



**Verification and certification report form for  
CDM project activities  
(Version 02.1)**

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the project activity</b>	Roaring 40's Wind Farms (Khandke) Private Limited UNFCCC Ref.No- 3142
<b>Version number of the verification and certification report</b>	05
<b>Completion date of the verification and certification report</b>	14/05/2018
<b>Monitoring period number and duration of this monitoring period</b>	Monitoring period number-02 01/01/2012 to 31/12/2012 (both days are included)
<b>Version number of the monitoring report to which this report applies</b>	05
<b>Crediting period of the project activity corresponding to this monitoring period</b>	Type :Fixed Start date: 14/10/2010 Length: 10 years (14/10/2010-13/10/2020)
<b>Project participants</b>	CLP Wind Farms (Khandke) Private Limited
<b>Host Party</b>	India
<b>Applied methodologies and standardized baselines</b>	ACM0002, Version 10 Title:" Consolidated methodology for grid-connected electricity generation from renewable sources"
<b>Mandatory sectoral scopes linked to the applied methodologies</b>	Sectoral Scope 1 - Energy industries (renewable/ non-renewable sources)
<b>Conditional sectoral scope(s) linked to the applied methodologies</b>	NA
<b>Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD</b>	29,233 tCO <sub>2</sub> e
<b>Certified amount of GHG emission reductions or GHG removals for this monitoring period</b>	32,006 tCO <sub>2</sub> e
<b>Name and UNFCCC reference number of the DOE</b>	Earthood Services Private Limited UNFCCC ref.No- E-0066

**Name, position and signature of the  
approver of the verification and  
certification report**



Dr. Kaviraj Singh  
Managing Director

**SECTION A. Executive summary**

>> The project activity involves electricity generation by wind electric convertors and supplying the generated electricity to the Indian Grid. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and plays beneficial role in the mitigation of climate change.

The project activity is Phase I of the 50.4 MW wind farm developed by CLP Wind Farms (Khandke) Pvt. Ltd. (CLPWFK), and consists of 21 WTGs (0.8 MW capacity each), making the total installed capacity to be 16.8 MW in the at Khandke site, Ahmednagar district in Maharashtra, India. The other two phases are registered as separate CDM projects. The WTGs are of Enercon (E-48) make. Enercon India Limited is the supplier of WTGs and the O&M contractor for the project activity. It is to be noted that name of company "Enercon India Limited" is changed as "Wind World (India) Limited from 01/01/2013 onwards, the same is verified through the name change consent issued by Government of India/18/.

The WTGs have been commissioned between 27/06/2007 and 19/12/2007. The same was verified against the commissioning certificates/13/.

All 21 WTGs are fully functional and the assessment team verified this during the site visit. The assessment team confirms that the total emission reductions achieved under this monitoring period 01/01/2012 – 31/12/2012 (including both days) is 32,006 tCO<sub>2</sub>e.

The basic details of the project activity are mentioned below:

Project title	Roaring 40's Wind Farms (Khandke) Private Limited
UNFCCC registration number	3142
Earthood Ref No.	CDM.VER.16.50_MP2
Date of registration	14/10/2010
Sectoral scope	1 - Energy industries (renewable/ non-renewable sources).
Methodology/ies applied	"Consolidated methodology for grid-connected electricity generation from renewable sources" ACM0002, Version 10
Project participant	CLP Wind Farms (Khandke) Private Limited
Location of Project Activity	Ahmednagar district, Indian State of Maharashtra

**Scope of verification:**

The scope of the verification was limited to the monitoring period covered under the current monitoring period 01/01/2012 to 31/12/2012 (including both days) of the registered CDM PA "Roaring 40's Wind Farms (Khandke) Private Limited" to determine whether;

- The project activity has been implemented and operated as per the registered PDD or any approved revised PDD, and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- 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 CERs, verifiable, and in accordance with applicable CDM requirements;
- 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.

**Verification Process:**

The verification process involved following;

- Contract with CLP Wind Farms (Khandke) Private Limited for the scope of verification;
- Publication of monitoring report
- Desk review
- Physical on-site inspection
- Issuance of verification findings
- Reporting, calculation checks, QA/QC and resolution of findings
- Issuance of draft verification report
- Independent technical review of the project documentation

- Issuance of the final verification report
- Submission of the request for issuance, as appropriate

**Conclusion:**

ESPL has performed the verification of the CDM PA "Roaring 40's Wind Farms (Khandke) Private Limited" having UNFCCC Ref. Number 3142 for the monitoring period 01/01/2012 -31/12/2012. The verification includes confirming the implementation of the monitoring plan of the PDD and the application of the monitoring methodology as per ACM0002 Version 10. ESPL confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. The verified emission reductions amount to 32,006 tCO<sub>2</sub>e in the aforesaid monitoring period.

The verification concluded that the registered CDM PA complies with all relevant CDM procedures/standards/guidance and therefore request for issuance is being submitted in accordance with the CDM procedures.

**SECTION B. Verification team, technical reviewer and approver****B.1. Verification team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader, Methodological Expert and Local Expert (India)	EI	Soni	Ravi Kant	Central Office	Y	Y	Y	Y
2.	Verifier	EI	Soni	Ravi Kant	Central Office	Y	Y	Y	Y
3.	Technical Expert (TA1.2)	EI	Soni	Ravi Kant	Central Office	Y	Y	Y	Y
4.	Financial/ Other Expert	NA	-	-	Not required	NA	NA	NA	NA
5.	Trainee	NA	-	-	-	-	-	-	-

**B.2. Technical reviewer and approver of the verification and certification report**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Garg	Shreya	Central Office
2.	Technical Expert (TA1.2)	IR	Garg	Shreya	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

**SECTION C. Application of materiality****C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Omissions and misstatements in data transfer from hand written data in the JMR to ER	Low	Ineffective quality control of data transfer due to unclear QA/QC procedure.	Quality procedure followed at site to be checked. It is to be demonstrated by the

	calculation sheet.			PP that how to transfer data and how this can be crosschecked. Relevant site personnel has been interviewed to confirm whether procedure is actually Conducted.
2.	Missing data due to failure of measurement equipment	Low	The monitoring plan defines emergency procedures in case malfunctioning or failure of meter. Further, check meters are also installed onsite.	It is to be checked if related main meters are installed as per monitoring plan. Relevant site personnel have been interviewed to confirm whether the emergency procedure is known to them. To be checked if the equipment is malfunctioning and the accuracy and reliability of data for the concerned period cannot be ensured, the relevant emission reductions have been claimed or not.

## C.2. Consideration of materiality in conducting the verification

>> In accordance with CDM VVS for PAs, Version 01.0 para 329 the prescribed thresholds for materiality for CDM PAs are as under;

Emission Reductions (tCO <sub>2</sub> e)/year	500,000 or more	300,001 to 499,999	300,000 or less	Small Scale CDM PAs	Micro Scale CDM Pas
Materiality Threshold (para 361)	0.5%	1.0%	2.0%	5.0%	10.0%

The applicable materiality threshold is 2% as project activity.

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO <sub>2</sub> e) in this monitoring period	32,006 tCO <sub>2</sub> e	32,006 tCO <sub>2</sub> e
Applicable Threshold (%) as per para 329 of CDM VVS for PAs Version 01.0	2%	2%

Monitored Parameter (Symbol / Description*)	Reporting Frequency	Number of Discrete Data (Total)	Sample selected for verification	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (Population based on extrapolation)
EG <sub>f2,JMR,export</sub> and EG <sub>f3,JMR,export</sub>	Monthly	12(100%)	12(100%)	No errors were identified during the verification of data from there source.	No impact	No impact

EG <sub>f2,JMR,Import</sub> and EG <sub>f3,JMR,Import</sub>	Monthly	12(100%)	12(100%)	No errors were identified during the verification of data from there source.	No impact.	No impact
EG <sub>f2,y</sub> and EG <sub>f3,y</sub>	Monthly	12(100%)	12(100%)	No errors were identified during the verification of data from there source.	No impact.	No impact
EG <sub>y</sub>	Monthly	12(100%)	12(100%)	No errors were identified during the verification of data from there source.	No impact.	No impact

\*Description of monitoring parameters is provided under section E.6.2 of this report.

