

VALIDATION REPORT FOR THE RENEWAL OF THE CREDITING PERIOD 44 MW BUNDLED WIND POWER PROJECT IN MAHARASHTRA MANAGED BY ENERCON INDIA LIMITED



Document Prepared By Earthood Services Private Limited

Project Title	44 MW Bundled Wind Power Project In Maharashtra Managed By Enercon India Limited
Version	02
Report ID	VCS.VAL.16.17

Report Title	Validation report for the Renewal of the crediting period -44 MW Bundled Wind Power Project In Maharashtra Managed By Enercon India Limited
Client	Wind World (India) Ltd.
Pages	31
Date of Issue	22/02/2017
Prepared By	Earthood Services Private Limited
Contact	Regd. Office: 424-A, Tower B3, Spaze I-Tech Park, Sector 49, Sohna Road, Gurgaon-122018, India, Tel: +91 124 4204599 Fax: +91 124 4204599

	Website: www.earthood.in Email: info@earthood.in
Approved By	Dr. Kaviraj Singh
Work Carried Out By	Team Leader and Local Expert : Ravi Kant Soni Technical Expert (TA 1.2): Ravi Kant Soni Methodology Expert: Ravi Kant Soni Technical Reviewer (TA 1.2): Shreya Garg

Summary:

Earthood Services Pvt. Ltd. has contracted by Wind World (India) Ltd. (WWIL) to carry out the validation of the renewal of the crediting period of the Project “44 MW Bundled Wind Power Project In Maharashtra Managed By Enercon India Limited” in India with regard to the requirements of VCS Version 3 Standard.

The project activity involves generation of electricity by using the renewable energy source (wind) for the Indian grid system in Maharashtra, India. Thus, the project aims to displace electricity produced by fossil fuel power plants harnessing wind energy. The energy produced is supplied to the regional grid. Therefore the project reduces greenhouse gas emissions and thereby contributes to sustainable development.

The project participant has successfully commissioned the project activity between 07/02/2006 (First WTG) and 10/12/2008 (Last WTG), since then project is operational with some planned/unplanned shutdowns. The commissioning dates of the project activity have been verified through the commissioning certificates/12/.

Project activity was operational during the first crediting period from 01/04/2006 to 31/03/2016. Operation of the project will remain the same for the second crediting period from 01/04/2016 to 31/03/2026.

In the course of the validation 04 Corrective Action Requests (CARs), 0 Clarification Requests (CLs) were successfully closed. One Forward Action Request (FAR) was raised during the validation.

The review of the project design documentation and additional documents related to baseline and monitoring methodology and subsequent background investigation have provided the Earthood with sufficient evidence to validate the fulfilment of the stated criteria.

The assessment team is able to conclude that:

- i. A reasonable level of assurance has been applied.
- ii. All data and information used for ex-ante calculation of emission reductions is correctly applied.
- iii. The project is in line with all relevant host country legislation.
- iv. The project additionality is not required to be reassessed, however it is sufficiently justified in the VCS-PD.
- v. The monitoring plan is in accordance with the approved methodology, transparent and adequate.
- vi. Project deviations have sufficiently been addressed and justified.
- vii. The calculation of the baseline emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 753,680 tCO₂e are most likely to be achieved within the 10 year renewable crediting period.
- viii. The conclusions of this validation report show, that the project, as it was described in the updated project documentation, is in line with all criteria applicable for the validation against the VCS Version 3 standard without any qualifications or limitations.

Table of Contents

1	Introduction	5
1.1	Objective.....	5
1.2	Scope and Criteria	5
1.3	Level of Assurance	6
1.4	Summary Description of the Project	6
2	Validation Process	7
2.1	Method and Criteria	7
2.2	Document Review	7
2.3	Interviews	7
2.4	Site Inspections	8
2.5	Resolution of Findings	8
2.5.1	Forward Action Requests	9
3	Validation Findings	10
3.1	Project Details	10
3.2	Application of Methodology	12
3.2.1	Title and Reference	12
3.2.2	Applicability.....	12
3.2.3	Project Boundary	16
3.2.4	Baseline Scenario.....	16
3.2.5	<i>Additionality</i>	19
3.2.6	<i>Quantification of GHG Emission Reductions and Removals</i>	19
3.2.7	Methodology Deviations	22
3.2.8	Monitoring Plan.....	22
3.3	Non-Permanence Risk Analysis	22
4	Safeguards	23
4.1	No Net Harm.....	23
4.2	Environmental Impact.....	23
4.3	Local Stakeholder Consultation.....	23
4.4	Public Comments	23
5	Validation conclusion	23
	APPENDIX 1: Abbreviations	25
	APPENDIX 2: Document Reference	26

APPENDIX 3: Resolution of Findings.....	28
APPENDIX 4: Competency Statements	31

1 INTRODUCTION

1.1 Objective

ESPL has been contracted by Wind World (India) Ltd to perform an independent validation of renewable crediting period of the VCS project title “44 MW Bundled Wind Power Project In Maharashtra Managed By Enercon India Limited” (VCS ID 489). In particular the project's implementation, baseline, the monitoring plan (MP), and the project's compliance with

- The applicable requirements of the VCS Version 3;
- The requirements of the applied methodology;
- Relevant legal and regulatory requirements, including the host country legislation

To be validated in order to confirm that the revised project design as documented is sound and reasonable and meets the stated requirements and identified criteria.

Particularly, *inter alia*, the validity of project's baseline and regulatory surplus are validated in order to confirm the compliance as outlined under paragraph 3.8.5 for the renewal crediting period. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of Verified Carbon Units (VCUs) / Emission reductions.

1.2 Scope and Criteria

The validation assessment was carried out in accordance with the requirements of VCS version 3.6 and included an assessment but not limited to, of the following:

Demonstration of the regulatory surplus, in reference to the additionality of the project, in accordance with the clause 4.6.3 VCS version 3.6.

