 16. The organisational role and responsibility as mentioned in the registered PD is followed onsite. All the monitoring equipment was calibrated as per the specified interval in the registered PD. All the emergency preparedness as mentioned in the registered PD is followed onsite and no discrepancies were found regarding the same.

Further, the project activity has not participated under any other GHG program, apart from Verified Carbon Standard and REC. PP will not claim benefits of carbon emission reduction credits achieved through this project activity under any other GHG programme for the crediting period claimed under VCS. Moreover, the project has not generated any other form of environmental credit and a declaration for the same has been submitted

to the assessment team and the same is acceptable. The project is not registered under the REC mechanism of India and the same is cross-checked at <https://recregistryindia.nic.in>.

A declaration certificate for no other participation in any other GHG Programs for the monitoring period have been submitted for the assessment

CAR 01 & CAR 02 were raised during the verification process and closed successfully. Please refer below Appendix 2 for the detail closure of the CAR

Ministry of Environment & Forests, Government of India has stipulated following indicators for sustainable development in the interim approval guidelines for GHG projects.

1. Social well-being
2. Economic well-being
3. Environmental well-being
4. Technological well-being

Social well-being

The project activity provided / provides job opportunity to local people during commissioning and maintenance of the wind power plant. Frequency of visiting villages and nearby areas by skilled, technical and industrialist increase due to installation/site visit/operation and maintenance work related to wind plant. This directly and indirectly positively effects the economy of villages and nearby area.

Environmental well-being

Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

Economic well-being

The VCS project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

Technological well-being

The project activity is step forward in harnessing the untapped wind energy and further diffusion of the wind technology in the region. The project activity leads to the promotion and demonstrates the success of wind projects in the region which further motivate more investors to invest in wind power projects. Hence, the project activity leads to technological well-being.

In view of the above, the PP has considered that the project activity profoundly contributes to the sustainable development.

4.2 Safeguards

4.2.1 No Net Harm

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

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation. The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that solar/Wind power project activity operations do not result in direct air pollution, noise pollution. Moreover, also as per the Central Pollution Control Board of India notification¹⁰ solar/wind project falls under White Category and are practically non-polluting.

However, assessment team still conducted the No net harm assessment for some of the parameters and the result is described below.

SL.NO	Indicator	Assessment team opinion
1	Air quality	The project generates clean energy which replaces the fossil fuel intensive electricity generation. Also report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that wind power plant operations do not result in direct air pollution. Adequate measures were taken to mitigate the envisaged impacts like spraying water on the road side to reduce dust level, etc. This was confirmed by the local stakeholders. Therefore, it is validated that mitigation measures were robustly implemented on ground for air quality issues project will have a positive impact on air quality.
3	Soil condition	There are negligible impacts envisaged during operation of the project activity. For mitigating the impacts during construction, various mitigation measures were taken which is validated from the plant records of PP and the interview with local villagers. The top soil excavated during construction, was stockpiled

¹⁰ http://envfor.nic.in/sites/default/files/Latest_118_Final_Directions.pdf

SL.NO	Indicator	Assessment team opinion
		and used for compaction. The roads were not paved and soling was done with excavated earth & rock material, so land disturbance could be minimized. It was also confirmed that, the vegetation done at site helps for soil erosion. Therefore, it can be concluded that the project has no effect on soil conditions during its operation because it has no waste coming out.
4	Biodiversity	No rare species has been found in the around area. The project site is not on the migration route of migratory bird. As Such wind power plant does not have any obstruction in the path of migratory birds. With the implementation of Project, the greening water will be increased significantly; the biodiversity in the vicinity will be improved with the vegetation improvement. No negative impact envisaged.
5	Employment Generation	The project activity employed local population as skilled workers as well as security guards which were envisaged during the validation. Same was confirmed during interviews with PP and employment records. The personnel employed by the project activity are also provided trainings and exposed to various awareness programs therefore a positive indicator has been accepted.
6	Livelihood of the poor	The project is associated with infrastructure development like roads in the nearby areas and promoting economic activities like grants to local school and communities temples etc. Also, project employed local villagers as guards for the security of power project. Positive impact envisaged. .