Based on the above table it can be confirmed that the materiality threshold is not breached applicable for the registered PA as per CDM VVS.

## SECTION D. Means of verification

### D.1. Desk/document review

>> A desk review was conducted by the verification team that included

- a) A review of the data and information presented to verify its completeness;
- b) A review of the registered 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;
- c) 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;

A complete list of documents/evidences reviewed is included as Appendix 3.

**D.2. On-site inspection**

Duration of on-site inspection: 23/01/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	<p>An assessment of the implementation and operation of the registered project activity as per the registered PDD or any approved revised approved PDD;</p> <p>A review of information flows for generating, aggregating and reporting the monitoring parameters;</p> <p>Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD;</p> <p>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;</p> <p>A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;</p> <p>A review of calculations and assumptions made in determining the GHG data and emission reductions;</p> <p>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</p>	Khandke	23/01/2017	Ravi Kant Soni

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Das	Sumit	CLP Wind Farms (Khandke) Private Limited	23/01/2017	Electricity Generation Records ( monthly energy statements, Invoices and break up sheets), Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure	Ravi Kant Soni
2.	Tandon	Nitin	CLP Wind Farms (Khandke) Private Limited	23/01/2017	Monitoring and measuring system, Collection of measurements, Observations of established practices and Data Verification of monitoring parameters	Ravi Kant Soni
3.	Barvekar	Atul	WWIL	23/01/2017	Calibration procedure of meters	Ravi Kant Soni

4.	Kumar	Shravan	WWIL	23/01/2017	QA/QC procedures, data management, internal audits to maintain data quality & reliability, maintenance Practices Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations	Ravi Kant Soni
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**D.4. Sampling approach**

&gt;&gt; Not applicable.

**D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised**

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	-	-
Compliance of the project implementation with the registered PDD	-	CAR #3	-
Post-registration changes	-	-	-
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	CL #1	CAR #5 and CAR #7	-
Compliance of monitoring activities with the registered monitoring plan	-	CAR #4	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	CL #2	-	-
Assessment of reported sustainable development co-benefits			
Global stakeholder consultation			
Others (Inconsistencies, typo errors))	-	CAR #6	-
<b>Total</b>	<b>2</b>	<b>5</b>	<b>-</b>

**SECTION E. Verification findings****E.1. Compliance of the monitoring report with the monitoring report form**

<b>Means of verification</b>	The monitoring report form used is CDM-MR-FORM version 06.0/05/, which was the appropriate form, and the latest version available at the time of verification. All the sections of the form were filled as per the guidelines and gave all the relevant details.
<b>Findings</b>	No issues were identified
<b>Conclusion</b>	The monitoring report is found to be complying with the monitoring report form.

**E.2. Remaining forward action requests from validation and/or previous verifications**

&gt;&gt; This is second verification of the project activity. There are no FAR(s) from validation/2/ or previous verification that needs to be closed during this verification.

**E.3. Compliance of the project implementation and operation with the registered project design document**

<b>Means of verification</b>	This project activity is the generation of electricity from WTGs supplying the generated electricity to the NEWNE grid of India. The project is located at Ranjani, Ratadgaon, Agadgaon and Bardari villages in Khandke Taluk of Ahmednagar District of Maharashtra state in India. and has an installed capacity of 16.8 MW (21
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WTGs x 0.8 MW/WTG). This was confirmed from document review of commissioning certificates /13/.

The commercial operation of the project activity had been started on 27/06/2007 – 19/12/2007, which was verified vide commissioning certificates/13/ and corroborated by monthly JMRs/10/ issued by state utility, indicating the start date of commercial operation.

The technical specifications of WTGs were verified through the nameplate details (imprinted/placed at the bottom of WTG tower) available at the WTGs physically checked during the site visit and were found to be consistent with the details provided in the registered PDD.

The project is located between 19°, 3.5' to 19°, 11' N and longitude 74°, 49' to 74°, 56' E. Location of the project was verified through Latlong.net (<http://www.latlong.net/logo.png>) and found consistent with the same mentioned in the registered PDD and MR.

During the site visit, the verification team randomly selected 11 numbers of WTGs to physically confirm the geographical locations/coordinates by using hand held device. The sample size (11) was determined in accordance with the 'Sampling and survey for CDM project activities and programmes of activities' V06/22/ as per the assumptions marked below;

Producer Risk	10%
Consumer Risk	10%
AQL	0.5%
UQL	20%
Sample Size	11
Acceptance Number	0 (No discrepancy allowed)

The verified geo-coordinates of WTGs are mentioned below;

Sr.No	Location No-	Latitude (N)	Longitude (E)	Remark
1	84	19° 12' 16"	74° 55' 32"	Accuracy 6 meters
2	16	19° 08' 54"	74° 48' 49"	Accuracy 9 meters
3	112	19° 10' 09"	74° 48' 22"	Accuracy 6 meters
4	19	19° 11' 34"	74° 48' 52"	Accuracy 4 meters
5	92	19° 08' 52"	74° 58' 50"	Accuracy 10 meters
6	88	19° 08' 46"	74° 56' 36"	Accuracy 6 meters
7	83	19° 10' 18"	74° 55' 17"	Accuracy 8 meters
8	93	19° 10' 47"	74° 56' 42"	Accuracy 7 meters
9	115	19° 09' 51"	74° 54' 09"	Accuracy 8 meters
10	89	19° 10' 06"	74° 55' 04"	Accuracy 6 meters
11	91	19° 11' 29 "	74° 57' 51"	Accuracy 5 meters

The geo coordinates of the remaining WTGs forming part of the project activity, which were not visited physically were verified using Latlong.net (Ref: <https://itouchmap.com/latlong.html>) and were found to be consistent with the same reported under section A. 2 of the monitoring report and in section A.4.1.4 of registered PDD.

It was observed during the site visit that, the project activity WTGs are connected to WWIL substation (33kV/132 kV) located at Mehekari village through step-up transformers (400V to 33kV), these transformers are consecutively connected to two feeders and that ultimately lead to two-step up transformers (33kV to 132 kV) via two separate lines at WWIL substation/19/.

The rated capacities of transformers were also indicated at the metering points located in the WWIL substation/20/ and the same was found to be consistent with description given in the registered PDD. Furthermore, capacity of transformers verified through the specifications mentioned at the name plate of transformers/20/ and found consistent with registered PDD/01/ and MR.

It is noted that WTGs of other promoters (not belongs to project) are also

	<p>connected to the feeder 02 and feeder 03 at WWIL substation. Hence the electricity export and import from the WTGs connected to the feeder 2 and feeder 3 is apportioned based on the LCS meter readings available from the individual WTGs.</p> <p>The PP has signed PPA/14/ with state utility for the sale of electricity to the grid and has been supplying electricity in compliance with the PPA as confirmed from the monthly invoices /11/. The project was registered as a CDM project on 14/10/2010 /16/. The PP has considered a fixed crediting period for the project activity from 14/10/2010 to 13/10/2020. This is the second verification of the project activity covering the period from 01/01/2012 to 31/12/2012.</p> <p>All 21 WTGs were fully functional and the assessment team verified this during the site visit/20/. In addition to the physical inspection of the site, the following documents have been reviewed by the assessment team during the site visit to verify the project implementation:</p> <ol style="list-style-type: none"> <li>Commissioning certificates</li> <li>Power Purchase Agreement</li> <li>Invoices raised by the PP to State utility</li> <li>Testing certificates of all energy meters</li> </ol> <p>The information relating to the project implementation, provided in the Monitoring Report/05/ is consistent with that stated in the registered PDD/1/. The data and variables provided in the monitoring report are the same as stated in the registered PDD. Total emission reductions achieved under this monitoring period 01/01/2012 to 31/12/2012 (including both days) is 32,006 tCO<sub>2</sub>e.</p>
<b>Findings</b>	CAR #3 was raised and resolved
<b>Conclusion</b>	<ul style="list-style-type: none"> <li>In view of the information's verified during the site visit, the verification team is able to confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered CDM project activity are in place and that the project participants have operated the project activity as per the registered PDD.</li> <li>No information with regard to data and variables was identified leading to unreasonable quantity of ERs in the registered PDD.</li> <li>The emission reductions achieved during the current monitoring period are 32,006 tCO<sub>2</sub>e, slightly higher than the estimated quantity (29,233 tCO<sub>2</sub>e) in the registered PDD for the comparable period. Appropriate justification for increase in actual emission reductions is provided by the PP and it is further described under section E.8.6 of this report.</li> </ul>

#### **E.4. Post-registration changes**

##### **E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines**

>> There are no temporary deviations from registered monitoring plan or applied methodology. It was verified and confirmed from the registered PDD/1/; the applied methodology/3/ and the on-site verification.