Validity of the original baseline scenario reviewing the following criteria:

- Evaluation of the impact of new relevant national and/or sectoral policies and circumstances on the validity of the baseline scenario.
- Assessment of the GHG emissions associated with original baseline scenario using the latest version of the CDM Tool to assess the validity of the original/ current baseline.
- If the original baseline scenario is no longer valid, whether current baseline scenario is established in accordance with the VCS rules.
- The project description, containing updated information with respect to the baseline, the estimated GHG emission reductions or removals and the monitoring plan, submitted for validation is based upon the latest approved version of the methodology or its replacement.

- The updated project description is validated in accordance with the VCS rules.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of Assurance

The validation has been planned and organized to achieve a

☒ Reasonable level of assurance

☐ Limited level of assurance.

1.4 Summary Description of the Project

This project activity is a wind power generation project with total installed capacity of 44 MW. This project activity consists of the installation of 55 Wind Turbine Generators, each with a capacity of 800 kW by 29 investors. The electricity generated from these wind mills is being supplied to the Indian Grid; hence replacing fossil fuel dominated grid connected electricity generation. The project activity is located in districts Satara, Sangli, Nasik and Ahmednagar in the state of Maharashtra, India.

Project Deviations taken during first crediting period:

- 1) The Panama Wind Energy was transferred WTGs to D.J.Malpani on April 2011. The change in the proprietor of the WTGs doesn't not qualify as change in project design and also will not affect the emission reduction calculation, baseline scenario and the additionality of the project.
- 2) Value of the parameter EG_{export} and EG_{import} was supposed to be calculated using the apportioning procedure as described under section 3.2 of the registered PD. However in actual practice monthly values of both the parameters were directly sourced from credit notes issued by the state utility for individual project promoters, hence apportioning was no more required. Also monitoring of the parameter EG_{gross} was not required, hence excluded from monitoring plan. Since the actual monitoring aspects for the parameters were not in agreement with the same described in the registered PD, hence a deviation was sought by the PP and same was approved by VCS board during first crediting period.

Apart from the above some temporary project deviations were also identified during first crediting period:

- a. During the last monitoring period (from 01/10/2014 to 31/03/2016), calibration of the energy meters were not conducted as per the frequency determined in the registered PD and delay in the calibration was identified. Project proponent had addressed the deviation in line with the paragraph 395(a) of VCS version 09.

- b. During the last monitoring period (from 01/10/2014 to 31/03/2016), main meter installed at feeder 1 of Panchpatta site was found to be malfunctioned since August 2014, hence generation recorded by the check meter was considered. The deviation of considering check meter readings was appropriately addressed by the project proponent in accordance with the procedures defined in the PPA and the registered PD.

It is to be noted that temporary project deviations may not be valid for next crediting period.

The assessment team able to confirm that the deviations as described above are justified and in compliance with VCS rules and accordance with the paragraph 3.6.1 of VCS standard version 3.6. Finally it can be concluded that the deviations do not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario and remain valid in the second crediting period.

2 VALIDATION PROCESS

2.1 Method and Criteria

Earthood assessed and determined whether the proposed implementation and operation of the project activity, and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consist of the following three phases;

- A desk review of the registered VCS PD, and other relevant documents
- The resolution of outstanding issues and issuance of final report and opinion.

The validation process includes the following steps and same is described in the subsequent sub-sections.

2.2 Document Review

The validation is performed primarily as a document review of the registered VCS PD/06/, updated VCS PD/10/, VCS validation report/07/ and previous verification reports /11/. The assessment team also reviewed the documents related to project performance like commissioning certificates/12/, and PPA/13/.

The assessment is performed by a validation team using a protocol. The cross checks between information provided in the updated VCS PD and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

No site visit was conducted by the assessment team for the renewable of crediting period. However, during the site visit of verification of previous monitoring period (01/10/2014 – 31/03/2016), which was conducted by ESPL team on 05/05/2016, the ESPL held discussions with the WWIL personnel.

Sr.No	Name of the person interviewed	Organization
1	Amit Kumar Kai	WWIL, Operations
2	Poorvi Joshi Shenoy	Vaayu India Power Corporation Pvt. Ltd.
3	Mukesh Gonde	WWIL, Operations
4	Monu Kema	WWIL, Operations

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

2.4 Site Inspections

As part of preliminary risk assessment, ESPL determined that a site visit was not required to provide a reasonable level of assurance for the validation of the renewable in crediting period because of the following reasons.

Earthood had conducted site visit for the verification of previous monitoring period (01/10/2014 – 31/03/2016) on 05/05/2016. Interviews with the project stakeholders and representatives of Wind World (India) Limited were conducted to confirm the selected information and to resolve the issues identified in the document review. The site visit activities included a physical inspection of the project implementation and actual operations and a review of the monitoring system, data recording and archiving, QA/QC activities, and meter calibration frequency/responsibility.

The ESPL verification assessment team in section 4.1 of the verification report/08/ for the monitoring period (01/10/2014 – 31/03/2016), it was confirmed that the implementation and actual operation of project activity was in compliance with the registered PD. Therefore, it was considered that project implementation would have not changed materially, since then.

A FAR#6, in line with the paragraph 28 of VVS version 09, has been raised in the validation report which will be addressed in the next verification report. FAR#06 requires the verification DOE to check and confirm, during the first verification site visit, that the implementation and operation of the project activity is inline as described in the updated PD and validation report.

2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and telephonic interview. Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs.

CAR (Corrective Action Request) is raised if one of the following occurs:

- Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if;

- Information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met. All CARs and CLs raised by the Earthood during verification shall be resolved prior to submitting a request for registration.

FAR (Forward Action Request) is raised during verification if:

- A Forward Action Request (FAR) will be issued when certain issues related to project implementation should be reviewed during the first verification.

