

199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL



Document Prepared By (SUKANTA DAS- LEAD AUDITOR)

LGAI Technological Center S.A.

Ctra. Acceso a la facultad de Medicina, s/n, Campus UAB

E – 08193 Bellaterra (Barcelona) – Spain

Tel: +34 935 672 008

Fax: +34 935 672 001

www.appluscertification.com

Project Title	199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL
Version	01
Report ID	Internal project ID:2916

Report Title	199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL
Client	Bothe Wind farm Development Pvt. Ltd.
Pages	25
Date of Issue	01-07-2016
Prepared By	LGAI Technological Center S.A. Ctra. Acceso a la facultad de Medicina, s/n, Campus UAB E – 08193 Bellaterra (Barcelona) – Spain Tel.:+34 935 672 008

Contact	Fax.+34 935 672 001 www.appluscertification.com
	Tel.:+34 935 672 008 Fax.+34 935 672 001 www.appluscertification.com
Approved By	Juan Sendin Caballero, Applus LGAI Managing Director
Work Carried Out By	Mr. Sukanta Das-Lead Auditor  Name Miquel Sitjes Cabanas, CDM Technical Manager and Technical Reviewer  Natalia Rodrigo Vega, CDM Project Activity Manager and Technical Reviewer 

Summary:

Verification purpose: The main purpose of this project activity is to generate clean form of electricity through renewable energy sources. Bothe Wind farm Development Pvt. Ltd.is the promoters of the proposed project activity. The project activity involves installations of Suzlon Energy Limited (2.1 MW) and Vestas (2 MW) wind power project in the state of Maharashtra. The combined capacity of the project activity is 199.7 MW. The electricity generated from the WTGs will be sold to state electricity

board. The project achieved greenhouse gases (GHG's) estimated to be 481,581tCO₂e for the monitoring period, thereon displacing 492,918.68 MWh/year amount of electricity from the generation-mix of power plants connected to the NEWNE regional grid, which is mainly dominated by thermal/fossil fuel based power plant.

The Project activity is a new facility (Greenfield) and it plans to utilize wind energy to generate electricity and supply it to distribution licensees which is a part of the NEWNE (Northern, Eastern, Western and North-Eastern) grid of India. Start date for this project is 17th May 2013. This is the day on which the first WTG was commissioned under the Project activity which is as per the registered PDD version 02 dated 16 May 2015 and Final Validation report version 01 dated 16 May 2015

A risk based approach has been followed to perform this verification activity. In the course of verification, 03 Corrective Action request (CAR) and 00 Clarification Requests (CLs) were raised and successfully closed. 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 APPLUS with sufficient evidence to verify the fulfilment of the stated criteria of VCS. .

Table of Contents

TOPIC	PAGES
INTRODUCTION	5-6
VERIFICATION Process	6-12
Validation findings	13
Verification Findings	13-15
Verification Conclusion	16
Appendix 1	17-18
Appendix 2	19-20
Appendix 3	21-22
Appendix 4	22-23
Annex 1	24-27

1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. has been appointed by “Bothe Wind farm Development Pvt. Ltd” to perform the 1st periodic verification of the “199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL” under VCS standard and guideline version 3.5. The objective of this verification activity is to have an independent third party for the assessment of the project design, Monitoring report and Final Validation 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 “ACM 0002 version 16.0¹”
- the project's monitoring plan is assessed against “ACM0002 v16”
- 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 3.5
- CDM Validation and Verification Standard version 09
- CDM Project Standard version 09
- CDM Project Cycle Procedure version 09
- VCS standard v3.5
- VCS guideline v3.5

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 of the verification is the independent and objective review of the Monitoring report (MR). The MRs reviewed against the relevant criteria (see 1.1) 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 version 09, review against registered PD version 02 dated 16 May 2015 and Final Validation report version 01 dated 16 May 2015, CDM Project Standard version 09, CDM Project Cycle Procedure version 09 and VCS guideline and standard version 3.5

¹<https://cdm.unfccc.int/methodologies/DB/EY2CL7RTEHRC9V6YQHLAR6MJ6VEU83>

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. 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.

1.3 Level of Assurance

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 site visit or document verifications. The entire documents checked/WTGs verification conducted to arrive at positive verification conclusions.