##### **E.4.2. Corrections**

>> There were no corrections identified in the registered PDD during the current monitoring period.

##### **E.4.3. Change to the start date of the crediting period of the project activity**

>> There is no change to the start date of the crediting period. It was verified and confirmed from the UNFCCC project webpage/16/.

##### **E.4.4. Inclusion of a monitoring plan**

>> Not applicable

##### **E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other applied standards or tools**

>> There were no permanent changes to the registered monitoring plan identified during the current monitoring period.

**E.4.6. Changes to the project design**

&gt;&gt; Not applicable

**E.4.7. Changes specific to afforestation and reforestation project activities**

&gt;&gt; Not applicable

**E.5. Compliance of the registered monitoring plan with the methodology including applicable tools and standardized baselines**

<b>Means of verification</b>	<p>The monitoring plan as contained in the registered PDD/01/ has been reviewed against the monitoring requirements of the applied methodology ACM0002 version 10.</p> <p>Monitoring plan in the registered PDD includes the following parameters:</p> <p><b>a) Electricity Export from feeder 2 and 3 : <math>EG_{f2,JMR,export}</math> and <math>EG_{f3,JMR,export}</math></b></p> <p><b>b) Electricity Import from feeder 2 and 3 : <math>EG_{f2,JMR,Import}</math> and <math>EG_{f3,JMR,Import}</math></b></p> <p>Above parameters provides the value of electricity exported and imported by all the WTGs (project and non-project WTGs) connected to the individual feeder. Both the parameter (a &amp; b) are measured by a common main and a check meter installed for the feeder 2 &amp; 3 located at the DISCOM substation. The Joint meter reading at both metering points at DISCOM substation have been taken by the representatives of MSEDCL in the presence of CLP officials in the form of JMRs on a monthly basis. As the project WEGs are connected to a common feeder (a common pool where CLP and other project developers feed electricity), state utility (Maharashtra State Electricity Distribution Company Limited, "MSEDCL") apportioned the electricity generation data for the PP based this data. Both the parameters are used in apportioning process but directly not used for calculation of emission reductions.</p> <p><b>c) Net electricity supplied to the grid by the WECs of the project activity connected to feeder 2 &amp; feeder 3 (<math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>)</b></p> <p><b>d) Net electricity supplied to the grid by the project activity (<math>EG_y</math>)-</b>  This parameter is calculated by the summation of the apportioned net electricity supplied by the WTGs involved in the project activity connected to the feeder 2 &amp; 3.  <math>EG_y = EG_{f2,y} + EG_{f3,y}</math></p> <p><b>Apportioning procedure:</b></p> <p>WTGs belongs to project activity are connected to 2 separate feeders where each feeder is a common pool where the PP and other project developers feeds electricity. Hence net electricity supplied to the grid by project activity (<math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>) is calculated using apportioning procedure as described under Appendix 3 of the registered PDD. Maharashtra State Electricity Distribution Company Limited, "MSEDCL" is responsible to apportion the electricity generation data.</p> <p>The following parameters involved in the apportioning process:</p> <ol style="list-style-type: none"> <li>1. Electricity Export from feeder 2 &amp; 3 : <math>EG_{f2,JMR,export}</math> and <math>EG_{f3,JMR,export}</math></li> <li>2. Electricity Import from feeder 2 &amp; 3 : <math>EG_{f2,JMR,Import}</math> and <math>EG_{f3,JMR,Import}</math></li> <li>3. Electricity generation from all the WTGs comprising the Project activity connected to particular feeder</li> <li>4. Electricity generation from other WTGs(non- Project activity WTGs) connected to particular feeder</li> </ol> <p>Post apportioning, MSEDCL issues month wise "Energy Break-up Report" which contains electricity export, import and net export by the project WEGs connected to the same feeder. These values (mentioned in "Energy Break-up Report") are the</p>
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	<p>main source to calculate the baseline emission by this project activity and same is in line with the information provided in registered monitoring plan /01/.</p> <p>It is to be noted that generation data of other project developers (parameter 4 above) are confidential in nature, hence, state utility does not disclose the same and therefore beyond the control of PP. Thus, summation of generation data from other WTGs (Non-project WTGs connected to the same feeder) is not available to PP.</p> <p>As described under Appendix 3 of the registered PDD that Joint meter reading records (<math>EG_{f2,JMR,export}</math>, <math>EG_{f3,JMR,export}</math>, <math>EG_{f2,JMR,import}</math> and <math>EG_{f3,JMR,import}</math>) would not be directly used for estimation of emission reduction. Whereas, <math>EG_{f2,y}</math> and <math>EG_{f3,y}</math> will be calculated using apportioning procedure implemented by MSEDCL and values of parameter will be directly sourced from energy breakup sheet certified by MSEDCL.</p> <p>Since the electricity generation from other WTGs is not under control of PP, hence parameter (4) is not included in section B.7.1 of registered PDD as monitoring parameter. Meanwhile complete set of parameters used in “apportioning procedure” neither available to PP nor the part of registered monitoring plan, hence calculation results obtained through apportioning (Energy Break-up Report) cannot be reproduced by PP in the ER calculation sheet/07/. Further, in line with registered monitoring plan it is not required for PP.</p> <p>The assessment team has verified that values of parameter <math>EG_{f2,y}</math> and <math>EG_{f3,y}</math> are directly sourced from energy breakup sheets/10/ which are in line with the requirements of the registered monitoring plan.</p> <p>Energy breakup report contains details of power exported/imported to/from the grid and net power exported by each of the wind WTGs connected to the particular feeder as mentioned in section B.7.1 of the registered PDD.</p> <p>In the ER calculation sheet/07/ “Export” and “import” data for each feeder reported in the tab “Generation Details” are the data directly sourced from “Energy Break-up Report” issued by MSEDCL. For a specific month, the net electricity supplied by the WTGs connected to particular feeder have been aggregated and reported in the tab “Emission Reductions”. Thus, the assessment team is able to confirm that monitoring parameters are reported in line with the registered monitoring plan.</p> <p>During the onsite visit, representatives of O&amp;M contractor were interviewed and confirmed that they implement the apportioning procedure described in the registered PDD and the PP is not involved in the process directly or indirectly.</p> <p>In view of the above discussion, the assessment team confirms that the apportioning procedure revealed under Appendix 3 of registered PDD and in section C of the MR is the actual procedure implemented by the MSEDCL, provides completeness of the monitoring plan, and reflects the actual monitoring practices and procedure implemented at project site.</p> <p>As per the applied methodology ACM0002 version 10 “Monitoring shall consist of metering the electricity generated by the renewable technology”. The net electricity supplied by the project activity is a calculated parameter; however, input values used in calculation are measured from energy meters installed at feeder 2 and feeder 3 and the LCS meters installed at individual WTGs connected to feeder 2 and feeder 3. Hence it can be concluded that registered monitoring plan is in compliance with the approved monitoring methodology applied to the project activity.</p>
<b>Findings</b>	CAR #5 and CAR #7 was raised and resolved
<b>Conclusion</b>	The monitoring plan outlined in the registered PDD is in accordance with the applied methodology /03/ and correctly applied by the registered CDM project activity.