All the findings that are raised and communicated to project participant during the validation are included under Appendix 3. The section also includes the response, if provided, by the project participants and an assessment by the validation team if it was closed out or otherwise.

2.5.1 Forward Action Requests

One FAR was raised at the time of validation of the project activity, "If the PLF of the Project activity exceeds the sensitivity analysis ($=\text{PLF}+22\%$), the additionality will be re assessed during every crediting period, the VERs will be issued if the project is additional.

As per section 3.8.5 clause 1 of the VCS Standard (v3.6): *"a full reassessment of additionality is not required when renewing the project crediting period. However, regulatory surplus shall be demonstrated in accordance with Section 4.6.3) and the project description shall be updated accordingly"*.

The project participant has updated the PD in accordance with the requirement of the clause that is found to be satisfactory. Also, the assessment team has verified the PLF assessment sheet/22/ and confirmed that average PLF achieved during previous crediting period was 18.68% which was below the PLF 20% as considered at the time of validation in the registered PD. Hence the assessment team is able to confirm that the scenario ($=\text{PLF}+22\%$) is very unlikely, hence the FAR raised in the validation report during first crediting period is considered to be closed.

During the current validation process physical site visit is not conducted, thus the project implementation status including monitoring plan as described in the updated PD cannot be confirmed, therefore FAR #6 is raised in line with the paragraph 28 of VCS version 09, the verifying DOE shall check/review the project implementation in accordance with the PD during 1st periodic verification after registration.

3 VALIDATION FINDINGS

3.1 Project Details

Project type, technologies and measures implemented, and eligibility of the project:

Same as described in the registered VCS PD/06/ and updated PD except the project deviations approved during the first crediting period and will remain valid for second crediting period as described in section 1.4 of this report.

Project proponent and other entities involved in the project-

Name of the project proponent is changed as Wind World (India) Limited as a replacement of Enercon (India) Limited from 01/01/2013 onwards. The assessment has verified this though the "Name change consent issued by Government of India" /21/, found to be satisfactory, hence accepted. Remaining information about the project proponent is same as mentioned in the registered VCS PD/06/.

Other entities involved in the project are same as in the registered PD.

Project start date-

Same as mentioned in the registered VCS PD/06/.

Project crediting period-

The project was validated under VCS standard version 01 and registered under VCS standard 2007.1. As per the registered PD 10 years fixed crediting period (01/04/2006 to 31/03/2016) was considered for the project activity. However it is worthy noted that VCS does not have any rule or definition for the fixed 10 years crediting period. In accordance with the guidance outlined under note in section 3.8.5 of VCS standard v3.6 "*The project crediting period under VCS Version 1 shall be deemed as 10 years, and commences at the specific project crediting period start date. Note also, VCS Version 1 allowed an earlier project start date than subsequent versions and such projects remain eligible for project crediting period renewal under VCS Version 3*".

The assessment team has verified the project activity against the requirements of section 3.8.5 of VCS standard v3.6 and confirmed that the project activity in compliance with all the requirements, hence eligible for crediting period renewal. It is to be noted that the project technical life is 20 years/23/, hence only once the crediting period can be renewed.

The first crediting period considered was 01/04/2006 to 31/03/2016 and the second crediting period will be from 01/04/2016 to 31/03/2026.

Project scale and estimated GHG emission reductions or removals-

The estimated annual emission reductions for the project activity are 75,368 tCO₂e which is less than 300,000 tCO₂e. Hence the category is applicable under "Project".

Project location-

Same as in registered PD/06/.

Conditions prior to project initiation-

Same as in registered PD/06/.

Project compliance with applicable laws, statutes and other regulatory frameworks:

The project is a voluntary initiative by the project proponent and has not been implemented to meet any local / national laws or regulatory compliances. The project activity is in compliance with current laws and regulations and there are no legal and/or regulatory requirements that prevent the project implementation. Also the validation team has confirmed that there is no such compliance requirement with an emission trading program or any binding limits on GHG emissions for the project activity in India (host country) as it is a non-annex 1 country. The project has obtained valid consents for the installation and operation from the state nodal agencies and is in compliance with local laws and regulations.

Ownership and other programs-

Right of use

Same as in the registered PD.

Emissions trading programs and other binding limits-

The project is not participating in other emission trading programs. The letter of undertaking/18/ has been furnished by project participant confirming that net GHG emission reductions or removals generated by the project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions.

Other forms of environmental credit sought or received and eligible to be sought or received:

The project is registered under the VCS (ID 489) and not listed under REC mechanism/16/ as verified from https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens.

Participation under other GHG programs:

The project is registered only under VCS project activity

Project ID: 489

Rejection by other GHG programs:

The project has not been rejected by other GHG programs.

Additional information relevant to the project, including:

- ***Eligibility criteria for grouped projects***

The project activity is not a grouped project, hence not applicable to the project activity.

- **Leakage management for AFOLU projects**

Not applicable to the project activity.

- **Commercially sensitive information**

No commercially sensitive information has been excluded from the public version of the project description.

Conclusion:

In view of the assessment of VCS PD/10/ and supporting documents as listed in Appendix 2 of this report, the validation team is able to confirm that the description contained in the VCS PD of the project activity provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation. Consequently, **ESPL** confirms that the project description of the project contained in the VCS PD/10/ to be complete and accurate. The VCS PD complies with the relevant forms and guidance for completing the VCS PD.

3.2 Application of Methodology

3.2.1 Title and Reference

The project activity was registered using “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, ACM0002, version10.

For the renewal of the crediting period, the PP updated the applied methodology from version 10.0 to 17.0.

Since the new version of the methodology refers to the “Tool to calculate the emission factor for an electricity system”. Thus, the following methodological tool is being applied:

Tool to calculate the emission factor for an electricity system, version 05 (EB 87, Annex 09)

(<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v5.0.pdf>)

Assessment team has checked the UNFCCC website it is confirmed that the selection of the applied methodology and methodological tool has been done correctly in line with the applicable requirements for the RCP.