1.4 Summary Description of the Project

The purpose of the project activity is to generate power using renewable energy source (wind) and sell the power generated to the state grid. The project activity generates electricity using wind potential and converts it into kinetic energy using Wind turbines, which drives the alternators to generate energy. The generated electricity is exported to the regional grid system which is under the purview of the NEWNE grid of India.

Verification purpose: The main purpose of this project activity is to generate clean form of electricity through renewable energy sources. Bothe Wind farm Development Pvt. Ltd. is the promoters of the proposed project activity. The project activity involves installations of Suzlon Energy Limited (2.1 MW) and Vestas (2 MW) wind power project in the state of Maharashtra. The combined capacity of the project activity is 199.7 MW. The electricity generated from the WTGs will be sold to state electricity board. The project achieved greenhouse gases (GHG's) estimated to be 481,581tCO₂e for the monitoring period, thereon displacing 492,918.68 MWh/year amount of electricity from the generation-mix of power plants connected to the NEWNE regional grid, which is mainly dominated by thermal/fossil fuel based power plant.

The Project activity is a new facility (Greenfield) and it plans to utilize wind energy to generate electricity and supply it to distribution licensees which is a part of the NEWNE (Northern, Eastern, Western and North-Eastern) grid of India. Start date for this project is 17th May 2013. This is the day on which the first WTG was commissioned under the Project activity which is as per the registered PDD version 02 dated 16 May 2015 and Final Validation report version 01 dated 16 May 2015

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Scope: 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 ACM 0002 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 3.5, including the approved baseline and monitoring

methodology ACM 002 version 16. The verification was based on the requirements in the Validation and Verification Standard (VVS version 09), project standard version 09, project cycle procedure version 09 and VCS guideline and standard version 3.5

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 the Monitoring report.

Verification Process: The project assessment is based on the “Clean Development Mechanism Validation and Verification Standard version 09.0 and VCS standard and guideline version 3.5 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+ LGAI has developed a 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.

The verification checklist consists of three tables. The different columns in these tables are described in the tables below:

Verification Checklist Table 1: Mandatory Requirements			
Requirement	Reference	Conclusion	Cross reference
The requirements which the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the draft verification report.	Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is verified. This is to ensure a transparent verification process.

Verification Checklist Table 2: Requirement checklist				
Checklist Question	Reference	Comment	Draft Conclusion	Final Conclusion
The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organized in several different sections. Each section is then further subdivided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	Conclusions are presented based on the assessment of the first MR version. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification is used when the assessment team has identified a need for further clarification. Forward action request to highlight issues related to project implementation that requires review during the further verifications.	Conclusions are presented in the same manner based on the assessment of the final MR version and further documents including assumptions presented in the documentation.

Verification Checklist Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 1&2	Summary of project owner response	Validation/Verification conclusion
If the conclusions from the draft verification are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Table 1&2 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the assessment team should be summarized in this section.	This section should summarize the assessment team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".

Appointment of the assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project assessment team in accordance with the appointment rules in Applus+ LGAI. The composition of assessment team has to be approved by the Applus+ LGAI ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)
- Auditor Trainee (T)
- Technical Experts (E)
- Internal Technical Review (ITR)

It is required that the sectoral scope / technical area related to the methodology has to be covered by the assessment team.

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

Document review

The Monitoring report submitted by the Client was reviewed against the approved methodology, registered PD version 02, final validation report version 01 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 site visit is conducted by Applus+ LGAI performed interviews, telephone conferences, and physical site inspection 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+ LGAI's positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ LGAI were resolved during communications between the Client and Applus+ LGAI to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the appendix 2.

The final MR Version02 submitted by PP on 29 June 2016 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.	Ghadage	Uday	Senior Manager, (Operation and Maintenance)	25/06/2016 to 26/06/2016	Implementation of the project, monitoring and emission reduction calculations	Mr. Sukanta Das & Dr. Atul Takarkhede
2	Natu	Rucha	Manager, (EKI energy services limited.)	25/06/2016 to 26/06/2016	Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process	Mr. Sukanta Das & Dr. Atul Takarkhede

2.4 Site Inspections

Duration of on-site inspection: 25/06/2016 to 26/06/2016				
No.	Activity performed on-site	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring. Assessment team also checked that whether the monitoring plan as described in the PD is actually practised onsite. Also assessment team checked any change in host country criteria which may affect the baseline of the project activity.	The project activity is located in 9 villages namely, Khokade, Bothe, Ransingwadi, Shripalwan, Ugalyachiwadi, Khandyachiwadi, Garudachiwadi, Katalgewadi, and Shirawali, in Satara district in the state of Maharashtra.	25/06/2016 to 26/06/2016	Mr. Sukanta Das & Dr. Atul Takarkhede

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+ LGAI's positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ LGAI were resolved during communications between the Client and Applus+ LGAI to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the appendix 2.

