

VERIFICATION REPORT FOR '44 MW BUNDLED WIND POWER PROJECT IN MAHARASHTRA MANAGED BY ENERCON INDIA LIMITED'



Document Prepared by Earthhood Services Private Limited

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Report Title	Verification report for '44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited.'
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Summary:

Earthood has performed the verification of the VCS project “44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited” VCS Ref. Number 489.

The scope of verification includes confirming the implementation of the monitoring plan of the registered PD (version 01) and the application of the monitoring methodology Consolidate baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, Version 10. The verification is consisted of three phases: i) desk review of the project; ii) follow-up onsite visit and interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted following Earthood internal quality procedures.

During the verification process 07 CARs, 00 CL and 00 FARs were raised.

Earthood confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. The emission reductions from the VCS project activity 489 “44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited” in India during the period 01/10/2014-31/03/2016 (including both days) amount to 79,384 tonnes of CO₂e.

Vintage wise representation of the emission reductions is as follows:

Period	Baseline Emissions (tCO ₂ e)	Project Emissions (tCO ₂ e)	Leakages (tCO ₂ e)	Emission Reductions (tCO ₂ e)
01/10/2014 to 31/12/2014	10,933	0	0	10,933
01/01/2015 to 31/12/2015	61,419	0	0	61,419
01/01/2016 to 31/03/2016	7,032	0	0	7,032
Total	79,384	0	0	79,384

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1 INTRODUCTION

1.1 Objective

Wind World (India) Limited has contracted Earthood Services Private Limited (Earthood) to conduct the verification and certification of emission reductions reported for the VCS project activity VCS Ref number -489, “44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited” in India for the period 01/10/2014-31/03/2016. This report contains the findings of the verification process and a certification statement for the certified emission reductions.

The verification is the periodic independent review and ex post determination by Earthood of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined monitoring period. Certification is the written assurance by Earthood that, during a specific period in time, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify emission reductions reported for “44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited” for the monitoring period 01/10/2014-31/03/2016.

1.2 Scope and Criteria

The scope of the verification is to establish and verify that;

- a) The project activity has been implemented and operated as per the registered PD or any approved revised PD, and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- b) The monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of VERs, verifiable, and in accordance with applicable VCS requirements;
- c) The actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan, any revised approved monitoring plan, the approved methodology including applicable tool(s) and/or, where applicable, the approved standardized baseline;

The data recorded and stored as per the monitoring methodology including applicable tool(s) and, where applicable, the standardized baseline

1.3 Level of Assurance

The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors. Therefore, Earthood confirms that the verification is conducted with reasonable level of assurance.

1.4 Summary Description of the Project

The purpose of project activity is generation of electricity for and supply it to the Maharashtra state electricity Grid, which is a part of NEWNE grid. The project activity is located at Satara, Sangli, Nasik, and Ahmednagar District in the state of Maharashtra in India. The project leads to reduction in GHG emissions as it is using wind energy to generate electricity and thereby replaces the fossil fuels based power plants.

The project activity is a bundled and involved installation of 55 WTGs of 800kW capacity. Therefore, the total capacity of 55 WTGs is 44MW. The WTGs are of E-48 make. During the on-site assessment conducted by the verification team, all the WTGs were found in working condition. The WTGs were commissioned between the period of 07/02/2006-10/12/2008/02/.

The total emission reductions achieved during the current monitoring period 01/10/2014-31/03/2016 are 79,384 tCO₂e/05/.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Earthood internal procedures. The Project was verified against the latest requirements and guidance set out in VCS and CDM standards.

2.2 Document Review

The verification is performed primarily as a document review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols. The assessment team cross checks the information provided in the documents (PD, MR, validation report) and information from sources other than those used, if available, and also conducts independent background investigations. Earthood conducted a desk review as under;

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions;

2.3 Interviews

On site assessment was carried on 05/05/2016 by Earthood. 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 stakeholders interviewed are:

Sl. No	Name	Organisation
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 based on the feedback received during interview coupled with the documentation and on-site observations

2.4 Site Inspections

A site visit was undertaken by Earthood on 05/05/2016 to carry out following;

- a. An assessment of the implementation and operation of the registered project activity as per the registered PD or any approved revised PD;
- b. A review of information flows for generating, aggregating and reporting the monitoring parameters;
- c. Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PD;
- d. A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;
- e. A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PD, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- f. A review of calculations and assumptions made in determining the GHG data and emission reductions;
- g. An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this 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 onsite assessment. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and nonconformities, which may be of following types;

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

- a) 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
- b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants
- c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions
- d) Change to the key sustainable development indicators
- e) 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 GS requirements have been met. All CARs and CLs raised by the Earthood during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

All the findings that are raised and communicated to project participant during the verification are included under Appendix 4. The section also includes the response, if provided, by the project participants and an assessment by the verification 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, the additionality will be re assessed during every crediting period, the VERs will be issued if the project is additional and this has to be checked during the next periodic verification"/02/.

The above FAR is not applicable in the current verification and is applicable only at the time of crediting period renewal, therefore has not been assessed.

2.6 Eligibility for Validation Activities

Not Applicable

3 VALIDATION FINDINGS

Not Applicable

3.1 Participation under Other GHG Programs

Not Applicable

3.2 Methodology Deviations

Not Applicable

3.3 Project Description Deviations

The deviations applicable to the current monitoring period are listed below:

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. Hence, the deviation was accepted by the verification team.
2. EG_{Gross} parameter is not considered as monitoring parameter and MSEDCL authorized credit breakup (issued monthly basis) is used as source for taking the values of EG_{export} & EG_{import}. As the calculation of emission reduction does not require this value, the deviation was accepted by the verification team.
3. The calibration frequency fixed at the time of project registration was not followed for several meters at various sites. The delay in calibration has been taken into account in accordance with para 395 of VVS version 9.0/36/ A detailed discussion of the meters, site, applicable error factor and duration has been included in section 4.2 of the report and appropriately included in section 3.3 of the monitoring report. The deviation has also been listed under deviation in section 2.2.2 of the monitoring report.
4. The check meter for feeder I at Panchpatta site has been considered for monthly reading in place of the main meter since August 2014. The deviation of considering check meter readings has been considered appropriate by the assessment team as the procedures defined in the PPA/35/ referred in the registered PD/1/ have been followed by the PP. A detailed discussion of the metering arrangement, PPA clause and PD reference has been included in section 4.2 of the report and appropriately included in section 3.3 of the monitoring report. The deviation has also been listed under deviation in section 2.2.2 of the monitoring report.