3.2.2 Applicability

Project activity was initially registered applying the methodology ACM0002 version 10 in the registered VCS PD and the methodology is still applicable.

All applicability conditions of the updated version of the methodology (ACM0002 version 17) are met. Thus the methodology is deemed fully applicable for the new crediting period and no request

for deviation with regards to the applicability of the methodology is required. All applicability conditions are completely and correctly included in the revised PD.

Sr.No	Criteria	Means of verification	Conclusion
1	This methodology is applicable to grid-connected renewable power generation project activities that: • install a Greenfield power plant; • involve a capacity addition to (an) existing plant(s); • involve a retrofit of (an) existing operating plants/units; • involve a rehabilitation of (an) existing plant(s)/unit(s) or • involve a replacement of (an) existing plant(s)/unit(s).	Project activity is wind power project, supplying electricity to national grid. This is verified through the PPA/13/, commissioning certificates/12/.	Criteria fulfilled
2	The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;	The proposed project activity is an installation of a new grid connected wind Power plant and hence this condition is met.	Criteria fulfilled
3	In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity	Project activity is neither involving capacity addition nor retrofits /12/.	Criteria not relevant to the project activity.
4	In case of hydro power plants: • The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or • The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density	The project activity is a grid connected wind power project and not a hydro power plant. Therefore, these criteria are not applicable for the project activity.	Criteria not relevant to the project activity.

	calculated using equation (3), is greater than 4 W/m²; or The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m².		
5	- The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m², all of the following conditions shall apply: - The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m²; - Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; - Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: ➤ Lower than or equal to 15 MW; and ➤ Less than 10 per cent of the total installed capacity of integrated hydro power project.	The project activity is a grid connected wind power project and not a hydro power plant. Therefore, these criteria are not applicable for the project activity.	Criteria not relevant to the project activity.
6	In the case of integrated hydro power projects, project proponent shall: Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in	The project activity is a grid connected wind power project and not a hydro power plant. Therefore, these criteria are not applicable for the project activity.	Criteria not relevant to the project activity.

	different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account Seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.		
7	The methodology is not applicable to the following: a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; b) Biomass fired power plants;	Project activity is wind power project/12/.	Criteria are not relevant to the project activity.
8	In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.	Project activity is Greenfield wind power project./12/,/13/.	Criteria not relevant to the project activity.

The project activity is in line with the applicability criteria of the applied baseline methodology ACM0002 version 17.

Similarly, the applicability of the used tool to calculate the emission factor for an electricity system was assessed and the assessment team concluded it is appropriate to the project activity, since according to the tool:

“This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).”

In view of the above consideration, the assessment team is able to conclude that the used methodology and tool is applicable for the project activity.

3.2.3 Project Boundary

The project boundary is given by the applied methodology, ACM0002 , version 17.0:

“The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.”

Regarding the GHG sources, as per the used methodology:

“Baseline emissions include only CO2 emissions from electricity generation in power plants that are displaced due to the project activity.”

“For most renewable energy project activities, PEy = 0.”

The above is correctly justified and included in the revised PD, specific for the project activity.

The assessment team is able to conclude that the project boundary and selected sources are applied as per the methodology and the applicable VCS criteria.

3.2.4 Baseline Scenario

The project activity involves the installation of a newly built and grid-connected renewable power plant that exports the generated electricity to the Indian grid system in India, hence, according to the applied methodology ACM0002, version 17.0, the baseline scenario is determined properly as:

“The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.”

This is correctly included in the revised PD.

According to VCS Standard, v3.6, paragraph 3.8.5-2) the validity of the original baseline scenario shall be demonstrated when renewing the project crediting period, by means of impacts of new relevant national and/or sectoral policies and actual circumstances.

Paragraph 3.8.5, Clause (2-a) *“The validity of the original baseline scenario shall be assessed. Such assessment shall include an evaluation of the impact of new relevant national and/or sectoral policies and circumstances on the validity of the baseline scenario”.*

VVB assessment:

Relevant mandatory national (ref: <http://www.cercind.gov.in/>) & sectoral policies in Maharashtra state (ref: <https://www.merc.gov.in/mercweb/>), tariff orders (ref: <http://www.mercindia.org.in/>), and confirmed that there are no national or local laws or regulations that entail the installation of wind power project in Maharashtra. Thus it can be concluded that original baseline scenario will remain valid for next crediting period.

Paragraph 3.8.5, Clause (2-b) *“Where it is determined that the original baseline scenario is still valid, the GHG emissions associated with the original baseline scenario shall be reassessed using the latest version of the CDM Tool to assess the validity of the original/ current baseline and to update the baseline at the renewal of a crediting period”.*

VVB assessment:

The project participant has included the assessment of the validity of the original baseline in line with UNFCCC in section 2.4 of the revised VCS PD, including the assessment of original baseline as per the **“Tool to assess the validity of the original/ current baseline and to update the baseline at the renewal of a crediting period, Version 3.0.1”**, which has been concluded to be still valid and applicable for the project.

The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.

Step 1: Assess the validity of the current baseline for the next crediting period

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

As verified above (Para 3.8.5 2-a), there are no national or local laws or regulations that entail the installation of wind power project in Maharashtra. Hence it can be concluded that current baseline is in compliance with relevant mandatory national and sectoral policies.

Step 1.2: Assess the impact of circumstances

As per the registered PD, the project activity is wind power project, supplying the electricity to Indian grid, which would have been sourced from grid. Hence grid was considered as appropriate and correct baseline. There is no change observed in this regard and it can be concluded that the conditions used to determine the baseline emissions in the previous crediting period are still valid.

Complete assessment on the current operation of grid-connected power plants and addition of new generation sources is provided in the revised PD; from which it can be concluded that in the actual baseline scenario it is still predominant the installed capacity based on fossil fuel sources.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

The lifetime of WTGs installed for the project activity is 20 years /23/; hence an investment is not the most likely scenario for the renewal crediting period under consideration.