4.2.2 Local Stakeholder Consultation

Local stakeholder consultation has been conducted at the time of project registration. For on-going stakeholders communication, PP have maintained feedback/complaint register at the site office. Assessment team checked the copies of grievance registers submitted by PP which are available at sites and found that local stakeholders can anytime lodge their grievances if any in the register over the operational life time of the project. During interviews with PP, it was confirmed that Site Manager/In-charge is responsible to address any grievances received from stakeholders. During current monitoring period no grievance was received. Thus, assessment team is of the opinion that the on-going stakeholder mechanism is adequate and appropriate.

4.3 AFOLU-Specific Safeguards

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

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the VCS PD. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD
Findings	CAR 03 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.
Conclusion	Ex-ante Parameter: $EF_{grid,CM,y}$ = Parameter is fixed ex-ante for the entire crediting period and as per the validated VCS PD same is fixed 0.9766 tCO₂/MWh. Verification team found same was used in the ER calculations. $EF_{grid,CM,y}$, $EF_{grid,BM,y}$, $EF_{grid,OM,y}$ were mentioned as ex-ante fixed parameter. Assessment team checked the values, source of data, choice of data, purpose of the data mentioned in the MR from the registered PD and confirms that the similar approach was considered for the current monitoring period also. Baseline Emissions: The baseline Emissions for a given year is calculated by multiplying the energy baseline with the grid emission factor. The grid in this case would be the 'Indian Grid' Formula Used:- $BE_y = EG_{facility,y} \times EF_{grid,CM,y}$ Where BE_y = Baseline emission for year 'y' $EG_{facility,y}$ = Quantity of net electricity supplied to the grid during the year y $EF_{grid,CM,y}$ = Emission factor of the Grid <u>Ex-post parameter:</u> As per the registered monitoring plan and requirement of the registered methodology following parameters needs to be monitored: $EG_{facility,y}$: Quantity of net electricity supplied to the grid during the year y¹¹

¹¹ If the project activity is the installation of a Greenfield power plant, then: $EG_{PJ,y} = EG_{facility,y}$

	As per the registered PD the value of net electricity generation supplied to the grid as per Monthly electricity share certificates or Joint Meter Reading Report forms the basis for calculation of the emission reductions; which can be cross checked from the invoice raised to DISCOM. The JMR includes, monthly recording of electricity export & import of GSS meter and Share certificate includes apportioned export & import of each project owner in case of ORPPL. The JMR directly provide the value of export and import for OJWEPL. The source of data is therefore in accordance to registered VCS PD and thus acceptable to the assessment team. Net electricity supplied to grid will be calculated as the difference of the measured values of “export” and “import” of electricity through the dedicated SEB energy meter (electronic tri-vector bidirectional main meter & check meter which measures both export & import concurrently) installed at the delivery point (i.e. the connected substation). Net electricity generated and supplied by the project (Wind plant/unit to the grid = Electricity Export to the grid - Electricity Import from the grid Monthly meter readings are taken from the main and check meter installed at the substation and certified by the representatives of SEB Officials and the representatives of the project proponent during the billing cycle for each month of the monitoring period. The Net electricity generation from the Wind plant is thus correct. All the parameters are monitored and recorded as per the monitoring plan in the registered PD. The verification team has crosschecked the revised emission reduction sheet and monitoring report data with the JMR sheet and invoice bills and found all the values are matching. Apportioning methods are used for both the sites OJWEPL and ORPPL, however the Operation and Maintenance entity managing the sites are different. Apportioning is carried out considering the sum of generation at each WTG connected to a common substation and total electricity exported from the substation (common meter). The loss percentage as observed between the sum of values at WTG and sub-station is then deducted to arrive a net export value for each individual WTG. The values at substation along with individual WTG are submitted and checked by the DISCOM officials and subsequently an invoice is raised by each PP to DISCOM. Both the sites use the same apportioning procedure but since the entities are different thus reporting of data is different at each site. 1. At OJWEPL Suzlon Energy limited is the Operation and Maintenance
--	---