The assessment team confirms that the deviations made during the previous monitoring periods have been correctly reported in the monitoring report and implemented at the site/04/. The deviations were identified during the third monitoring period and were assessed and accepted by the verification team. The deviation identified during the current monitoring period (3 & 4) have also been duly mentioned in the monitoring report and appropriately addressed leading to conservative estimates of final emission reductions.

3.4 Grouped Project

Not Applicable

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity consists of 55 WTGs of make E-48, each of capacity 800kW. The total capacity of the project activity is 44MW. The WTGs were commissioned between the period of 07/02/2006-10/12/2008. The date of commissioning has been verified from the validation report/02/. The project is located at Satara, Sangli, Nasik, and Ahmednagar District in the state of Maharashtra in India. The coordinates of each WTG was verified with the previous verification report and previous monitoring report/06,07/.

The investors and the commissioning dates of the WTGs are listed in the table given below:

S. No.	Name of Customers	Loc No.	Commissioning Date	Capacity (MW)
1	G. B. Rubber Products	1	14/02/2006	0.8
2	G. B. Rubber Products	2	14/02/2006	0.8
3	Shah Lulla Estate Developers	4	14/02/2006	0.8
4	Atlas Tours & Travels Pvt. Ltd.	5	07/02/2006	0.8
5	Liberty Oil Mills Ltd.	6	07/02/2006	0.8
6	Liberty Oil Mills Ltd.	7	07/02/2006	0.8
7	Liberty Oil Mills Ltd.	8	07/02/2006	0.8
8	Liberty Oil Mills Ltd.	1	08/02/2006	0.8
9	Liberty Oil Mills Ltd.	2	08/02/2006	0.8
10	Delta Enterprises	19	15/06/2006	0.8
11	Paceman Sales Promotion P. Ltd.	36	22/03/2006	0.8
12	Delta Enterprises	37	22/03/2006	0.8
13	Delta Enterprises	38	15/06/2006	0.8
14	Mahanagar Developers	63	05/01/2007	0.8
15	Kishor Food Products P. Ltd.	47	10/12/2008	0.8
16	Shreem Capacitors Pvt. Ltd.	50	10/12/2008	0.8
17	Shreem Capacitors Pvt. Ltd.	51	10/12/2008	0.8
18	Shreem Capacitors Pvt. Ltd.	52	10/12/2008	0.8
19	Mahanagar Developers	53	05/01/2007	0.8
20	Mahanagar Developers	54	06/03/2007	0.8
21	Mahanagar Developers	55	05/01/2007	0.8
22	Mahanagar Developers	56	05/01/2007	0.8
23	Mahanagar Developers	57	05/01/2007	0.8
24	Shreem Capacitors Pvt. Ltd.	58	10/10/2008	0.8
25	Mahanagar Developers	60	06/03/2007	0.8
26	Mahanagar Developers	61	05/01/2007	0.8
27	Mahanagar Developers	62	06/03/2007	0.8

S. No	Name of Customers	Loc No.	Commissioning Date	Capacity (MW)
28	Mr. P. L. Patel	45	06/02/2007	0.8
29	Metalfab Hightech Private Limited	46	06/02/2007	0.8
30	Panama Wind Energy Pvt. Ltd./D.J. Malpani	47	30/12/2006	0.8
31	Panama Wind Energy Pvt. Ltd./D.J. Malpani	48	30/12/2006	0.8
32	Gargi Construction Co. Pvt. Ltd.	49	30/12/2006	0.8
33	Gargi Construction Co. Pvt. Ltd.	50	30/12/2006	0.8
34	International Conveyors Ltd.	51	30/12/2006	0.8
35	Elpro International	52	30/12/2006	0.8
36	Mohite & Mohite	59	30/12/2006	0.8
37	Mohite & Mohite	60	30/12/2006	0.8
38	Mohite & Mohite	61	30/12/2006	0.8
39	Welpack Industries Ltd.	29	28/02/2007	0.8
40	Mahanagar Developers	30	28/02/2007	0.8
41	Prachar Energy	31	03/03/2007	0.8
42	Prachar Energy	32	03/03/2007	0.8
43	Indiana Engineering Works (Bombay) P. Ltd.	33	03/03/2007	0.8
44	Indiana Engineering Works (Bombay) P. Ltd.	34	03/03/2007	0.8
45	Sahyadri Industries Ltd.	74	27/01/2007	0.8
46	Sahyadri Industries Ltd.	75	27/01/2007	0.8
47	Sunilkumar Ramanlal Shah	77	30/03/2008	0.8
48	Mr. V. L. Patel	76	29/03/2007	0.8
49	Mr. V. V. Patel	80	31/03/2007	0.8
50	M/s Laxmi Narayan	81	29/03/2007	0.8

S. No.	Name of Customers	Loc No.	Commissioning Date	Capacity (MW)
51	Om Shanti Wind Farms P. Ltd.	82	31/03/2007	0.8
52	Mr. J. V. Patel	83	29/03/2007	0.8
53	Mr. C. P. Patel	84	31/03/2007	0.8
54	Mr. S. V. Patel	94	29/03/2007	0.8
55	Mr. J. P. Patel	95	29/03/2007	0.8
	Total			44MW

It is worthy to note that the specific location numbers of customers are not unique and can be overlapped with the sites of different villages. Therefore, more than one customer can have similar location number. The energy generation of specific WTG has been identified by checking both LoC No. and Customer Name listed in the monthly credit notes.