Step 1.4: Assessment of the validity of the data and parameter

“Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity”.

In the registered PD, the grid emission factor was calculated as per the combined margin approach described in the “Tool to calculate the emission factor for an electricity system” Version-1.1. The grid emission factor has been calculated as the weighted average of OM & BM; and has been fixed ex-ante for the entire crediting period.

The OM and BM was obtained from a publicly available source i.e. “CEA CO2 Baseline Database” Version 04 latest version published by Central Electricity Authority, Ministry of Power (Government of India) at the time of previous validation.

Considering the guidance provided under this step, calculation of emission factor and baseline emissions are updated for the next crediting period as per step 2.

Step 2: Update the current baseline and the data and parameters

“Update the current baseline emissions for the subsequent crediting period, without reassessing the baseline scenario, based on the latest approved version of the methodology applicable to the project activity. The procedure should be applied in the context of the sectoral policies and circumstances that are applicable at the time of request for renewal of the crediting period”.

As demonstrated above the reassessment of baseline scenario is not required. However the as per the latest version of applied methodology ACM0002 version 17, data and parameters are updated as following:

As referred in the methodology ACM0002 v17 recommends the latest version of the “Tool to calculate the emission factor for an electricity system” (version 05.0) is used for calculation of emission factor and consequently the baseline emissions.

The PP opted for combined margin emission factor ($EF_{grid,CM,y}$) for the project activity and it has been estimated ex-ante as 0.9777 tCO₂/MWh for Indian electricity grid (Formerly known as Western regional grid) in India. It will remain fixed throughout the crediting period for the project activity as opted by PP. The combined margin emission factor is obtained from the three years generation weighed average of the operating margin emission factor and the latest year build margin emission factors by applying suitable weights (i.e. 75 % to operating margin emission factor ($EF_{grid,OM,y}$) and 25 % to build margin emission factor ($EF_{grid,BM,y}$)) as referred to the EF tool version 5.0.

The simple operating margin value of 0.9941 tCO₂/MWh and build margin value of 0.9285 tCO₂/MWh for Indian electricity grid in India have been referred from CO₂ baseline database published by Central Electricity Authority, Govt. Of India, version 11 dated April 2016/15/. This is the latest available CO₂ baseline database at the time of the VCS PD submission for validation of the project activity. This is found to be appropriate and it is accepted.

It is worthy to note that there is no change in baseline scenario, however updated baseline calculations are provided in section 3.2.6 of this report.

The assessment team is able to conclude that:

- Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.
- Documentary evidence used in determining the baseline scenario is relevant, and correctly quoted and interpreted in the project description.
- Relevant national and/or sectoral policies and circumstances have been considered and are listed in the project description.
- The procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project.

Finally it can be concluded that the identified baseline scenario is justified and according to the VCS Standard v. 3.6 and the “Tool for the assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period v3.0.1.

3.2.5 **Additionality**

In accordance with the paragraph 3.8.5 clause 1 of VCS standard v 3.6, “A full reassessment of additionality is not required when renewing the project crediting period. However, regulatory surplus shall be demonstrated in accordance with Section 4.6.3) and the project description shall be updated accordingly”.

As per the above guidelines, the assessment team has reviewed the sectoral and national policies implemented for the wind power projects in host country India.

Latest regulatory requirements for the project activity were checked through the official website of the Ministry of New and Renewable Energy, a nodal ministry of Government of India for the matters relating to new and renewable energy/19/ and state policies/20/.

In view of the above assessment, it can be concluded that the proposed project is not mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework and hence continued to be voluntary.

3.2.6 **Quantification of GHG Emission Reductions and Removals**

The approach followed for calculation of emission reductions is same as described in the registered VCS PD. In accordance with paragraph 3.8.5(2-d), the GHG emission reductions are calculated applying the updated version of methodology ACM0002 version 17.

As per the paragraph 44 of the methodology:

“Baseline emissions include only CO₂ emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power

plants and the addition of new grid-connected power plants". The baseline emissions are to be calculated as follows:

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

Where:

BE_y = Baseline emissions in year y (t CO₂)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EG_{PJ,y} = EG_{facility,y}$ (for Greenfield projects paragraph 47 ACM0002)

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

As reported in section 3.2.4 of this report, combined margin emission factor ($EF_{grid,CM,y}$) is calculated using the "Tool to calculate the emission factor for an electricity system" version 05 and value obtained as 0.9777 tCO₂/MWh.

Value of $EG_{facility,y}$ is estimated to be 77,088 MWh per year. Hence baseline emission reductions as follows:

$$BE_y = 77,088 \text{ MWh} \times 0.9777 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 75,368 \text{ tCO}_2$$

Estimation of Project Emissions (PE_y):

As per the paragraph 36 of applied methodology ACM0002 version 17, for the most renewable energy project activities, PE_y = 0. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

$$PE_y = PE_{EF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

PE_y = Project emissions in year y (t CO₂e/yr)

PE_{EF,y} = Project emissions from fossil fuel consumption in year y (t CO₂/yr)

PE_{GP,y} = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO₂e/yr)

PE_{HP,y} = Project emissions from water reservoirs of hydro power plants in year y (t CO₂e/yr)

Since the project activity involves the generation of electricity using wind power only, hence the mentioned equation is not applicable for the project activity, hence $PE_y = 0$.

Estimation of Leakage Emissions (LE_y):

As per the applied methodology ACM0002 version 17, no leakage emissions are considered, thus leakage emissions are zero ($LE_y = 0$).