	contractor and they share only the respective data with individual clients connected to the common sub-station. They calculate the values for each client and get the values checked by the DISCOM. Thus for OJWEPL direct values for export and import are available and have been used. 2. For ORPPL Re-gen Infrastructure is the Operation and Maintenance contractor and provide data for all the WTGs connected to the sub-station. They calculate the values for each client and get the values checked by the DISCOM. Thus for ORPPL direct values for export and import are available along with the calculation approach followed by the O&M contractor. Since this data is available the same was included in the monitoring plan and was checked and validated by the DOE. The assessment team has checked JMR sheets, breakup sheets, revised MR and ER sheet and found acceptable. Moreover, for Wind turbine (Green field renewable project) as per the registered PD and approved methodology ACM0002 version 16, project emission is zero for the current monitoring period. The calculation approach as described above is used for baseline emission calculation only. As project emission is zero thus Emission reduction for current monitoring period = baseline emission for the current monitoring period. The project activity involves in harnessing wind power. So the emissions from the project are zero. As per the applied methodology, emission reductions are calculated as follows: $ER_y = BE_y - PE_y$ Where: ER_y Emission reductions in year y (tCO₂e/yr) BE_y Baseline emissions in year y (tCO₂e/yr) PE_y Project emissions in year y (tCO₂e/yr)=0 Hence, ER_y= BE_y $BE_y = 102,899.661 \times 0.9766$ $= 100,491 \text{ tCO}_2\text{e (round down values)}$ PE_y = As per ACM0002 - Version 16, all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected. As the project activity involved wind project emissions (PE_y) are taken as zero. Leakage: As per ACM0002 - Version 16, Leakage emissions are not considered for the project activity.
--	---

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
Findings	CAR 04 was raised during the verification process. The description of the CAR and its closure is described below in Appendix 2 of this report.
Conclusion	The metering arrangement is tri-vector bi-directional energy meters of Secure Make; accuracy class 0.2s (main and check) at the State Electricity Board (SEB) substation. These meters record several parameters including electricity exported & imported. These electricity meters are being used by state electricity board for JMR (Joint Meter Reading) electricity generation statements. No delayed calibrations were observed in the project activity for this monitoring period. All the meters are of same accuracy class i.e. 0.2s as per the requirement of the registered PD. On-site photographs and interview during remote audit with O&M personnel also confirms the same. During commissioning of the WTGs panels monitoring meters of accuracy class i.e. 0.2s were installed. The meters are monitored continuously & cumulative readings are taken at the end of the month by joint meter reading procedure. These are sealed by State Utilities to avoid malfunctioning with meter readings. Meter is calibrated once in 5 years by the meter testing division of the state utility in the presence of O&M Contractor / investor's representatives and State Utilities officials to ensure the working of meter within permissible limits. The calculation of net electricity supplied to grid is under purview of state electricity board and PP does not have control on it. Calibration details of the monitoring meters checked with calibration certificates submitted by PP and found that calibration frequency of 5 years is complied. Further, meter change was observed at Dolat site on 26-February-2020. PP have submitted meter change records and found that both old & new meters were tested before replacement and error was below acceptable limit of 0.2%. Thus, no delayed calibration is observed and thus the same is found appropriate. The break down log is checked and there is no major breakdown during the monitoring period. No unforced error observed.

4.6 Non-Permanence Risk Analysis

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

5 VERIFICATION CONCLUSION

Applus+ Certification has been engaged by Orange Renewable Power Private Limited. To perform the 6th periodical verification of the “Bundled Wind Power Project in Rajasthan by Orange Renewable Power Private Limited”

The management of Orange Renewable Power Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered VCS PD and the applied methodology ACM0002 - Version 16.