No major breakdown occurred during the current monitoring period. The WEGs were found functional. The WTGs have been stop for fixed time periods for visual maintenance, Grease maintenance, Mechanical maintenance and electrical maintenance. The quality management system of the project activity is ISO 9001:2008 certified. The energy generated by the project activity is supplied to the NEWNE grid/02/. The electricity exported and imported from the WTGs is measured by the meters installed at Feeder. The details of the meters are provided in section 4.2 of the report.

No gap was observed between the start date of the current monitoring period and the previous monitoring period/06,07/.

Assessment concludes the following:

- The implementation status of project activity was found to be in compliance with registered PD
- DOE has conducted the on-site visit to confirm the implementation status of the project.
- The commissioning date of the project activity was found to be accurately and consistently recorded.
- The actual operation of project activity was found to be in compliance with the flow diagram provided in registered PD.
- There was no increase in emission reduction from estimates made in registered PD, therefore no additional explanation was sought from PP regarding the same.
- The project is only registered under VCS program and is not participated or rejected under any other GHG programs

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The project activity has been monitored as per the monitoring plan mentioned in the registered PD. All the deviations included during the previous monitoring period have been considered and implemented under the current monitoring period. The verification team confirms that the flow of information (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) is as per the MR/04/.

Parameters to be monitored:

The assessment of each parameter identified in the project activity to calculate the GHG emission reductions have been done in the tables given below. The assessment team confirms that each parameter has been checked and meets the calibration requirements. The actual monitoring complies with the monitoring plan.

a) Electricity exported to the grid by the project activity in year y, EG, Export, in MWh

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The parameter is measured and the values are continuously monitored and monthly recorded/04/.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The measuring and reporting frequency are in line to registered VCS PD/01/.
Monitoring equipment	Two-way meters were installed at substation. The details of the meter are provided in the later section of this report. The details of the meters were verified from the calibration certificates/09-17/.
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy for each meter installed is 0.2s. The accuracy is found to be consistent with the registered VCS PD/01,09-17/.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy is valid for the entire range.
Calibration frequency /interval:	The calibration frequency defined according to the

Criteria/Requirements	Assessment/Observation														
	registered PD is annual.														
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	No. The calibration delay was observed for the following meters/09-17/: <table border="1"> <thead> <tr> <th>Meter Number</th><th>Delay Period</th></tr> </thead> <tbody> <tr> <td>16595516</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>04862747</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>14831531</td><td>20/11/2014-01/02/2015</td></tr> <tr> <td>14831520</td><td>20/11/2014-06/03/2015</td></tr> <tr> <td>14831522</td><td>17/01/2015-01/02/2015</td></tr> <tr> <td>14831533</td><td>20/11/2014-01/02/2015</td></tr> </tbody> </table> The details of the assessment of delay have been provided in the latter part of this section. The error factor in the latest calibration report was lesser (0.02 – 0.05% range) than the maximum permissible error (0.2%) of the energy meter. Therefore, the application of an the error factor equal to maximum permissible error limit of meters for ER calculation was found acceptable on the basis of conservativeness. Further details of the calibration has been mentioned in the fore coming part of this section.	Meter Number	Delay Period	16595516	19/12/2015-16/03/2016	04862747	19/12/2015-16/03/2016	14831531	20/11/2014-01/02/2015	14831520	20/11/2014-06/03/2015	14831522	17/01/2015-01/02/2015	14831533	20/11/2014-01/02/2015
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14831522	17/01/2015-01/02/2015														
14831533	20/11/2014-01/02/2015														
Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is conducted by Maharashtra State Electricity Distribution Co., which is wholly owned by the Government of Maharashtra/09-17/.														
Is(are) calibration(s) valid for the whole reporting period?	No. The calibration delay was observed for the meters mentioned in the table above/17/. The details of the assessment of dealy has been provided in the latter part of this section.														
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out by certified agency (MSDCL).														
How were the values in the	The total value of the parameter is 87749.68328 MWh. The monthly reported values for net electricity														

Criteria/Requirements	Assessment/Observation
monitoring report verified?	exported was verified by cross checking the values with the monthly credit notes issued by MSEDCL/22-30/.. Refer ER sheet for the monthly values of the parameter verified/05/. All the values were found consistent with the credit notes.
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the Invoices raised to the Grid by the PP/31-34/.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
In case project participants have temporarily not monitored the parameter?	Not applicable

b) Electricity imported to the grid, EG_{import} , in MWh

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The parameter is measured and the values are continuously monitored and monthly recorded/04/.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The measuring and reporting frequency are in line to registered VCS PD/01/.
Monitoring equipment	Two-way meters were installed at substation. The details of the meter are provided in the layer part of this section. The details of the meters were verified during the onsite assessment and from the calibration certificates/09-17/.
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with	The accuracy for each meter installed is 0.2s. The accuracy is found to be consistent with the registered VCS PD/01,09-17/.