Estimation of GHG emission reductions:

Emission reductions are calculated as follows:

$$ER_y = BE_y - LE_y - PE_y,$$

where

ER_y = Emission reductions in year y (tCO₂)

BE_y = Baseline Emissions in year y (tCO₂)

LE_y = Project emissions in year y (tCO₂)

PE_y = Leakage emissions in year y (tCO₂)

$$ER_y = 75,368 - 0 - 0$$

$$= 75,368 \text{ tCO}_2 \text{ per year}$$

Hence the total emission reductions estimated for the entire crediting period would be as 753,680 tCO₂.

Conclusion:

The assessment team is able to conclude that the calculation of emission reductions is done as per the applied methodology. Changes due to the upgraded version of the methodology and the re-assessment of the baseline have been considered suitably. The calculation of the emission reductions provided in the ER spreadsheet/09/ and the corresponding calculation in the relevant section of the PD/10/ have been checked and found to be satisfactory. The estimation of emission reductions for the second crediting period is deemed plausible and conservative.

All relevant assumptions and data are listed in the project description, including their references and sources, being CEA database version 11/15/, the main source of data for the emission factor calculation.

All estimates of the baseline emissions can be replicated using the data and parameter values provided in the project description.

The emission reductions were calculated in accordance with the methodology and tool.

3.2.7 Methodology Deviations

No methodology deviations identified.

3.2.8 Monitoring Plan

The monitoring methodology specified in the methodology requires that the project-monitoring plan to consist of monitoring of quantity of net electricity supplied to the grid in the year y. In order to monitor the mitigation of GHG due to the project activity, the total energy exported needs to be measured. The net energy supplied to grid by the project activity multiplied by emission factor for regional grid, would form the baseline for the project activity.

Since the baseline emission factor is based on an ex-ante determination, monitoring of this parameter is not required. The sole parameter for monitoring is the net electricity exported to the grid.

In accordance with the deviation approved during the previous crediting period (see section 1.4 of this report for more details), exported (EG_{export}) and imported electricity (EG_{import}) will be sourced from the monthly credit notes issued by state utility, hence no apportioning procedure would be used to calculate both the parameters. Consequently parameter EG_{gross} has been removed from monitoring.

Net electricity supplied to the grid by the project ($EG_{y,\text{net}}$) in the second crediting period will be calculated as:

$$EG_{y,\text{net}} = EG_{\text{export}} - EG_{\text{import}}$$

Remaining aspects of monitoring plan like monitoring procedure, calibration procedure, data recording, monitoring role and responsibility and QA/QC procedure will remain same as mentioned in the registered PD.

The updated PD has been reviewed to check that the procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mention in the PD. The monitoring plan completely describes all measures to be implemented for monitoring all parameters required. Based on the above discussion and the requirements of paragraphs 148 and 150 of the VVS version 09/03/, the assessment team confirm that:

- The monitoring plan included in the PD is based on the approved methodology ACM0002version 17.0 which has been applied to the VCS project activity
- The monitoring arrangements described in the monitoring plan are feasible within the project design
- The PP has the ability to implement the monitoring plan as per the PD.

3.3 Non-Permanence Risk Analysis

Not applicable, non-permanence risks were not identified.

4 SAFEGUARDS

4.1 No Net Harm

Not applicable

4.2 Environmental Impact

The project proponent has mentioned in the PD/01/ that the present project activity does not require EIA to be carried out because as per the schedule 1 of Ministry of Environment and Forest notification dated 14/09/2006/17/ <http://envfor.nic.in/legis/eia/so1533.pdf> and further notification number 3067 from MoEF dated 01/12/2009/17/ <http://moef.nic.in/downloads/rules-and-regulations/3067.pdf> , activities are required to undertake environmental impact assessment studies. The proposed project activity does not fall under the listed categories and hence not required an EIA to be done. However an EIA study had been conducted through M/s CARE Sustainability Pvt Ltd/06/. The results of the EIA study shows that project activity will not involve any negative environmental impacts.

The environmental impacts need not to be further assessed during the renewal of the crediting period. However, the assessment team confirmed that EIA study and related permissions are still valid for the second crediting period and the project activity is in line with environmental impact assessment criteria of the VCS.

4.3 Local Stakeholder Consultation

Not applicable since this is validation for renewal of crediting period. It is not obligatory to have a new stakeholders' consultation meeting while renewing the crediting period.

4.4 Public Comments

Not applicable

5 VALIDATION CONCLUSION

Wind World (India) Limited has contracted the Earthood Services Pvt Ltd. (also referred to as ESPL) to carry out the validation of the renewal of the crediting period of the Project "44 MW Bundled Wind Power Project In Maharashtra Managed By Enercon India Limited" (VCS ID-489) with regard to VCS Version 3 requirements and the information provided by the project proponent related to the project design, operation, monitoring and reporting.

ESPL has reviewed the project description documents and subsequently carried out interviews to confirm the fulfilment of stated criteria.

The purpose of this project activity is to generate electricity using renewable sources (wind) and export it to Maharashtra State Electricity Distribution Company Limited (MSEDCL), which is connected to Indian grid, thereby displacing the grid generated electricity.

A risk-based approach has been followed to perform this validation. In the course of the validation 04 Corrective Action Requests (CARs), 0 Clarification Requests (CLs) were raised and successfully closed. In addition one Forward Action Request (FAR) was raised, that to be closed during first verification.

The project activity has applied the baseline and monitoring methodology, ACM0002: Grid-connected electricity generation from renewable sources, Version 17.0, which is an approved methodology under the CDM programme and is acceptable under VCS Version 3. The baseline has been determined in accordance with the stated approved baseline methodology.

As summary the validation team able to conclude that:

- The project is in line with all relevant host country criteria (India) and all relevant VCS version 3 program guidelines requirements.
- A reasonable level of assurance has been applied.
- The project additionality is not required to be reassessed, however it is sufficiently justified in the VCS-PD.
- The monitoring plan is transparent and adequate and in line with applied monitoring methodology of ACM0002, version 17.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 75,368 tCO₂e/year are most likely to be achieved within the 10 year renewable crediting period.
- The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation as outlined under VCS version 3, without any qualifications or limitations.