The final MR Version02 submitted by PP on 29 June 2016 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	00	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	00	00
- Calibration details		01	
- Monitoring plan	00	00	00
Others (please specify)-Matter related to breakdown details	00	01	00
Total	00	03	00

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

2.5.1 Forward Action Requests

This is 1st periodic verification of the project activity and no FAR rose for subsequent verifications.

2.6 Eligibility for Validation Activities

3 VALIDATION FINDINGS

Not applicable as this is the 1st periodic verification

3.1 Participation under Other GHG Programs

Not applicable as this is the 1st periodic verification

3.2 Methodology Deviations

Not applicable as this is the 1st periodic verification

3.3 Project Description Deviations

Not applicable as this is the 1st periodic verification

3.4 Grouped Project

Not applicable as this is the 1st periodic verification

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the verification site visit it was concluded that the project is implemented as per the instruction of the registered PD and Final Validation report. During the current monitoring period it was observed that no unforeseen situation evolved which can impact the operation of the project activity. Scheduled maintenance was carried out as per the instruction of the manufacturer and the same is acceptable to the assessment team.

It was observed that the monitoring plan was implemented as per the requirement of the registered PD, FVR and approved methodology ACM002 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.

The project is not involved in any other form of GHG emission program and VERs generated from this verification will not be used for other trading program to avoid any kind of double counting. The same is confirmed by the PP during the verification site visit. Assessment team also conducted independent review regarding the same and found that the statement of the PP is accurate and project is not involved in any other kind of GHG trading for the present verifications/monitoring period.

It was also observed during the verification process is that project is not rejected by any other GHG program around the world. The project is registered by VCS board and the registered PD version 02 and registered FVR version 01 is used to assess the present verifications. The following web sites were checked to confirm the same:

1. <https://www.recregistryindia.nic.in/>
2. <http://cdm.unfccc.int/>
3. <http://www.goldstandard.org/>
4. www.v-c-s.org

The assessment team observed that the project is in line with the registered PD, FVR and approved methodology and thus no clarification/deviation is sought

However, during verification CAR 1 related to feeder wise detail of WTGs was raised and closed successfully during the course of verification. The detail of the CAR can be obtained in Appendix 2 of this report.

4.2 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	No finding was raised during the verification.
Conclusion	The baseline Emissions for a given year is calculated by multiplying the energy baseline (EB) with the regional grid emission factor. The regional grid in this case would be the 'Northern Grid' Formula Used:- $BE_y = EB \times EF_{\text{NEWNE}}$ Where BE_y = Baseline emission for year 'y' EB = Energy Baseline; and EF_{NEWNE} = Emission factor for Northern Grid The verification team has checked the entire monthly JMR report and invoices applicable for the monitoring period and found all the parameters are monitored and recorded as per the revised monitoring plan in the registered PDD. The verification team has crosschecked the emission reduction sheet and monitoring report data with the JMR sheet and invoice bills and found all the values are matching.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the break down log for the monitoring period. During the verification site visit the feeder wise location of the WTGs is also checked. The Calibration details are also checked.
Findings	CAR 2 and CAR 3 were 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 (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 PDD. On-site visit and interview with O&M personnel also conforms the same. The break down log is checked and found that the WTG undergone scheduled maintenance and break down. No unforced error observed and feeder wise WTGS location is also checked and found correct.

4.4 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	
1.	No risk	Nil	Not applicable	Complete verification of all the values indicated in the emission reduction spreadsheet in documents such as JMR/Invoices. No sampling approach adopted and complete site and verification is performed by the assessment team.

5 SAFEGUARDS

5.1 No Net Harm

Not applicable as this is 1st periodic verification.

5.2 Local Stakeholder Consultation

Not applicable as this is 1st periodic verification.

6 VERIFICATION CONCLUSION

Applus+ LGAI has been engaged by Bothe Wind farm Development Pvt. Ltd. to perform the 1st periodical verification of the “199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL”

The management of Bothe Wind farm Development Pvt. Ltd. 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 ACM002 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. The verification 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.