Criteria/Requirements	Assessment/Observation														
local/national standards, or as per the manufacturer's specification?															
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy is valid for the entire range.														
Calibration frequency /interval:	The calibration frequency defined according to the registered PD is annual.														
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	No. The calibration delay was observed for the following meters/09-17/: <table border="1"> <thead> <tr> <th>Meter Number</th><th>Delay Period</th></tr> </thead> <tbody> <tr> <td>16595516</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>04862747</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>14831531</td><td>20/11/2014-01/02/2015</td></tr> <tr> <td>14831520</td><td>20/11/2014-06/03/2015</td></tr> <tr> <td>14831522</td><td>17/01/2015-01/02/2015</td></tr> <tr> <td>14831533</td><td>20/11/2014-01/02/2015</td></tr> </tbody> </table> The details of the assessment of delay has been provided in the latter part of this section. The error factor in the latest calibration report was lesser (0.02 – 0.05% range) than the maximum permissible error (0.2%) of the energy meter. Therefore the application of an the error factor equal to maximum permissible error limit of meters for ER calculation was found acceptable on the basis of conservativeness. Further details of the calibration has been mentioned in the fore coming part of this section.	Meter Number	Delay Period	16595516	19/12/2015-16/03/2016	04862747	19/12/2015-16/03/2016	14831531	20/11/2014-01/02/2015	14831520	20/11/2014-06/03/2015	14831522	17/01/2015-01/02/2015	14831533	20/11/2014-01/02/2015
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14831533	20/11/2014-01/02/2015														
Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is conducted by Maharashtra State Electricity Distribution Co. Ltd, which is wholly owned by the Government of Maharashtra/09-17/.														
Is(are) calibration(s) valid for the whole reporting period?	No. The calibration delay was observed for the meters mentioned in the table above/09-17/. The details of the assessment of dealy hs been provided in the latter part of this section.														

Criteria/Requirements	Assessment/Observation
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out by certified agency (MSEDCL).
How were the values in the monitoring report verified?	The total value of the parameter is 109.64887 MWh. The monthly reported values for net electricity exported was verified by cross checking the values with the monthly credit notes issued by MSEDCL/22-30/. Refer ER sheet for the monthly values of the parameter verified/05/. All the values were found consistent with the credit notes.
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the Invoices raised to the Grid by the PP/31-34/.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
In case project participants have temporarily not monitored the parameter?	Not applicable

c) Net electricity supplied to the grid by the Project, EGy, net, in MWh Import

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The parameter is calculated by the using the export and import values of electricity provided in the monthly credit notes /22-30/. The values of electricity exported and imported are continuously monitored and monthly recorded/04/.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The measuring and reporting frequency are in line to registered VCS PD/01/.

Criteria/Requirements	Assessment/Observation														
Monitoring equipment	Two-way meters were installed at substation. The details of the meter are provided in the layer part of this section. The details of the meters were verified from the calibration certificates/09-17/.														
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy for each meter installed is 0.2s. The accuracy is found to be consistent with the registered VCS PD/01,09-17/.														
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy is valid for the entire range.														
Calibration frequency /interval:	The calibration frequency defined according to the registered PD is annual.														
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	No. The calibration delay was observed for the following meters/09-17/: <table border="1"> <thead> <tr> <th>Meter Number</th><th>Delay Period</th></tr> </thead> <tbody> <tr> <td>16595516</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>04862747</td><td>19/12/2015-16/03/2016</td></tr> <tr> <td>14831531</td><td>20/11/2014-01/02/2015</td></tr> <tr> <td>14831520</td><td>20/11/2014-06/03/2015</td></tr> <tr> <td>14831522</td><td>17/01/2015-01/02/2015</td></tr> <tr> <td>14831533</td><td>20/11/2014-01/02/2015</td></tr> </tbody> </table> The details of the assessment of delay has been provided in the latter part of this section. The error factor in the latest calibration report was lesser (0.02 – 0.05% range) than the maximum permissible error (0.2%) of the energy meter. Therefore the application of an error factor equal to maximum permissible error limit of meters for ER	Meter Number	Delay Period	16595516	19/12/2015-16/03/2016	04862747	19/12/2015-16/03/2016	14831531	20/11/2014-01/02/2015	14831520	20/11/2014-06/03/2015	14831522	17/01/2015-01/02/2015	14831533	20/11/2014-01/02/2015
Meter Number	Delay Period														
16595516	19/12/2015-16/03/2016														
04862747	19/12/2015-16/03/2016														
14831531	20/11/2014-01/02/2015														
14831520	20/11/2014-06/03/2015														
14831522	17/01/2015-01/02/2015														
14831533	20/11/2014-01/02/2015														

Criteria/Requirements	Assessment/Observation
	calculation was found acceptable. The approach was found conservative. Further details of the calibration has been mentioned in the fore coming part of this section.
Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is conducted by Maharashtra State Electricity Distribution Co., which is wholly owned by the Government of Maharashtra/09-17/.
Is(are) calibration(s) valid for the whole reporting period?	No. The calibration delay was observed for the meters mentioned in the table above/09-17/. The details of the assessment of dealy hs been provided in the latter part of this section.
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out by certified agency (MSEDCL).
How were the values in the monitoring report verified?	The total value of the parameter is 87640.03440 MWh. The monthly reported values for net electricity exported and imported to the grid data was verified by cross checking the values with the monthly energy statement issued by MSEDCL/22-30/. Refer ER sheet for the monthly values of the parameter verified/05/. All the values were found consistent with the credit notes.
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the Invoices raised to the Grid by the PP/31-34/.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
In case project participants have temporarily not monitored the parameter?	Not applicable

Through onsite audit and assessment of documents DOE can conclude the following:

- Monitoring results are consistently recorded as per approved frequency
- QA/QC procedures have been applied in accordance with the registered monitoring plan.
- No sampling approach has been followed for monitoring which is appropriate for the project activity.

Parameter fixed ex ante:

- a) **EF_{OM,y}: tCO₂e/MWH**: The parameter is Operating Margin Emission Factor of NEWNE Grid. The value of the parameter is 1.00862 consistent with the registered VCS PD/01/.
- b) **EF_{BM,y}: tCO₂e/MWH**: The parameter is Build Margin Emission Factor of NEWNE Grid. The value of the parameter is 0.59771 consistent with the registered VCS PD/01/.
- c) **EF_{grid,y}: tCO₂e/MWH**: The parameter is Combined Margin Emission Factor of NEWNE Grid. The value of the parameter is 0.90589 consistent with the registered VCS PD/01/.