**E.6. Compliance of monitoring activities with the registered monitoring plan****E.6.1. Data and parameters fixed ex ante or at renewal of crediting period****E.6.1.1. Operating Margin Emission Factor of Western Regional Electricity Grid, now part of the NEWNE Grid ( $EF_{OM,y}$ ,  $tCO_2e/MWh$ )**

<b>Means of verification</b>	The value of this parameter is considered as 0.99455. This was checked with the registered PDD /01/ and CO2 Baseline Database for Indian Power Sector", version 1.1 published by the Central Electricity Authority, Ministry of Power, Government of India /15/.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	The value in the monitoring report /05/ and corresponding emission reduction calculations spreadsheet /07/ are consistent with the registered PDD (page 24). The applied value is correct and justified.

**E.6.1.2. Build Margin emission Factor of Western Regional Electricity Grid, now part of the NEWNE Grid ( $EF_{BM,y}$ ,  $tCO_2e/MWh$ )**

<b>Means of verification</b>	The value of this parameter is considered as 0.77722. This was checked with the registered PDD /01/ and CO2 Baseline Database for Indian Power Sector", version 1.1 published by the Central Electricity Authority, Ministry of Power, Government of India /15/.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	The value in the monitoring report /05/ and corresponding emission reduction calculations spreadsheet /07/ are consistent with the registered PDD (page 25). The applied value is correct and justified.

**E.6.1.3. Combined Margin Emission Factor of Western Regional Electricity Grid, now part of the NEWNE Grid ( $EF_y$  or  $EF_{CM,y}$ ,  $tCO_2e/MWh$ )**

<b>Means of verification</b>	The value of this parameter is considered as 0.94022. This was checked with the registered PDD /01/ and CO2 Baseline Database for Indian Power Sector", version 1.1 published by the Central Electricity Authority, Ministry of Power, Government of India /15/.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	The value in the monitoring report /05/ and corresponding emission reduction calculations spreadsheet /07/ are consistent with the registered PDD (page 40). The applied value is correct and justified.

## E.6.2. Data and parameters monitored

E.6.2.1. Electricity exported by all the Turbines connected to feeder 2 and feeder 3 (Turbines included in the project activity and Turbines that are not part of the project activity) at main (14796488 -feeder 2 and 14796497- feeder 3) and the check meter (14796490- feeder 2 and 14796478- feeder 3) at 33 kV. ,  $EG_{f2,JMR,export}$  and  $EG_{f3,JMR,export}$  (MWh)

Means of verification	Determine / Assessment Criteria	Assessment Remarks
	The monitoring of parameter in the registered PDD has been implemented in accordance with the registered monitoring plan.	The parameter is continuously monitored and monthly recorded. The reporting frequency is in line with the monitoring plan as outlined in the registered PDD/01/ and monitoring methodology/03/.
	The equipment used for monitoring is in accordance with section 9.2.6 of CDM VVS Version 1 and is controlled and calibrated in accordance with the registered monitoring plan, the applied methodologies, the applied standardized baselines, Board guidance, local/national standards, or as per the manufacturer's specification;	Bidirectional electronic meters of accuracy class 0.2s are used.  The accuracy of the monitoring equipment used to measure the values is as per the registered PDD/01/ which is as per the norm defined in the PPA/14/.
	Monitoring results are consistently recorded as per the approved frequency;	Yes. In line with the registered monitoring plan, this parameter is recorded on monthly basis in the JMRs issued by state utility.
	Quality assurance and quality control procedures have been applied in accordance with the registered monitoring plan.	Yes, all the stakeholders, namely, the Grid Authority (DISCOM), and the WWIL (O&M Contractor), implemented the adequate QA/QC procedures.
	If the project participants applied a sampling approach to determine data and parameters monitored, the DOE shall assess the compliance of the sampling efforts and surveys with the validated sampling plan in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities".	Not applicable.
	Describe how it verified the information flow (from data generation, aggregation, to recording, calculation and reporting) for the parameter including the values in the monitoring report.	The data transfer process for the said parameter is as follows: The Joint meter reading at all the metering points at DISCOM substation is taken by the representatives of MSEDCL in the presence of CLP officials in the form of JMRs. Based on the data recorded in the JMRs, electricity supplied to the grid by the project activity is calculated by MSEDCL, using the apportioning procedure and energy breakup sheets for each project developer is

		<p>prepared.</p> <p>Monthly value of the parameters for entire monitoring period is reported in the monitoring report and ER calculation sheet. The monthly values were verified from the JMRs/10/ issued by state utility and found to be consistent.</p> <p>Value of this parameter for the current monitoring period was verified as</p> <p>Feeder 2: 45,253.95 MWh</p> <p>Feeder-3: 35,101.62 MWh</p>
	The information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis;	<p>The monthly reported values were further crosschecked with the monthly invoices/11/.</p> <p>However, as indicated in the registered PDD, this parameter is directly not used for calculation of emission reductions and the values crosschecked in the invoices (raised by PP) forms only part of it.</p> <p>Therefore, the assessment team also crosschecked with the monthly electricity generations of all the WTGs (including non-project WTGs) connected to the feeders maintained at site office/10.1/ with values of this parameter reported in JMRs and found comparable, hence accepted.</p>
	The calibration of the measuring equipment that has an impact on the claimed GHG emission reductions or net anthropogenic GHG removals is conducted by the project participants at a frequency specified in the applied methodologies, the applied standardized baselines and/or the registered monitoring plan.	<p>Yes the calibration is conducted by MSEDCL which is NABL Accredited Government institution/12/. Calibration frequency of the meters is annual that is in line with the monitoring plan as outlined in the registered PDD/01/.</p> <p>No delay in calibration of meters identified during the current monitoring period (please refer section E.7 of this report for further details).</p>

	<p>(a) A complete set of data for the specified monitoring period is available. If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall assess whether:</p> <p>(i) The most conservative values approach is applied to the parameters for the entire non-monitoring period in accordance with the provisions relating to the temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities"; or</p> <p>(ii) Alternative monitoring arrangements for the non-monitoring period are described, whether they apply conservative assumptions or discount factors to the calculations, and whether the alternative monitoring arrangements have been approved by the Board under the prior-approval track or to be approved by the Board under the issuance track in accordance with the provisions relating to temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities";</p>	No such issues identified for the current monitoring period.
<b>Findings</b>	CAR #4 and CAR #5 was raised and resolved	
<b>Conclusion</b>	<p>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</p> <p>The verification team is able to confirm that the project is implemented as per the registered PDD and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PDD.</p> <p>This parameter is directly not used for calculation of emission reductions. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the project WTGs. Monthly values of electricity supplied to the grid inserted in the ER sheet was verified with the energy breakup sheets provided by the project participant/10/. Since 100% data was verified, the team could ascertain that the values taken for emission reduction calculation are free from material errors.</p>	



**E.6.2.2. Electricity imported by all the Turbines (Turbines included in the project activity and Turbines that are not part of the project activity) connected to feeder 2 & feeder 3 at main (14796488 -feeder 2 and 14796497- feeder 3) and the check meter (14796490- feeder 2 and 14796478- feeder 3) at 33 kV.  $EG_{f2,JMR,Import}$  and  $EG_{f3,JMR,Import}$  (MWh)**