Approved by



Dr. Kaviraj Singh
Managing Director

Earthood Services Privated Limited

Date: 22/02/2017

Place: Gurgaon, Haryana

APPENDIX 1: Abbreviations

BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMP	Conference of Parties Serving as Meeting of Parties
CO ₂	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
EPC	Engineering, Procurement and Construction
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization
IWL	Inox Wind Ltd
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MERC	Maharashtra Electricity Regulatory Commission
MFR	Multi-Function Relay
MR	Monitoring Report
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MW	Megawatt
MWh	Megawatt-hour
NEWNE	Northern Eastern Western Northern-Eastern
O&M	Operation and Maintenance
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
PPA	Power Purchase Agreement
CMS	Central Monitoring System
QA/QC	Quality Assurance and Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Convertor
WTG	Wind Turbine Generator
WEG	Wind Energy Generator
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units
WWIL	Wind World India Limited

APPENDIX 2: Document Reference

No.	Author	Title	References to the document	Provider
1	VCS Board	VCS Standard	Version 3.6, dated 19/10/2016	Others
2	UNFCCC	Program Guidelines; VCSA Rules; and VCS Guidance Document	Dated 19/10/2016	Others
3	UNFCCC	Standard: CDM VVS	Version 9	Others
4	UNFCCC	Baseline and monitoring methodology AMS I.D	Version 18	Others
5	UNFCCC	Tool to calculate the emission factor for an electricity system	Version 5.0(EB 87, annex 09)	Others
6	PP	Registered Project Description	Version 01, dated 16/09/2009	Others
7	TÜV NORD CERT GmbH	VCS validation report	Report No- 53153808/08-08/486, dated 13/11/2009	Others
8	ESPL	Verification report for previous monitoring period (01/10/2014-31/03/2016)	Version 1.4, dated 27/09/2016	Others
9	PP	Revised Emission Reductions Calculation Spreadsheet	Version 02, dated 01/02/2017	PP
10	PP	Revised PD(final)	version 03 ,dated 01/02/2017	PP
11	VCS Board	VCS web page http://www.vcsprojectdatabase.org/#/project_details/489	-	Others
12	State Utility (MSEDCL)	Commissioning Certificates for all the WTGs involved in the project activity	-	PP
13	State Utility (MSEDCL)	Wind Energy Purchase Agreement between the Investors and MSEDCL	-	PP
14	PP	Proof of local stake holders consultation process • Minutes of Public hearing • List of Participants • Extract of feedback from local stakeholders.	Dated 13/11/2006 to 16/11/2006	PP
15	CEA	CO ₂ baseline database published (in April 2016) by Central Electricity Authority, Govt. Of India, available at (http://www.cea.nic.in/tpeandce.htm) (http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)	Version 11	Others
16	CERC	Detailed procedure on REC mechanism by Central Electricity Regulatory Commission (http://www.nerlrc.org/Docs/Order_for_Detailed_Procedure_01-06-2010.pdf) REC	Dated 01/06/2010	Others

		registry(https://www.recregistryindia.nic.in/index.php/general/publics/accruited_regens)		
17	MoEF	SCHEDULE (Page no 10) of the notification S.O. 1533 (E) published by the Ministry of Environment and Forests (MoEF), Government of India Schedule of the notification S.O. 3067 published by the Ministry of Environment and Forests (MoEF), Government of India http://www.moef.nic.in/legis/env_clr.htm	Dated 14/09/2006 Dated 01/12/2009	Others
18	PP	Declaration by project proponent stating no intention of creating and trading of another form of environmental credits out of VERs would be created from this project	-	Others
19	Government of India	Official website of the Ministry of New and Renewable Energy, a nodal ministry of Government of India for the matters relating to new and renewable energy (ref: http://mnre.gov.in/schemes/grid-connected/solar-thermal-2/)	Last assessed on 03/01/2017	Others
20	Government of Maharashtra	Sectoral policies in Maharashtra state (a) (https://www.merc.gov.in/mercweb/) (b) (http://www.mahaurja.com/PDF/Policy%202015_2.pdf)	Last assessed on 03/01/2017	PP
21	Ministry of Corporate Affairs, GOI	Name change consent issued by Government	Dated 01/01/2013	PP
22	PP	PLF assessment sheet	Dated 01/02/2017	PP
23	WWIL	Technical specifications of WTGs provided by supplier	-	PP

APPENDIX 3: Resolution of Findings

Table 1. Remaining FAR from previous validation

FAR ID	01	Section no.	2.5.1	Date	31/01/2017
Description of FAR					
"If the PLF of the Project activity exceeds the sensitivity analysis (=PLF+22%), the additionality will be re assessed during every crediting period, the VERs will be issued if the project is additional". Please submit the relevant evidences to justify that the PLF does not exceeds the prescribed limit as determined at the time validation.					
Project participant response					Date
PP has submitted an excel sheet which gives the calculation of PLF across the first Crediting Period (i.e. 1st April 2006 to 31 March 2016). The estimation results in an avg. PLF of 18.68% which is well below the proposed PLF in the registered PD, i.e. 20%. Thus, possibility of exceeding the PLF by sensitivity analysis range, i.e. PLF+22%, is very remote. Thus, it is envisaged that the PLF does not exceed the prescribed limit as determined at the time of validation.					
Documentation provided by project participant					
PLF estimation sheet dated 01 Feb 2017.					
DOE assessment					Date
The assessment team has verified the PLF assessment sheet and confirmed that average PLF achieved during previous crediting period was 18.68% which was below the PLF 20% as considered at the time of validation in the registered PD. Hence the assessment team is able to confirm that the scenario (=PLF+22%) is very unlikely. FAR #1 is closed.					