Verification period: 17-May-2013 to 1-April-2016

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2013	67,252.23	0	0	67,252.23
Year 2014	230,108.77	0	0	230,108.77
Year 2015	128,689.29	0	0	128,689.29
Year 2016	55,531.25	0	0	55,531.25
Total	481,581	0	0	481,581 ²

²Round down values

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1	NA	Commissioning certificates of the WTGs implemented in the project site.	NA	Project participant
2	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
3	NA	Technical specifications of wind turbine generators from manufacturers	Manufacturer technical specifications	Project participant
4	NA	Power Purchase agreement for the project activity	NA	Project participant
5	NA	Registered PD version 02	16 May 2015	Project participant
6	NA	Registered Final Validation report version 01	16 May 2015	Project participant
7	NA	Emission Calculation sheet	29 June 2016	Project participant
8	NA	The operational lifetime of the project activity from the manufacturer=(Technical specifications)	Manufacturer technical specifications	Project participant
9	NA	MERC orders: http://www.mercindia.org.in/ RBI: Reserve Bank of India www.rbi.org.in Ministry of Environment and forest: www.envfor.nic.in UNFCCC www.cdm.unfccc.int	Reference link is provided.	Independent Search

		CEA: Central electricity authority www.cea.nic.in Income tax act 1961 http://law.incometaxindia.gov.in/DIT/ VCS: Verified Carbon Standard www.v-c-s.org		
10	NA	Tools/ guidelines used in the project activity • Tool to determine the remaining lifetime of the project activity in line with Annex 15 EB 50 • Tool to calculate the emission factor for an electricity system version 03 • Glossary of CDM terms version 07 • VCS verification report template version 03	UNFCCC CDM web site	UNFCCC
11	NA	JMR records for the complete monitoring period	JMR records	PP
12	NA	MR version 01 MR version 02	14 June 2016 29 June 2016	PP
13	NA	Invoices for the complete monitoring period	Invoice	PP
14	NA	Break down details of the complete monitoring period	Log sheet	PP

APPENDIX 2:

CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS (CAR/CL/FAR)

CAR ID	01	Section no.		Date: 27-06-2016
Description of CAR				
During the site visit and subsequent document review it was observed that the details of feeder wise WTGs location is missing in the MR. Corrective action is sought in the respective section of the MR. Moreover, the end date of monitoring period is not correct. Please check				
Project participant response				Date: 29/06/2016
Feeder wise WTGs location is now incorporated in Appendix 1 of revised MR& ER dated 29/06/2016. DOE is requested to refer the same for its assessments. The end date of Monitoring period is now corrected				
Documentation provided by project participant				
1. Revised MR dated 29/06/2016. 2. Feeder details are mentioned in the ER sheet dated 29/06/2016.				
DOE assessment				Date: 01/07/2016
The feeder wise details of the WTGs are now provided in the MR version 02. The same is as per the site practice. Also the end date of monitoring period is now revised. CAR is this closed.				

CAR ID	02	Section no.		Date: 27-06-2016
Description of CAR				
The breakdown details of the WTGs are missing in the MR. Moreover, the supporting document regarding the breakdown details are also not provided to the assessment team. Corrective action is sought in the respective section of the MR and supporting documents for further analysis.				
Project participant response				Date: 29/06/2016
Breakdown details of the WTGs are provided in appendix 1 of the revised MR.				
Documentation provided by project participant				

1. Break down details are mentioned in the Revised MR dated 29/06/2016.

DOE assessment**Date:**01/07/2016

The break down details log sheet was checked. Scheduled maintenance as per the manufacturer specifications and visual maintenance were carried out during the monitoring period. No forced incident occurred and this calculated emission reduction is conservative. The details are now included in the revised MR. CAR is thus closed.

CAR ID

03

Section no.**Date:**27-06-2016**Description of CAR**

During the document review it was observed that the calibration details are not provided in the MR. PP is requested to submit the same for further analysis. The modification in the MR is requested wherever applicable. Corrective action is sought.

Project participant response**Date:**29/06/2016

Calibration details are provided in revised MR appendix 1. Further documents to support the calibration dates are also provided to assessment team for cross check.