Means of verification	Determine / Assessment Criteria		Assessment Remarks
	The monitoring of parameter in the registered PDD has been implemented in accordance with the registered monitoring plan.		The parameter is continuously monitored and monthly recorded. The reporting frequency is in line with the monitoring plan as outlined in the registered PDD/01/ and monitoring methodology/03/.
	The equipment used for monitoring is in accordance with section 9.2.6 of CDM VVS Version 1 and is controlled and calibrated in accordance with the registered monitoring plan, the applied methodologies, the applied standardized baselines, Board guidance, local/national standards, or as per the manufacturer's specification;		Bidirectional electronic meters of accuracy class 0.2s are used. The accuracy of the monitoring equipment used to measure the values is as per the registered PDD/01/ which is as per the norm defined in the PPA/14/.
	Monitoring results are consistently recorded as per the approved frequency;		Yes. In line with the approved monitoring plan, this parameter is recorded on monthly basis in the JMRs issued by state utility.
	Quality assurance and quality control procedures have been applied in accordance with the registered monitoring plan.		Yes, all the stakeholders, namely, the Grid Authority (DISCOM), and the WWIL (O&M Contractor), implemented the adequate QA/QC procedures.
	If the project participants applied a sampling approach to determine data and parameters monitored, the DOE shall assess the compliance of the sampling efforts and surveys with the validated sampling plan in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities".		Not applicable.
	Describe how it verified the information flow (from data generation, aggregation, to recording, calculation and reporting) for the parameter including the values in the monitoring report.		The data transfer process for the said parameter is as follows: The Joint meter reading at all the metering points at DISCOM substation is taken by the representatives of MSEDCL in the presence of CLP officials in the form of JMRs. Based on the data recorded in the JMRs, electricity supplied to the grid by the project activity is calculated by MSEDCL, using the apportioning procedure and energy breakup sheets for each project developer is prepared.

		<p>Monthly value of the parameters for entire monitoring period is reported in the monitoring report and ER calculation sheet. The monthly values were verified from the JMRs/10/ issued by state utility and found to be consistent.</p> <p>Value of this parameter for the current monitoring period was verified as</p> <p>Feeder 2: 11.08 MWh</p> <p>Feeder-3: 9.57 MWh</p>
	<p>The information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis;</p>	<p>The monthly reported values were further crosschecked with the monthly invoices/11/.</p> <p>However, as indicated in the registered PDD, this parameter is directly not used for calculation of emission reductions and the values crosschecked in the invoices (raised by PP) forms only part of it.</p> <p>Therefore, the assessment team also crosschecked with the monthly electricity generations of all the WTGs (including non-project WTGs) connected to the feeders maintained at site office/10.1/ with values of this parameter reported in JMRs and found comparable, hence accepted.</p>
	<p>The calibration of the measuring equipment that has an impact on the claimed GHG emission reductions or net anthropogenic GHG removals is conducted by the project participants at a frequency specified in the applied methodologies, the applied standardized baselines and/or the registered monitoring plan.</p>	<p>Yes the calibration is conducted by MSEDCL which is NABL Accredited Government institution/12/. Calibration frequency of the meters is annual that is in line with the monitoring plan as outlined in the registered PDD/01/.</p> <p>No delay in calibration of meters identified during the current monitoring period (please refer section E.7 of this report for further details).</p>
	<p>(a) A complete set of data for the specified monitoring period is available. If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall assess whether:</p> <p>(i) The most conservative values</p>	<p>No such issues identified for the current monitoring period.</p>

	<p>approach is applied to the parameters for the entire non-monitoring period in accordance with the provisions relating to the temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities"; or</p> <p>(ii) Alternative monitoring arrangements for the non-monitoring period are described, whether they apply conservative assumptions or discount factors to the calculations, and whether the alternative monitoring arrangements have been approved by the Board under the prior-approval track or to be approved by the Board under the issuance track in accordance with the provisions relating to temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities";</p>	
<b>Findings</b>	CAR #4 and CAR #5 was raised and resolved	
<b>Conclusion</b>	<p>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</p> <p>The verification team is able to confirm that the project is implemented as per the registered PDD and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PDD.</p> <p>The emission reduction calculation for the project activity is estimated based on the electricity supplied by the project WTGs. Monthly values of electricity supplied to the grid inserted in the ER sheet was verified with the energy breakup sheets provided by the project participant/10/. Since 100% data was verified, the team could ascertain that the values taken for emission reduction calculation are free from material errors.</p>	

**E.6.2.3. Net Electricity supplied to the grid by the WTGs of the project activity connected to feeder 2 & feeder 3.  $EG_{f2,y}$  and  $EG_{f3,y}$  (MWh)**

Means of verification	Determine / Assessment Criteria	Assessment Remarks
	The monitoring of parameter in the registered PDD has been implemented in accordance with the registered monitoring plan.	The parameter is calculated and recorded on monthly basis, however, the input values used to calculate the value of $EG_y$ are continuously monitored, hourly measured and monthly recorded. The reporting frequency is in line with the monitoring plan as outlined in the registered PDD/01/ and monitoring methodology/03/.
	The equipment used for monitoring is in accordance with section 9.2.6 of CDM VVS Version 1 and is controlled and calibrated in accordance with the registered monitoring plan, the applied methodologies, the applied standardized baselines, Board guidance, local/national standards, or as per the manufacturer's specification;	No monitoring equipment is used as this parameter is calculated using the measured values.
	Monitoring results are consistently recorded as per the approved frequency;	Yes. In line with the approved monitoring plan, this parameter is recorded on monthly basis in the Energy breakup sheets issued by state utility.
	Quality assurance and quality control procedures have been applied in accordance with the registered monitoring plan.	Yes, all the stakeholders, namely, the Grid Authority (DISCOM), and the WWIL (O&M Contractor), implemented the adequate QA/QC procedures.
	If the project participants applied a sampling approach to determine data and parameters monitored, the DOE shall assess the compliance of the sampling efforts and surveys with the validated sampling plan in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities".	Not applicable.
	Describe how it verified the information flow (from data generation, aggregation, to recording, calculation and reporting) for the parameter including the values in the monitoring report.	The data transfer process for the said parameter is as follows: The WTGs belongs to project activity are connected to 2 different feeders and each feeder have exclusive dedicated metering arrangement at project site. Furthermore, the WTGs of other project (non-project activity) are also connected to these feeders. The electricity generated by all the

		<p>WTGs (project and non-project) is been fed to the NEWNE grid and monthly generation of all the WTGs at each feeder reading is recorded by the representatives MSEDCL in the presence of CLPWFPL officials in the form of JMR.</p> <p>Based on the data recorded in the JMRs and at WTG controllers, electricity supplied to the grid by the project activity is calculated by MSEDCL, using the apportioning procedure and breakup sheets/10/ for each project developer is prepared.</p> <p>Monthly values for entire monitoring period are reported in the monitoring report and in the ER calculation sheet. The monthly values were verified from the energy breakup sheets/10/ issued by state utility and found to be consistent.</p> <p>Value of this parameter for the current monitoring period was verified as:</p> <p>Feeder 2: 24,605.56 MWh</p> <p>Feeder-3: 9,435.57 MWh</p>
	The information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis;	The monthly reported values were further crosschecked with the monthly invoices raised by the PP /11/ to state utility and found to be consistent.
	The calibration of the measuring equipment that has an impact on the claimed GHG emission reductions or net anthropogenic GHG removals is conducted by the project participants at a frequency specified in the applied methodologies, the applied standardized baselines and/or the registered monitoring plan.	Not applicable

	<p>(a) A complete set of data for the specified monitoring period is available. If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall assess whether:</p> <p>(i) The most conservative values approach is applied to the parameters for the entire non-monitoring period in accordance with the provisions relating to the temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the “CDM project standard for project activities”; or</p> <p>(ii) Alternative monitoring arrangements for the non-monitoring period are described, whether they apply conservative assumptions or discount factors to the calculations, and whether the alternative monitoring arrangements have been approved by the Board under the prior-approval track or to be approved by the Board under the issuance track in accordance with the provisions relating to temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the “CDM project standard for project activities”;</p>	No such issues identified for the current monitoring period.
<b>Findings</b>	CAR #4 and CAR #5 was raised and resolved	
<b>Conclusion</b>	<p>As the project WEGs are connected to a common feeder (where CLP and other project developers feed electricity), MSEDCL apportioned the electricity generation data based on:</p> <p>(a) individual project WEGs controller reading,</p> <p>(b) summation of all controller reading of WEGs (belongs to CLP and other developers) connected with the common feeder</p> <p>(c) joint meter reading (based on billing meter)</p> <p>Post apportioning MSEDCL, issues month wise “Energy Break-up Report” which contains electricity export, import and net export by the project</p>	