Calibration:

The on-site assessment and review of the documents was done by the verification. Delay in calibration was observed. The calibration details of each meter installed have listed in the table provided below:

Sr. No	Customer Name	Loc No.	Feeder details	Meter Serial Number	Make	Calibration Date		
1	G. B. Rubber Products	1	-	04760188	Elster	06/06/2014	24/04/2015	NA
2	G. B. Rubber Products	2						
3	Shah Lulla Estate Developers	4						
4	Atlas Tours & Travels Pvt. Ltd.	5						
5	Liberty Oil Mills Ltd.	6						
6	Liberty Oil Mills Ltd.	7						
7	Liberty Oil Mills Ltd.	8						
8	Liberty Oil Mills Ltd.	1	F-1	5269382	Elster	25/06/2014	19/06/2015	NA
9	Liberty Oil Mills Ltd.	2						
10	Delta Enterprises	19	F-1	16595516	Elster	06/12/2013	18/12/2014	17/03/2016
11	Paceman Sales Promotion P. Ltd.	36						
12	Delta Enterprises	37						
13	Delta Enterprises	38						
14	Mahanagar Developers	63	F-3	04862747	Elster	06/01/2014		17/03/2016
15	Kishor Food Products P. Ltd.	47						
16	Shreem Capacitors Pvt. Ltd.	50						
17	Shreem Capacitors Pvt. Ltd.	51						
18	Shreem Capacitors Pvt. Ltd.	52						

19	Mahanagar Developers	53						
20	Mahanagar Developers	54						
21	Mahanagar Developers	55						
22	Mahanagar Developers	56					18/12/2014	
23	Mahanagar Developers	57						
24	Shreem Capacitors Pvt. Ltd.	58						
25	Mahanagar Developers	60						
26	Mahanagar Developers	61						
27	Mahanagar Developers	62						
28	Mr. P. L. Patel	45	F-1	14831531** The meter was found faulty. The reading of check meter (14831532) considered.	Elster	19/11/2013	02/02/2015 (Both meter no. 14831531 and meter no. 14831532 were calibrated on this date. However, the main meter 14831531 was found faulty)	05/09/2015 (On this date only meter no. 14831532 was calibrated)
29	Metalfab Hightech Private Limited	46						
30	Panama Wind Energy Pvt. Ltd./D.J. Malpani	47						
31	Panama Wind Energy Pvt. Ltd./D.J. Malpani	48						
32	Gargi Construction Co. Pvt. Ltd.	49						
33	Gargi Construction Co. Pvt. Ltd.	50						
34	International Conveyors Ltd.	51						
35	Elpro International	52						
36	Mohite & Mohite	59						
37	Mohite & Mohite	60						
38	Mohite & Mohite	61						
39	Welpack Industries Ltd.	29	F-4	14831520	Elster	19/11/2013	07/03/2015	05/09/2015
40	Mahanagar Developers	30						
41	Prachar Energy	31						
42	Prachar Energy	32						
43	Indiana Engineering Works (Bombay) P. Ltd.	33						
44	Indiana Engineering Works (Bombay) P. Ltd.	34						
45	Sahyadri Industries Ltd.	74	F-5	14831522	Elster	16/01/2014	02/02/2015	28/08/2015
46	Sahyadri Industries Ltd.	75						
47	Sunilkumar Ramanlal Shah	77	F-6	14831533	Elster	19/11/2013	02/02/2015	28/08/2015
48	Mr. V. L. Patel	76						
49	Mr. V. V. Patel	80						
50	M/s Laxmi Narayan	81						
51	Om Shanti Wind Farms P. Ltd.	82						
52	Mr. J. V. Patel	83						
53	Mr. C. P. Patel	84						
54	Mr. S. V. Patel	94						
55	Mr. J. P. Patel	95						

All the meters have same accuracy class of 0.2s. Calibration of all the meters was done by MSEDCL/09-15/ which is a NABL accredited agency.

** Meter with serial no. 14831531 which was faulty since August 2014 was confirmed faulty at the time of calibration conducted on 02/02/2015. The check meter no. 14831532 also calibrated (error found within permissible limits) on the 02/02/2015 has been considered for computing energy generated by the WTGs linked to this feeder since August 2014 by MSEDCL/27/. This was found in compliance to clause (c) of Section 11.02 of the PPA/35/ which clearly states that "If during testing, the main meter is found to be beyond permissible limits of error, but corresponding check meter is found within the permissible limits of error, then the energy computation for the month to-date and time of such check shall be in accordance with check meter." Also the main and check meters are identical in make, technical standards and accuracy class. The registered PD/1/ also refers the PPA/35/ mentioning "The monitoring of 'electricity exported to the grid' would be as per the details provided in PPA." The calibration for the check meter has been conducted as per the calibration frequency set as annually in the registered PD/1/. The monthly credit note/27/ issued by MSEDCL; August 2014 onwards indicate the meter serial number of the check meter as source, therefore it could be confirmed that the energy generation readings have been sourced from the meter working correctly (check meter in this case). Since the consideration of readings from check meter is in accordance with the PD/1/ which refers to PPA/35/ in such cases, it was not considered a deviation in the monitoring plan. The change does not impact the applicability of the methodology/18/, additionality or the appropriateness of the baseline scenario and hence it was accepted by the assessment team.