Documentation provided by project participant

1. Revised MR dated 29/06/2016
2. Calibration certificates.

DOE assessment**Date:** 01/07/2016

No delayed calibration was found for the present verifications. The calibration details were checked and found correct. CAR is this 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.	Team Leader/Lead Assessor	OR	DAS	SUKANTA	TQC-Outsourced entity	Yes	Yes	Yes	Yes
2	Assessor	OR	Takarkhed e	Dr.Atul	TQC-Outsourced entity	Yes	Yes	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)	IR	Sitjes	Miquel	Applus+ LGAI
2	TR (Support)	IR	Rodrigo Vega	Ms. Natalia	Applus+ LGAI
2.	Approver	IR	Sendin	Juan	Applus+ LGAI

Short CVs of the Team:

1. Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine(9) years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical

areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.

2. 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.
3. Mr. Miquel Sitjes Cabanas has a Bachelor Science degree in Chemistry by the Universidad de Barcelona - Spain (1975). He has 15 years of experience in a Spanish chemical group company specialized in the manufacturing of raw chemical products, where he worked as the Manager of Production and Quality and Environmental Control. He also worked in the Spanish pharmaceutical industry for 7 years as Quality, Manufacturing and Environmental Manager. Currently, he works for Applus+ LGAI Technological Center since 1999. Since 2006, he is the Technical Manager of Applus+LGA, working under quality, and environmental standards such as ISO 9001, ISO 14001, GHG Verification, CDM, VCS and GS.
4. Ms. Natalia Rodrigo Vega has a Bachelor's Degree on Environmental Engineering and Master's Degree on Environmental and Quality Management System (under ISO 9001 and 14001). She Works in Applus Environmental and Quality Management Systems Department since March 2012, being specially involved on technical support tasks related to CDM-VCS and GS Standards, among others (i.e. GHG verification and ProyectoClima)

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
MSEDCL	Maharashtra State Electricity Distribution Company
JMR	Joint Metering reading
RBI	Reserve Bank Of India
PP	Project Participant

Annex 1: Calibration details of the meters

Calibration Details of the WTGs installed in the project activity is provided below:

Details	Calibration details of the meters at Feeder No. 1	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	15687851	5269326
Date of calibration	17/05/2013	17/05/2013
Due Date of calibration	16/05/2016 ³	16/05/2016
Calibration delay	No delay	No delay

Details	Calibration details of the meters at Feeder No. 2	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	15687861	15687859
Date of calibration	22/08/2014	22/08/2014
Due Date of calibration	21/08/2017 ⁴	21/08/2017
Calibration delay	No delay	No delay

Details	Calibration details of the meters at Feeder No. 3	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s

³As per registered PD calibration frequency is once in three years.

⁴As per registered PD calibration frequency is once in three years.

Meter Make	Elster	Elster
Meter Sr. No.	05269324	05269316
Date of calibration	15/06/2013	15/06/2013
Due Date of calibration	14/06/2016 ⁵	14/06/2016
Calibration delay	No delay	No delay

Details	Calibration details of themeters at Feeder No. 4	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	05269327	15687848
Date of calibration	15/06/2013	15/06/2013
Due Date of calibration	14/06/2016 ⁶	14/06/2016
Calibration delay	No delay	No delay

Details	Calibration details of themeters at Feeder No. 5	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	16351048	16351049
Date of calibration	30/03/2014	30/03/2014
Due Date of calibration	29/03/2017 ⁷	29/03/2017
Calibration delay	No delay	No delay

⁵As per registered PD calibration frequency is once in three years.

⁶As per registered PD calibration frequency is once in three years.

⁷As per registered PD calibration frequency is once in three years.

Details	Calibration details of the meters at Feeder No. 6	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	16351050	16351051
Date of calibration	21/06/2013	21/06/2013
Due Date of calibration	20/06/2016 ⁸	20/06/2016
Calibration delay	No delay	No delay

Details	Calibration details of the meters at Feeder No. 7	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	16351052	16351053
Date of calibration	26/12/2014	26/12/2014
Due Date of calibration	25/12/2017 ⁹	25/12/2017
Calibration delay	No delay	No delay

⁸As per registered PD calibration frequency is once in three years.

⁹As per registered PD calibration frequency is once in three years.

Details	Calibration details of the meters at Feeder No.8	
Type of meter	Main Meter	Check Meter
Accuracy class	0.2 s	0.2 s
Meter Make	Elster	Elster
Meter Sr. No.	16351054	16351055
Date of calibration	11/12/2014	11/12/2014
Due Date of calibration	10/12/2017 ¹⁰	10/12/2017
Calibration delay	No delay	No delay

¹⁰As per registered PD calibration frequency is once in three years.