	<p>WEGs connected to the same feeder. These values (mentioned in “Energy Break-up Report”) are the main source to calculate the baseline emission by this project activity.</p> <p>Thus, verification team concludes that the parameter has been monitored appropriately, in accordance with the registered monitoring plan. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. This parameter is not used directly for calculation of emission reductions.</p> <p>The verification team is able to confirm that the project is implemented as per the registered PDD and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PDD.</p> <p>The emission reduction calculation for the project activity is estimated based on the electricity supplied by the project WTGs. Monthly values of electricity supplied to the grid inserted in the ER sheet was verified with the energy breakup sheets provided by the project participant/10/. Since 100% data was verified, the team could ascertain that the values taken for emission reduction calculation are free from material errors.</p>
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#### E.6.2.4. Net electricity supplied to the grid by the WTGs of the project activity EGy (MWh)

Means of verification	Determine / Assessment Criteria		Assessment Remarks
	The monitoring of parameter in the registered PDD has been implemented in accordance with the registered monitoring plan.		The parameter is calculated on a monthly basis as the sum of the net exports to the grid on feeder numbers 2 and 3 by the project WTGs. The reporting frequency is in line with the monitoring plan as outlined in the registered PDD/01/ and monitoring methodology/03/.
	The equipment used for monitoring is in accordance with section 9.2.6 of CDM VVS Version 1 and is controlled and calibrated in accordance with the registered monitoring plan, the applied methodologies, the applied standardized baselines, Board guidance, local/national standards, or as per the manufacturer's specification;		No monitoring equipment is used as this parameter is calculated using the measured values.
	Monitoring results are consistently recorded as per the approved frequency;		Yes. In line with the registered monitoring plan, this parameter is recorded on monthly basis in the Energy breakup sheets issued by state utility.
	Quality assurance and quality control procedures have been applied in accordance with the registered monitoring plan.		Yes, all the stakeholders, namely, the Grid Authority (DISCOM), and the WWIL (O&M Contractor), implemented the adequate QA/QC procedures.
	If the project participants applied a sampling approach to determine data and parameters		Not applicable.

	monitored, the DOE shall assess the compliance of the sampling efforts and surveys with the validated sampling plan in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities".	
	Describe how it verified the information flow (from data generation, aggregation, to recording, calculation and reporting) for the parameter including the values in the monitoring report.	<p>The data transfer process for the said parameter is as follows:</p> <p>The WTGs belongs to project activity are connected to 2 different feeders( Feeder no-2 and 3) and each feeder have exclusive dedicated metering arrangement at project site. Furthermore, the WTGs of other project (non-project activity) are also connected to these feeders.</p> <p>The electricity generated by all the WTGs (project and non-project) is been fed to the NEWNE grid and monthly generation of all the WTGs at each feeder reading is recorded by the representatives MSEDCL in the presence of CLPWFPL officials in the form of JMR.</p> <p>Based on the data recorded in the JMRs and at WTG controllers, electricity supplied to the grid by the project activity is calculated by MSEDCL, using the apportioning procedure and breakup sheets/10/ for each project developer is prepared.</p> <p>Monthly value of <math>EG_y</math> for entire monitoring period is reported in the monitoring report, and in the ER calculation sheet. The monthly values were verified from the energy breakup sheets/10/ issued by state utility and found to be consistent.</p> <p>Value of this parameter for the current monitoring period was verified as 34,041.13 MWh.</p>
	The information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis;	The monthly reported values were further crosschecked with the monthly invoices raised by the PP /11/ to state utility and found to be consistent.



	The calibration of the measuring equipment that has an impact on the claimed GHG emission reductions or net anthropogenic GHG removals is conducted by the project participants at a frequency specified in the applied methodologies, the applied standardized baselines and/or the registered monitoring plan.	Not applicable
	<p>(a) A complete set of data for the specified monitoring period is available. If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall assess whether:</p> <p>(i) The most conservative values approach is applied to the parameters for the entire non-monitoring period in accordance with the provisions relating to the temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities"; or</p> <p>(ii) Alternative monitoring arrangements for the non-monitoring period are described, whether they apply conservative assumptions or discount factors to the calculations, and whether the alternative monitoring arrangements have been approved by the Board under the prior-approval track or to be approved by the Board under the issuance track in accordance with the provisions relating to temporary deviation from the registered monitoring plan, the applied methodologies or the applied standardized baselines in the "CDM project standard for project activities";</p>	No such issues identified for the current monitoring period.
<b>Findings</b>	CAR #4 and CAR #5 was raised and resolved	
<b>Conclusion</b>	<p>The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</p> <p>The verification team is able to confirm that the project is implemented as per the registered PDD and there is no discrepancy observed between the</p>	

	<p>actual monitoring system and the monitoring plan set out in the registered PDD.</p> <p>The emission reduction calculation for the project activity is estimated based on the electricity supplied by the project WTGs. Monthly values of electricity supplied to the grid inserted in the ER sheet was verified with the energy breakup sheets provided by the project participant/10/. Since 100% data was verified, the team could ascertain that the values taken for emission reduction calculation are free from material errors.</p>
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### E.6.3. Implementation of sampling plan

<b>Means of verification</b>	Not applicable
<b>Findings</b>	Not applicable
<b>Conclusion</b>	Not applicable

### E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification

As per the monitoring plan in the registered PDD/01/ the meters are to be tested and calibrated annually. The calibration frequency has been followed for the current monitoring period.

The project activity metering has been physically inspected during the site visit. The details of monitoring equipment's involved in the project activity and their calibration dates are mentioned in Section C of the MR/05/ and are summarised in the tables below. All the meters are of accuracy class of 0.2s and calibration frequency of once in a year.

Wind World (India) Limited- 132/33 kV substation:

Meter Location	Meter type	Meter Sr.No-	Date of recent calibration	Calibration Delay (Y/N)	Remark
Feeder 02	Main Meter	04880814	02/09/2011	N	This meter was replaced with new meter(14796488) on 31/07/2012
		14796488	10/08/2012	N	This meter currently there at site.
	Check Meter	04880815	02/09/2011	N	This meter was replaced with new meter(14796490) on 31/07/2012
		14796490	10/08/2012	N	This meter currently there at site.
Feeder 03	Main Meter	04880816	02/09/2011	N	This meter was replaced with new meter(14796497) on 31/07/2012
		14796497	10/08/2012	N	This meter currently there at site.
	Check Meter	04880817	02/09/2011	N	This meter was replaced with new meter(14796478) on 31/07/2012
		14796478	10/08/2012	N	This meter currently there at site.