Delay in calibration was observed at various locations in the project activity listed below:

Meter no.	Location	Calibration	Next calibration	Delay applied for
16595516	Bhambarwadi	06/12/2013	18/12/2014	December 2014
		18/12/2014	17/03/2016	December 2015, January 2016, February 2016, March 2016
04862747	Bhambarwadi	18/12/2014	17/03/2016	December 2015, January 2016, February 2016, March 2016
14831531 (main meter) 14831532 (Check meter)	Panchpatta	19/11/2013	02/02/2015	November 2014, December 2014, January 2015, February 2015
14831520	Panchpatta	19/11/2013	07/03/2015	November 2014, December 2014, January 2015, February 2015
14831522	Panchpatta	16/01/2014	02/02/2015	January 2015, February 2015
14831533	Panchpatta	19/11/2013	02/02/2015	November 2014, December 2014, January 2015, February 2015

The respective delayed calibration certificates were checked by the assessment team. The calibration is not in the purview of the PP and is performed by the Maharashtra State Electricity Distribution Company (MSEDCL) Ltd, Testing Division; which is the authorized body for meter testing as per Section 11.02 of the Wind Energy Purchase Agreement (PPA). In the calibration certificates provided by MSEDCL the error of meter has been mentioned to be within permissible limits of error (0.2). The meters are tested, sealed and maintained by MSEDCL only in the presence of authorised representative of the PP who also signs the results. Only MSEDCL has the access to take meter readings which are reflected in the monthly energy statements, these statements form the basis of Invoices based on which the monetary transactions take place. Therefore, MSEDCL's confirmation on metres being in the permissible range of error provides reasonable assurance to the verification team about correct operation of the meters. For the delayed period the PP has applied an error factor equating the permissible limit of error for the meter, 0.2 (+0.2% for energy imported and -0.2% for energy exported). Delay in calibration has been addressed in accordance with para 395 of VVS version 9.0/36/ and therefore accepted by the assessment team.

GHG Calculations

The calculation of emission reduction has been done in accordance to the applied methodology/18/. As per the applied methodology, the values of project emission and leakages are considered as zero for the project activity/18,05/. The equation used for calculation of baseline emission is given below:

$$BE_y = EG_y * EF_y$$

Where, BE_y is the baseline emissions in year y, tCO_2e

EG_y is the net electricity supplied in MWh

EF_y is the Grid Emission Factor in tCO_2e/MWh

$$\begin{aligned} \text{Therefore, the baseline emissions} &= 87640.03440 \text{ MWh} * 0.9058975 \text{ tCO}_2\text{e/MWh} \\ &= 79,384 \text{ tCO}_2\text{e} \end{aligned}$$

The calculation of the net emission reduction achieved is done using the equation provided below:

$$\text{Net Emission reduction} = BE_y - PE_y - Le_y$$

Where, BE_y is baseline emissions

PE_y are project emissions

Le_y are leakage emissions

As the values of the $PE_y = 0$ and $Le_y = 0$,

Therefore,

$$\begin{aligned} \text{Net Emission Reductions} &= BE_y - 0 - 0 \\ &= 79,384 \text{ tCO}_2\text{e} \end{aligned}$$

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. All the data were made available and have monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

As per the monitoring plan the complete data set for the current monitoring period were verified. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WEGs. Therefore, the following documents were reviewed:

- a) The Monthly generation credit notes for every LoC issued by the state utilities, readings from which have been used for the calculations were reviewed by the assessment team. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.

- b) Calibration certificates: these certificates were verified to confirm that the readings have been monitored by well calibrated meters as required by the applied methodology and also by the registered monitoring plan

4.4 Non-Permanence Risk Analysis

The data variable used for the calculation of emission reductions is the net electricity supplied by the project activity. The parameter has been monitored through electronic meters therefore the likelihood of error is purely systematic in nature. The energy meters are state utility owned and undergo a calibration check/09-17/. The monthly credit notes for the energy generated issued by the state utility have been submitted to the assessment team and 100% of the data has been verified.

Therefore, the assessment team is of the opinion that the emission reductions are free from any omissions, misstatement and material errors.

5 VERIFICATION CONCLUSION

Earthood Services Private Limited (Earthood), contracted by Wind World (India) Limited, has performed the independent verification of the emission reductions for the VCS project activity ref number 489 "44 MW Bundled Wind Power Project in Maharashtra managed by Enercon India Limited" in India for the monitoring period 01/10/2014-31/03/2016 reported in the Monitoring Report Version 04 dated 17/09/2016. The Wind World (India) Limited is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity

Earthood commenced the verification on the basis of the baseline and monitoring methodology ACM0002, Version 10, the monitoring plan contained in the PD Version 1 dated 16/09/2009 and VCS guidelines version 3.5, Monitoring Report Version 03 dated 22/06/2016 as per the process described under Section 2 of this report.

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

In our opinion the GHG emissions reductions reported for the project activity for the period 01/10/2014-31/03/2016 are fairly stated in the Monitoring Report Version 04 dated 17/09/2016. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002, Version 10, and the VCS standard.

Verification period: 01/10/2014-31/03/2016

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

Year	Baseline emissions removals (tCO ₂ e)	or	Project emissions removals (tCO ₂ e)	or	Leakage emissions (tCO ₂ e)	Net emission reductions or removals (tCO ₂ e)	GHG
01/10/2014 to 31/12/2014	10,933		0		0	10,933	

01/01/2015 to 31/12/2015	61,419	0	0	61,419
01/01/2016 to 31/03/2016	7,032	0	0	7,032
Total	79,384	0	0	79,384

Approved by



Dr. Kaviraj Singh
Managing Director
Earthood Services Privated Limited

Date: 27/09/2016
Place: Gurgaon, Haryana

APPENDIX 1: ABBREVIATIONS

Abbreviations	Full texts
CAR	Corrective Action Request
VCS	Verified Carbon Standard
CL	Clarification Request
DOE	Designated Operational Entity
Earthood	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
MR	Monitoring Report
MW	Mega Watt
PD	Project Description
PP	Project Participants
QA/QC	Quality Assurance / Quality Control
tCO ₂ e	tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
WWIL	Wind World India Limited
MSEDCL	Maharashtra State electricity distribution company Limited
NEWNE	North East West North-East Grid