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

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the PD
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned during verification process.
- Verification period: 01-May-2019 to 30-April-2020 (inclusive of both days)

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

Year	Baseline emissions or removals (tCO ₂ e) ¹²	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-May-2019 to 31-December-2019	71,235	0	0	71,235
01-January-2020 to 30-April-2020	29,256	0	0	29,256
Total	100,491	0	0	100,491

¹² Rounddown values

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1.	NA	Commissioning certificates of the WTGs	Commissioning certificates	PP
2.	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	PP
3.	NA	The operational lifetime of the project activity from the manufacturer = (Technical specifications)	Manufacturer technical specifications	PP
4.	NA	Registered PD https://registry.terra.org/app/projectDetail/VCS/1465	NA	PP
5.	NA	Calibration Certificates of energy meters & Meter replacement records for Dolat site	Calibration Certificates	PP
6.	NA	MR version 01 MR version 02	08-May-2020 02-July-2020	PP
7.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02	08-May-2020 02-July-2020	PP
8.	NA	O & M Agreement	O & M Agreement	PP
9.	NA	Wheeling Agreement (PPA)	Wheeling Agreement	PP
10.	NA	Tools/ guidelines used in the project activity - Glossary of CDM terms version 07 - VCS verification report template version 4.0	UNFCCC CDM/VCS web site	UNFCCC
11.	NA	Monthly statement- JMR for the complete monitoring period	Monthly statement of electricity export and Import	PP
12.	NA	Declaration regarding no participation in other GHG program for the concerned monitoring period	24-June-2020	PP
13.	NA	Breakdown details for the monitoring period	-	PP
14.	NA	Employment records for plant persons	-	PP

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

CAR ID	01	Section no.	4.1	Date: 05-June-2020
Description of CAR				
Following inconsistencies observed during review of the MR:				
1. Font used is not in line with VCS template guidelines throughout MR. Corrections sought. 2. Alteration in template observed. Corrections sought. 3. NEWNE electricity grid is now merged with Indian grid. Correction requested accordingly.				
Project participant response				Date : 10-July-2020
1. Font used are made consistent with VCS template guidelines throughout MR. 2. PP has corrected the MR template. 3. PP has corrected the NEWNE electricity grid with Indian grid in Revised MR.				
Documentation provided by project participant				
Revised MR				
DOE assessment				Date: 13-JULY-2020
1. Font used is now corrected inline with VCS template guidelines throughout MR. CAR thus closed. 2. Alteration in template now corrected and page numbers added. CAR closed. 3. Grid reference have been now corrected as Indian Grid from NEWNE electricity grid. CAR closed.				

CAR ID	02	Section no.	4.1	Date: 05-June-2020
Description of CAR				
As per section 1.9 of the VCS MR, the project is not participated in other GHG program and has not intended to pursue credits from other GHG program for the concerned monitoring period. Supporting documents and details regarding the same is missing in the MR. Also, PP needs to justify whether REC benefits is taken for the present Monitoring period covered under VCS. Corrective action is sought for the same. PP is requested to submit an undertaking for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS.				
Project participant response				Date: 10-July-2020
An undertaking form of statement is being submitted along with this submission. Further regarding REC benefits, since the project is selling power to state grid as per state tariff policy this is not eligible for REC benefits; moreover, the project is not registered under the REC mechanism of India and the same is cross-checked at https://recregistryindia.nic.in.				
Documentation provided by project participant				
Undertaking letter				
Revised MR				
DOE assessment				Date: 13-JULY-2020
PP have submitted undertaking in effect that PP will not claim emission reductions for the same period. Also from the REC registry it was found that project is not registered with REC mechanism of India. CAR thus closed.				