Note:

During the current monitoring period, the energy meters installed at substation were

	<p>replaced by state utility with new meters as reported in the above table. New meters were tested for accuracy before installation (on 26/07/2012), this is verified through the meter replacement certificate issued by state utility/21/.</p> <p>It is to be noted that old meters were TOD type and new ABT meters/21/ had to be installed in line with the requirements of metering code prevailing in the state. The assessment team has verified the calibration certificates and confirmed that all new meters installed were same make and accuracy class as old one/21/.</p> <p>The above meter details have been verified through the following means:</p> <ol style="list-style-type: none"> <li>Physical inspection of the meters during the site visit</li> <li>Interviewing the staff at the sub-station</li> <li>The CMS of the O&amp;M service provider located at the site</li> <li>Calibration certificates</li> </ol> <p>The installation and working condition of the meters were checked during the on-site inspection and it was found to be satisfactory. These meters are duly approved, installed, tested, sealed and in the custody of the state utility. The PP has no control over the same.</p> <p>It is verified through the registered PDD and PPA signed by the PP with state utility/14/ that the state utility (MSEDCL) is the buyer of generated electricity and sole entity responsible for calibration of meters.</p> <p>Accordance with the guidelines as state under section 3.2.3 of CEA Notification No. 502/70/CEA/DP&amp;D dated 17/03/2006/19/ which is considered as national standard "All interface meters shall be tested at least once in five years." Hence, the calibration frequency of once in a year, mentioned in the registered PDD/01/ and in PPA/14/ for the meters is appropriate.</p> <p>It is verified that the PP receives payment, for the electricity supplied to the grid, from the state utility (which is a Government Organisation and a 3<sup>rd</sup> party with respect to this CDM project). This electricity supplied to the grid is obtained using directly measured values at the energy meters. Hence the state utility ensures that the energy meters are in proper working condition, since it has to make payments based on these meter readings.</p>
<b>Findings</b>	CAR #4 and CAR #6 was raised and resolved
<b>Conclusion</b>	The assessment team has confirmed that the calibration is conducted at the frequency following the relevant industry standard as specified by the methodology /03/ and the monitoring plan contained in the registered PDD /01/.

## E.8. Assessment of data and calculation of emission reductions or net removals

### E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

<b>Means of verification</b>	<p>The baseline emissions are the product of net electricity exported to the grid <math>EG_y</math> expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors.</p> $BE_y = EG_y * EF_y$ <p>Where:</p> <p><math>BE_y</math>: Baseline Emissions in year y; t CO<sub>2</sub></p> <p><math>EG_y</math> : Net Electricity supplied to the grid in year y</p> $EG_y = EG_{f2,y} + EG_{f3,y}$ <p><math>EF_y</math> = Combined margin CO<sub>2</sub> emission factor (tCO<sub>2</sub>/MWh)</p> <p>As per the registered PDD, combined margin emission factor is 0.94022 tCO<sub>2</sub>/MWh. Hence the baseline emissions for the project activity for the current monitoring period are as follows.</p> $BE_y = 34,041.13 * 0.94022 = 32,006 \text{ tCO}_2\text{e}$ <p>Note:</p> <p>During the current monitoring period, it is noted that end date of each month overlaps with the start date of consecutive month, however despite of overlapping there is no double counting of data because meter reading is taken at a particular time of the day (e.g. 11:30 AM). Hence the period for e.g 01/01/2012 to 31/01/2012 would denote reading till that time of 31/01/2012, next period 31/01/2012 to</p>
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	<p>29/02/2012 denotes reading after that particular time of 31/01/2012. These dates are also reflected in the monthly JMRs issued by state utility based on which ER calculation is done.</p> <p>The verification team verified and cross-verified the complete set of data for the entire monitoring period verification of each monitoring parameter is elaborated under Section E.6.2 of this report. The complete monitoring data is also presented in the corresponding ER sheet /07/ of final Monitoring Report /05/.</p> <p>The baseline emissions calculations as presented in the corresponding ER sheet of final Monitoring Report were checked and found to be consistent with the formulae and methods described in the registered monitoring plan and the applied methodology. All assumptions used in the emission calculations were found appropriate and therefore justified.</p> <p>No standardized baseline was prescribed in the registered PDD and therefore it has not been applied.</p> <p>No pro-rate approach was applied in the current monitoring period as entire monitoring period falls in the first commitment period of Kyoto Protocol as the monitoring period ends on 31/12/2012.</p>
<b>Findings</b>	CL #2 was raised and resolved
<b>Conclusion</b>	<p>The verification team confirms that</p> <ol style="list-style-type: none"> <li>The complete data was available and is duly reported;</li> <li>As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.6.2 of this report);</li> <li>Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed;</li> <li>Appropriate emission factors and other reference values were correctly applied.</li> <li>No pro-rate approach was applied in the current monitoring period as entire monitoring period falls into first commitment period of Kyoto Protocol.</li> <li>The start date of the current monitoring period is in line to the end date of the previous monitoring period.</li> </ol>

#### E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

<b>Means of verification</b>	The registered PDD/1/ and applied monitoring methodology/3/ does not prescribe any project emissions to be considered. The onsite visit and project design also did not reveal any potential source to be considered in this regard.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	No project emissions were required to be calculated.

#### E.8.3. Calculation of leakage GHG emissions

<b>Means of verification</b>	The registered PDD and applied monitoring methodology does not prescribe any leakage emissions to be considered. The onsite visit and project design also did not reveal any potential source to be considered in this regard.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	No project emissions were required to be calculated

#### E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

<b>Means of verification</b>	<p>As elaborated above, the entire emission reductions from the project activity were based on baseline emissions. The calculations presented in this regard in the final monitoring report and corresponding ER calculation sheet were found appropriate and complying with the provisions prescribed in the registered monitoring plan of registered PDD and applied methodology.</p> <p>The verification team confirms that an audit trail that contains the evidence and records that validated the stated figures were checked and found acceptable.</p>
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	<p>The verification team confirms that</p> <ol style="list-style-type: none"> <li>The complete data was available and is duly reported;</li> <li>As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.6.2 of this</li> </ol>

	<p>report);</p> <ul style="list-style-type: none"> <li>c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed;</li> <li>d) Appropriate emission factors and other reference values were correctly applied.</li> <li>e) There is no pro-rate approach (para 403(e) of CDM VVS Version 09) was applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.</li> </ul> <p>The total number of ERs achieved during the current monitoring period is 32,006 tCO<sub>2</sub>e.</p>
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#### E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

<b>Means of verification</b>	As verified and evident from the final Monitoring Report /05/ and corresponding ER sheet /07/, the actual emission reductions achieved by the project activity in the current monitoring period are higher than (9.49% higher) the estimated quantity in the registered PDD/1/ for the comparable period. PP has clarified that the higher emission reductions is due to a higher PLF obtained during the monitoring period. the project activity harnesses wind energy and therefore a higher PLF was not in the hands of the PP.
<b>Findings</b>	CL #2 was raised and resolved
<b>Conclusion</b>	The actual emission reductions achieved by the project activity are 9.49% higher than the estimated quantity of ERs in the registered PDD. Increase in the actual ERs is due to high PLF achieved during the current monitoring period. Since the PLF is solely influenced by wind availability and not under control of PP, hence, the verification team accepted it.

#### E.8.6. Remarks on difference from estimated value in registered PDD

<b>Means of verification</b>	As verified and evident from the final Monitoring Report /05/ and corresponding ER sheet /07/, the actual emission reductions achieved by the project activity in the current monitoring period are higher than (9.49% higher) the estimated quantity in the registered PDD/1/ for the comparable period. PP has clarified that the higher emission reductions is due to a higher PLF obtained during the monitoring period. It is to be noted that PLF is completely governed by the availability of wind, which is natural phenomenon and it is beyond the control of PP. Furthermore, the assessment team checked the registered PDD and verified that in the sensitivity analysis, increase in PLF is well within the sensitivity analysis margin of 10% assumed in the financial calculation and does not have any impact on additionality; hence, the assessment team has concluded the increase in emission reduction of the project activity is justified and acceptable.
<b>Findings</b>	CL #2 was raised and resolved
<b>Conclusion</b>	The actual emission reductions achieved by the project activity are 9.49% higher than the estimated quantity of ERs in the registered PDD. Increase in the actual ERs is due to high PLF achieved during the current monitoring period. Since the PLF is solely influenced by wind availability and not under control of PP, hence, the verification team accepted it.

#### E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

<b>Means of verification</b>	The assessment team is able to verify that the emission reductions from the CDM project activity 3142 "Roaring 40's Wind Farms (Khandke) Private Limited " in India during the period 01/01/2012 to 31/12/2012 (including both days) is 32,006 tCO <sub>2</sub> e.
<b>Findings</b>	No finding was raised
<b>Conclusion</b>	Actual GHG emission reductions achieved during period starting from 1 <sup>st</sup> January 2013 onwards was verified as zero tCO <sub>2</sub> e.