APPENDIX 2: DOCUMENTS REVIEWED OR REFERENCED

No.	Author	Title	Referenceres to the document	Provider
1.	WWIL	Registered VCS PD, Version 1.0	16/09/2009	Other
2.	TUV NORD	VCS Validation Report,	13/11/2009	Other
3.	WWIL	Monitoring Report, Version 01	07/04/2016	PP
4.	WWIL	Monitoring Report, Version(Final)	17/09/2016	PP
5.	WWIL	ER Spreadsheet(Final)	22/06/2016	PP
6.	WWIL	Previous Monitoring report (period 01/01/2014-30/09/2014)	08/01/2015	PP
7.	ESPL	Previous Verification Report (period 16/05/2014-15/05/2015)	26/06/2015	Other
8.	CEA	CEA database for CO ₂ emission version 04	-	Other
9.	MSEDCL	Calibration Certificate for Meter No. 04760188	06/06/2014, 24/04/2015	PP
10.	MSEDCL	Calibration Certificate for Meter No. 5269382	25/06/2014, 19/06/2015	PP

11.	MSEDCL	Calibration Certificate for Meter No. 16595516	06/12/2013, 18/12/2014, 17/03/2016	PP
12.	MSEDCL	Calibration Certificate for Meter No. 04862747	06/01/2014, 18/12/2014, 17/03/2016	PP
13.	MSEDCL	Calibration Certificate for Meter No. 14831531	19/11/2013, 02/02/2015	PP
14.	MSEDCL	Calibration Certificate for Meter No. 14831532	19/11/2013, 02/02/2015, 05/09/2015	PP
15.	MSEDCL	Calibration Certificate for Meter No. 14831520	19/11/2013, 07/03/2015, 05/09/2015	PP
16.	MSEDCL	Calibration Certificate for Meter No. 14831522	16/01/2014, 02/02/2015, 28/08/2015	PP
17.	MSEDCL	Calibration Certificate for Meter No. 14831533	19/11/2013, 02/02/2015, 28/08/2015	PP
18.	UNFCCC	Applied Methodology: ACM0002 version 10	28/05/2009	Other
19.	VCS	VCS Standard Version 3.5	25/03/2015	Other
20.	CEA	Guideline for calibration and periodical testing of meters by Central Electricity Authority (CEA)	17/03/2006	Other
21.	VCS	Validation Verification Manual	-	Other
22.	MSEDCL	Monthly credit note for Meter No. 04760188	01/10/2014-31/03/2016	PP
23.	MSEDCL	Monthly credit note for Meter No. 5269382	01/10/2014-31/03/2016	PP
24.	MSEDCL	Monthly credit note for Meter No. 16595516	01/10/2014-31/03/2016	PP
25.	MSEDCL	Monthly credit note for Meter No. 04862747	01/10/2014-31/03/2016	PP
26.	MSEDCL	Monthly credit note for Meter No. 14831531	01/10/2014-02/02/2015	PP
27.	MSEDCL	Monthly credit note for Meter No. 14831532	02/02/2015-31/03/2016	PP
28.	MSEDCL	Monthly credit note for Meter No. 14831520	01/10/2014-31/03/2016	PP
29.	MSEDCL	Monthly credit note for Meter No. 14831522	01/10/2014-31/03/2016	PP
30.	MSEDCL	Monthly credit note for Meter No. 14831533	01/10/2014-	PP

			31/03/2016	
31.	WWIL	Invoices raised to MSEDCL grid by Investors of Kadvekhurd	01/10/2014-31/03/2016	PP
32.	WWIL	Invoices raised to MSEDCL grid by Investors of Varekwadi	01/10/2014-31/03/2016	PP
33.	WWIL	Invoices raised to MSEDCL grid by Investors of Bhambarwadi	01/10/2014-31/03/2016	PP
34.	WWIL	Invoices raised to MSEDCL grid by Investors of Panchpatta	01/10/2014-31/03/2016	PP
35.	WWIL	Wind Energy Purchase Agreement between the Investors and MSEDCL	--	PP
36.	UNFCCC	CDM validation and verification standard Version 09.0	20/02/2015	Other

APPENDIX 3: CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUEST AND FORWARD ACTION REQUESTS

Table 2. CL from this verification

CAR ID	01	Section no.	3.2, 4	Date : 25/04/2016
Description of CAR				
PP needs to provide the following documents: 1) Calibration certificates 2) Invoices for March 2016 for all the sites, for Oct 2014, July 2015 & Feb 2016(Bhambadhwadi), 3) Credit notes for March 2016 for all the sites, Feb 2016 (Bhambadhwadi), Oct 2015 (Panchpatta-rescan)				
Project participant response				Date : 18/06/2016
1. The Calibration Certificate is submitted along with revised version of MR. 2. Invoices of all sites for March 2016 and Oct'14, Jul'15 & Feb'16 of Bhambarwadi has been submitted along with revised version of MR. 3. Credit Note of all site for March 2016 and Feb 2016 of Bhambarwadi and Oct 2015 of Panchpatta has been submitted along with revised version of MR.				
Documentation provided by project participant				
DOE assessment				Date: 22/06/2016
1. The calibration certificates for the following meters have not been provided: meter no. 04760188(06/06/2014), meter no. 05269382(25/06/2014), meter no. 16595516(06/12/2013), meter no. 04862747(06/01/2014), meter no. 14831531 and 14831532 have not been provided. (Open) 2. All the Invoices have been submitted by the PP. (Closed). 3. All the credit notes have been submitted by the PP. (Closed).				
Project participant response				Date : 22/06/2016
1. The calibration for year 2013 and 2014 has been submitted along with revised version of MR.				
Documentation provided by project participant				

DOE assessment	Date: 24/06/2016
1. All the calibration certificates have been provided. (Closed).	