Table 2. CL from this verification

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

Table 3. CAR from this verification

CAR ID	02	Section no.	3.1	Date	23/12/2016
Description of CAR					
- Please clarify why the annual average and total GHG emission reductions are not reported in section 1.1 of the updated PD. - Please clarify why project deviations taken and approved during first crediting period are described under methodology deviations section 2.6 of the updated PD. - Information's provided in section 1.12 of the PD are not in line with requirements outlined under section 3.11 of the VCS standard v3.6.					
Project participant response					Date

- PP would like to confirm that the annual avg. and total GHG emission reductions are now reported under the section 1.1. of the VCS PD. Also, the section has been revised suitably to be in line with the requirement of VCS standard. Please refer to the revised PD, version 02.
- The Project deviation taken during the first crediting period is an important aspect of the project monitoring system. Since there is no dedicated section to demonstrate any project deviation, hence information was reported separately under the methodology deviation section. However, the details of the project description deviation have been now removed from the section 2.6 and the same are included under the section 1.8 of the revised PD.
- The section 1.12.1 has been revised with the references of Commissioning Certificates and PPAs as proof of ownership. Also the other sub-sections of 1.12 have been revised suitably.

Documentation provided by project participant

- Revised VCS PD, version 02, dated 26 Dec 2016.
- Commissioning Certificates of all the WTGs.
- Power Purchase Agreements (PPA).
- A letter of undertaking confirming no double accounting of emission reductions.

DOE assessment
Date: 10/01/2017

Annual average and total GHG emission reductions are reported in section 1.1 of the revised PD. Project deviations approved during the previous monitoring period are mentioned in section 1.8 of the revised PD, found to be appropriate, hence accepted.

Section 1.12 and its subsections are updated in line with requirements outlined under section 3.11 of the VCS standard v3.6, hence accepted.

CAR #2 is closed.

CAR ID	03	Section no.	3.2.3	Date : 23/12/2016
---------------	----	--------------------	-------	--------------------------

Description of CAR

Description of the project boundary is not provided in section 2.3 of the PD in accordance with the section 3.12.1 of the VCS standard v.3.6.

Project participant response
Date : 02/01/2017

A schematic diagram of the project boundary has been now included under the section 2.3 of the PD. The section is now in line with the requirement prescribed under the section 3.12.1 of the VCS standard v3.6.

Documentation provided by project participant

Revised VCS PD, version 02, dated 26 Dec 2016.

DOE assessment
Date: 10/01/2017

Description of the project boundary is updated in section 2.3 of the PD in accordance with the section 3.12.1 of the VCS standard v.3.6.

CAR #3 is closed.

CAR ID	04	Section no.	3.2.6	Date : 23/12/2016
---------------	----	--------------------	-------	--------------------------

Description of CAR

Methodological choice to calculate the value of emission factor is not described in section 3.1 of the updated PD.

Project participant response
Date : 02/01/2017

The section 3.1. of the VCS PD has been revised to include the methodological choice to calculate the value of emission factor. Please refer to the revised version of the VCS PD

Documentation provided by project participant

Revised VCS PD, version 02, dated 26 Dec 2016.

DOE assessment
Date: 10/01/2017

Methodological choice for calculation of emission factor is described in section 3.1 of the revised PD, found to be satisfactory, hence accepted.

CAR #4 is closed.

CAR ID	05	Section no.	3.2	Date : 31/01/2017
Description of CAR				
1. Applicability criteria of the methodology ACM0002 v.17 as mentioned in section 2.2 of the PD are not found to be consistent with meth document. 2. The greenhouse gases and emission sources included in or excluded from the project boundary as mentioned under table in section 2.3 is not consistent with the methodology ACM0002 V.17. 3. Please clarify why the latest version of CEA database is not used to calculate EF.				
Project participant response				Date : 02/02/2017
1. The Applicability Criteria of the applied methodology have been revised suitably in the section 2.2. of the PD, the table is now consistent with the ACM0002 (version 17). 2. The information on the project boundary under the table in the section 2.3 of the PD have been made consistent with the requirements of the methodology (ACM0002 (version 17). 3. The baseline calculation is now revised with the latest version of the CEA database, i.e. version 11. The ER calculation sheet has been revised to incorporate the CEA database version 11. Also the relevant sections of the PD are now revised accordingly.				
Documentation provided by project participant				
Revised VCS PD, version 03, dated 01 Feb 2017.				
Revised ER Sheet, version 02, dated 01 Feb 2017.				
DOE assessment				Date: 10/02/2017
1. Applicability criteria have been revised in the revised PD in line with the methodology ACM0002 version 17. 2. The information on the project boundary under the table in the section 2.3 of the PD have been updated and made consistent with the requirements of the applied methodology. 3. Emission factor calculations are updated using the CEA database version 11, which is the latest available version at the time of submission of PD for validation.				
CAR #5 is closed.				

Table 4. FAR from this validation

FAR ID	06	Section No.	03	Date : 23/12/2016
Description of FAR				
During the validation process physical site visit is not conducted, thus the project implementation status including monitoring plan as described in the updated PD cannot be confirmed, therefore in line with the paragraph 28 of VVS version 09, the verifying DOE shall check/review the project implementation in accordance with the PD during 1st periodic verification after registration.				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

APPENDIX 4: Competency Statements

Competence Statement			
Name	Ravi Kant Soni		
Country	India		
Education	B. Tech. (Mechanical Engineering) M. Tech. (Energy Management)		
Experience	7 Years		
Field	Energy and Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.C., ACM0002		
Local Expert	YES(India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.2)	YES		
Reviewed by	Abhishek Mahawar	Date	09/09/2016
Approved by	Kaviraj Singh	Date	09/09/2016

Competence Statement			
Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	4 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-II.D., ACM0002		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.2)	YES		
Reviewed by	Abhishek Mahawar	Date	08/09/2016
Approved by	Ashok Gautam	Date	08/09/2016