Accuracy of GHG Emission Reduction and Removal Calculations

CAR ID	03	Section no.	4.4	Date: 05-June-2020
Description of CAR				
Following Export & import values are not matching for: 1. ORPPL – July 2019 2. ORPPL- Jan to April 2020 3. OJWEPL - Jan to April 2020 Emission reductions are reserved till corrections in emission reduction sheet and MR. Further, emission reductions are not consistently calculated in the emission reduction sheet. Correction requested.				
Project participant response				Date: 10-July-2020
Export and Import Values are Corrected for: 1. ORPPL – July 2019 2. ORPPL- Jan to April 2020 3. OJWEPL - Jan to April 2020 Emission Reduction are now consistently calculated in the emission reduction sheet. Hence ER sheet Revised.				
Documentation provided by project participant				
Revised ER Revised MR				
DOE assessment				Date: 13-JULY-2020
PP have corrected the export & import values for ORPPL – July 2019, ORPPL- Jan to April 2020 & OJWEPL - Jan to April 2020 and found line with JMR & invoices. Emission reductions are now rounddown appropriately and consistent throughout ER sheet and MR. CAR closed.				

Quality of Evidence to Determine GHG Emission Reductions and Removals

CAR ID	04	Section no.	4.5	Date: 05-June-2020
Description of CAR				
PP requested to submit copies of the calibration certificates and meter change MoM/certificate for meter change in Feb. 2020 at Dalot site.				
Project participant response				Date: 10-July-2020
Calibration Certificates and Meter change certificates in 26th Feb 2020 at Dalot site shall be submitted along with this submission.				
Documentation provided by project participant				
Calibration Certificate Meter Change Certificate				
DOE assessment				Date: 13-JULY-2020
PP have submitted the calibration certificates and meter change MOM at Dalot site. Information in MR found inline with the documents submitted. CAR closed.				

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	OR	TAKARKHEDE	ATUL	TQC-Outsourced entity	Yes	No	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR) / Technical Expert (TE)	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Sendin	Juan	Applus+ Certification B.U. Managing Director

Short CVs of the Team:

- Dr. Atul Takarkhede counts with 9 years of experience in field of Environmental Auditing, consulting and accreditation. He is an Expert in ISO 9001-14001, CO2/GHG Reporting, Carbon Foot Print, Energy, Water and Waste Management Reporting for organizations environmental performance. His professional portfolio is mainly related with carrying out EIA, conducting QA/QC of EIA Reports; Conducting Environmental/water Audits; NABET requirements appliance. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. He has Ph.D. (Environmental Science) from Institute of

Science, RTM Nagpur University, Nagpur, and he has already published different technical reports related to environmental science.

2. Mr. Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CMS	Central Monitoring system
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Participant

APPENDIX 5: CALIBRATION DETAILS OF THE METERS

Project	Meter	Meter number	Operation Period	Meter location	Accuracy	Previous Calibration Date	Latest Calibration Date	Calibration Validity
OJWEPL	GSS Main Meter	RJB90214	17-APR-2017 - Present	GSS	0.2s	NA	17-April-2017	16-April-2022
	GSS Check Meter	RJB90215	17-APR-2017 - Present	GSS	0.2s	NA	17-April-2017	16-April-2022
	PSS Main Meter 1	RJB78194	29-Mar-2013 - Present	PSS	0.2s	28-April-2016	19-August-2017	18-August-2022
	PSS Check Meter 1	RJB78200	29-Mar-2013 - Present	PSS	0.2s	28-April-2016	19-August-2017	18-August-2022
	PSS Main Meter 2	RJB78201	29-Mar-2013 - Present	PSS	0.2s	28-April-2016	19-August-2017	18-August-2022
	PSS Check Meter 2	RJB78203	29-Mar-2013 - Present	PSS	0.2s	28-April-2016	19-August-2017	18-August-2022
ORPPL	GSS Main Meter	ASH13815	03-July-2012 - 25-FEB-2020	GSS	0.2s	30-March-2016	20-August-2018	19-August-2023
	GSS Check Meter	ASH13816	03-July-2012 - 25-FEB-2020	GSS	0.2s	30-March-2016	20-August-2018	19-August-2023
	GSS Main Meter	RJB79226	26-FEB-2020-Present	GSS	0.2s	26-February-2020	26-February-2020	25-February-2025
	GSS Check Meter	APMB3516	26-FEB-2020-Present	GSS	0.2s	26-February-2020	26-February-2020	25-February-2025

APPENDIX 6: DETAILS OF REMOTE AUDIT & SITE PHOTOGRAPHS