Table 3. CAR from this verification

CAR ID	02	Section no.	3.2, 4	Date : 25/04/2016
Description of CAR				
1) The values of parameters $EG_{export,y}$, $EG_{import,y}$ and EG_{net} reported in MR were found inconsistent with the ER sheet. 2) The value of total emission reduction achieved in current monitoring period, reported in the MR, was found inconsistent with the ER sheet. 3) Date of commissioning was inconsistently reported in the MR under section 3.3. For details please refer to the MR.				
Project participant response				Date : 18/06/2016
1. The values of parameters $EG_{export,y}$, $EG_{import,y}$ and EG_{net} is consistent in the revised version of MR. 2. The value of total emission reduction achieved in current monitoring period, reported in the MR, is consistent with the revised version of ER sheet. 3. Date of commissioning is consistently reported in Section 1.2 & 3.3 of MR.				
Documentation provided by project participant				
DOE assessment				Date: 22/06/2016
1. The values have been correctly reported in the revised MR. (Closed). 2. The value of emission reduction achieved has been corrected. (Closed). 3. Date of commissioning is consistently reported in the revised MR. (Closed).				

CAR ID	03	Section no.	1.1, 1.4	Date : 25/04/2016
Description of CAR				
Non compliances with the VCS MR template found are as follows: - The relevant implementation dates (eg, dates of construction, commissioning, and continued operation periods) have not been provided under section 1.1. - The table under section 1.4 has been altered.				
Project participant response				Date : 18/06/2016
- The implementation dates has been provided in Section 1.1 in revised version of MR. - The table under Section 1.4 has been made in line with MR Guideline in revised version of MR.				
Documentation provided by project participant				
DOE assessment				Date: 22/06/2016
The corrections have made in the MR and Revised MR has been submitted by the PP. (Closed).				

CAR ID	04	Section no.	4.2	Date : 25/04/2016
Description of CAR				
Many values of net energy generated inserted in the ER sheet were found inconsistent with the JMR Sheet. For details please refer to the ER sheet.				
Project participant response				Date : 18/06/2016
The value of net energy generated is inconsistent because error factor has been applied for those months.				
Documentation provided by project participant				
DOE assessment				Date: 22/06/2016
The values have been check and found correctly inserted in the ER sheet. (Closed).				

CAR ID	05	Section no.	4.2	Date : 25/04/2016
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Description of CAR	
The dates of billing cycle (JMR Sheets) do not coincide with the start and end dates of the monitoring period. The Apportioning of data has not been done. Please Clarify.	
Project participant response	Date : 18/06/2016
The apportioning has been done in revised ER Calculation sheet for month October 2014 for Bhambarwadi & Kadvekhurd site to match the start date of monitoring period.	
Documentation provided by project participant	
DOE assessment	Date: 22/06/2016
Apportioning of the data has been correctly done by the PP in the Revised ER sheet. (Closed).	

CAR ID	06	Section no.	4.2	Date : 25/04/2016
Description of CAR				
1) The calibration doesn't cover the entire monitoring period for all the sites included in the project activity. For Details Please refer to the ER sheet. 2) Delay in calibration has been observed for many sites. But the error factor has not been applied in the ER sheet. For details refer to the ER sheet. Already applied 3) Details of check meters have not been provided in the monitoring report.				
Project participant response				Date : 18/06/2016
1. The Calibration Certificate submitted along with revised version of MR, cover entire monitoring period. 2. Delay in calibration is there for many sites, but the error factor has already been applied in the ER sheet. 3. In accordance with the registered monitoring plan, reading of the main meter will be considered for monitoring of the parameters. Also, the registered PD confirms the same.				
Documentation provided by project participant				
DOE assessment				Date: 22/06/2016
1. Error factor equal to maximum permissible error has been applied to the values not measured by calibrated equipment. (Closed). 2. Error factor equal to maximum permissible error has been applied to the values not measured by calibrated equipment. (Closed). 3. The information of check meter is not required as per the registered PD. (Closed).				

CAR ID	07	Section no.	4.2	Date : 22/06/2016
Description of CAR				
The main meter for Feeder I at Panchpatta site (Meter no. 14831531) was found faulty as per the calibration certificate provided during the calibration conducted by MSEDCL. However, the MR version 2.0 mentions the same date (05/09/2015) as calibration date. Please clarify. PP also needs to explain the source of electricity generation for these months considered for emission reduction calculations. Kindly justify the conservativeness of the values considered.				
				Date : 22/06/2016
The main meter of Feeder I of Panchpatta is faulty since August 2014, therefore the reading of check meter 14831532 is considered by MSEDCL for preparing monthly credit statements and JMR. The same can be cross checked through Credit Note. The calibration for check meter has been done on 05/09/2015 and the same is mentioned in ER Calculation Sheet & revised MR. The source of electricity generation for the period for emission reduction calculation remains the same i.e., Credit Note which is signed by MSEDCL.				
Documentation provided by project participant				
None				
DOE assessment				Date: 24/06/2016

The justification was accepted as the readings of calibrated check meters have been used for the calculation of ER sheet. The values of energy generation were verified with the credit notes. (Closed).

APPENDIX 4: COMPETENCE STATEMENTS OF THE TEAM

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		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.2)	YES		
Reviewed by	Abhishek Mahawar	Date	29/12/2014
Approved by	Ashok Gautam	Date	29/12/2014

Competence Statement			
Name	Deepika Mahala		
Country	India		
Education	M.Sc. (Environment Management), Guru Gobind Singh Indraprastha University		
Experience	5 months		
Field	Environment Management		
Approved Roles			
Team Leader	NO		
Validator	YES (trainee)		
Verifier	YES (trainee)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (1.2)	YES (trainee)		
Reviewed by	Abhishek Mahawar	Date	12/10/2015

Approved by	Ashok Kumar Gautam	Date	12/10/2015
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Competence Statement			
Name	Kaviraj Singh		
Country	India		
Education	Ph.D. (Environmental Engineering), IIT Delhi M.Phil. (Energy & Environmental), DAVV Indore		
Experience	8 Years		
Field	Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.1)	YES		
TA Expert (1.2)	YES		
TA Expert (13.1)	YES		
TA Expert (13.2)	YES		
TA Expert (15.2)	YES		
Reviewed by	Abhishek Mahawar	Date	29/12/2014
Approved by	Ashok Gautam	Date	29/12/2014