**E.9. Assessment of reported sustainable development co-benefits**

<b>Means of verification</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**E.10. Global stakeholder consultation**

<b>Means of verification</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**SECTION F. Internal quality control**

>> An independent technical review team (one or more members) to confirm if the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements reviews a draft verification report that is prepared by verification team. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process additional findings may be identified or the closed out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the Managing Director on behalf of Earthood Services Private Limited.

**SECTION G. Verification opinion**

>> Earthood Services Private Limited (ESPL), contracted by CLP Wind Farms (Khandke) Private Limited, has performed the independent verification of the emission reductions for the CDM project activity 3142 "Roaring 40's Wind Farms (Khandke) Private Limited" in India for the monitoring period 01/01/2012 - 31/12/2012 (including both days) as reported in the Monitoring Report (public) Version 1 dated 05/12/2016. The CLP Wind Farms (Khandke) Private 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.

ESPL commenced the verification based on the baseline and monitoring methodology ACM 0002 Version 10, the monitoring plan contained in the registered PDD Version 06 dated 24/09/2010, Monitoring Report (public) Version 1 dated 05/12/2016.

ESPL'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. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- The project activity was found completely implemented as per the description given in the registered PDD.
- The actual operation conforms to the description in the registered PDD.

**SECTION H. Certification statement**

>> Earthood Services Private Limited (ESPL), contracted by CLP Wind Farms (Khandke) Private Limited, has performed the independent verification of the emission reductions for the CDM project activity 3142 "Roaring 40's Wind Farms (Khandke) Private Limited" in India for the monitoring period 01/01/2012 - 31/12/2012 (including both days) as reported in the Monitoring Report (Final) Version 05 dated 10/03/2018. The CLP Wind Farms (Khandke) Private 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

ESPL commenced the verification based on the baseline and monitoring methodology ACM0002 Version 10, the monitoring plan contained in the PDD Version 06 dated 24/09/2010, Monitoring Report (public) Version 1 dated 05/12/2016 as per the methodology described under Section D of this report.

ESPL'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. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL 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 01/01/2012 - 31/12/2012 are fairly stated in the Monitoring Report (final) Version 05 dated 10/03/2018. The GHG emission reductions were calculated correctly based on the approved baseline and monitoring methodology ACM0002 Version 10 and the monitoring plan contained in the PDD Version 06 dated 24/09/2010.

Earthood Services Private Limited is able to certify that the emission reductions from the CDM project activity 3142 "Roaring 40's Wind Farms (Khandke) Private Limited" in India during the period 01/01/2012 – 31/12/2012 (including both days) amount to 32,006 tCO<sub>2</sub>e.

**Verified and certified emission reductions as per commitment period:**

<b>Commitment period</b>	<b>Amount</b>
Up to 31/12/2012	32,006 tCO <sub>2</sub> e
From 01/01/2013 onwards	Nil

## Appendix 1. Abbreviations

Abbreviations	Full texts
ABT	Availability Based Tariff
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
EB	Executive Board
EF	Emission Factor
EPC	Engineering ,Procurement and Construction
ER	Emission Reductions
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CL	Clarification Request
CLPWFK	CLP Wind Farms (Khandke) Private Limited
DOE	Designated Operational Entity
DNA	Designated National Authority
EIL	Enercon(India) Limited
ESCOM	Electricity Supply Company
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GOI	Government of India
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
MP	Monitoring Plan
MR	Monitoring Report
MSEDCL	Maharashtra State Electricity Distribution Company
MWh	Megawatt hour
PDD	Project Design Document
PPA	Power Purchase Agreement
PP	Project Participant
PRC	Post Registration Changes
PS	Project Standard
RMP	Revised Monitoring Plan
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
UID	Unique Identification number
UNFCCC	United Nations Framework Convention on Climate Change
WTG	Wind Turbine Generator
WEC	Wind Energy Convertor
WWIL	Wind World India Limited



## Appendix 2. Competence of team members and technical reviewers

<b>Name</b>	Ravi Kant Soni		
<b>Country</b>	India		
<b>Education</b>	B. Tech. (Mechanical Engineering) M. Tech. (Energy Management)		
<b>Experience</b>	8 Years +		
<b>Field</b>	Energy and Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	AMS-I.D., AMS-I.C., ACM0002		
<b>Local expert</b>	YES (India)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (TA 1.2)		
<b>Reviewed by</b>	Abhishek Mahawar	<b>Date</b>	01/03/2018
<b>Approved by</b>	Kaviraj Singh	<b>Date</b>	01/03/2018

<b>Name</b>	Shreya Garg		
<b>Country</b>	India		
<b>Education</b>	M.Sc. (Climate Science & Policy), TERI University		
<b>Experience</b>	6 Years +		
<b>Field</b>	Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
<b>Local expert</b>	YES (India)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (TA 1.2, TA 3.1)		
<b>Reviewed by</b>	Abhishek Mahawar	<b>Date</b>	01/03/2018
<b>Approved by</b>	Ashok Gautam	<b>Date</b>	01/03/2018

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	PP	Registered PDD	Version 06 ,Dated 24/09/2010	Other
2	Det Norske Veritas(DNV )	Validation report	Rev.03 ,Dated 11/10/2010	Other
2.1	Lloyd's Register Quality Assurance Limited	Verification report for the period from 14/10/2010 to 31/12/2011	Version 02.3, dated 28/01/2013	Other
3	UNFCCC	Approved Consolidated Methodology ACM0002	Version 10	Other
4	PP	Monitoring Report (publication)	Version 01,dated 05/12/2016	PP
4.1	PP	Monitoring Report	Version 02, dated 10/02/2017	PP
4.2	PP	Monitoring Report	Version 03, dated 10/03/2017	PP
4.3	PP	Monitoring Report	Version 04, dated 26/04/2017	PP
5	PP	Monitoring Report (final)	Version 05, dated 10/03/2018	PP
6	PP	ER Spread sheet (initial version)	Version 01, dated 05/12/2016	PP
7	PP	ER spread sheet (final)	Version 01, dated 05/12/2016	PP
8	UNFCCC	Standard: CDM VVS for PAs	Ver. 01.0	Other
9	UNFCCC	Standard: CDM PS for PAs	Ver. 01.0	Other
10	MSEDCL	<ul style="list-style-type: none"> <li>Monthly JMRs issued by state utility</li> <li>Monthly breakup sheets issued by state utility</li> </ul>	For the period from 01/01/2012 to 31/12/2012	PP
10.1	WWIL	Monthly generation records maintained at site office	For the period from 01/01/2012 to 31/12/2012	PP
11	PP	Monthly invoices raised by the PP to state utility	For the period from 01/01/2012 to 31/12/2012	PP
12	MSEDCL	Calibration certificates of main meters and check meters	-	PP
13	MSEDCL	Commissioning certificates (for all 21 WTGs)	-	PP
14	MSEDCL	Power Purchase Agreement between MSEDCL and CLP Wind Farms (Khandke) Private Limited	-	PP
15	CEA	CO <sub>2</sub> Baseline Database for Indian Power Sector	Version 1.1, dated 21/12/2006	Others
16	UNFCCC	UNFCCC webpage for	<a href="https://cdm.unfccc.int/Projects/DB/DNV-">https://cdm.unfccc.int/Projects/DB/DNV-</a>	Others

		the project activity	<a href="http://CUK1258623990.3/view">CUK1258623990.3/view</a>	
18	Ministry of corporate Affairs, GOI	Name change consent issued by Government of India	dated 01/01/2013	PP
19	CEA	CEA Notification No. 502/70/CEA/DP&D	dated 17/03/2006	Others
20	ESPL	Site visit observation and photographs	Dated 22/11/2016	-
21	MSEDCL	Meter replacement certificate	Dated 29/08/2012	-
22	UNFCCC	Sampling and survey for CDM project activities and programmes of activities'	Version 06	Others

## Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verifications

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

Table 2. CL from this verification

CL ID	01	Section no.	E.5	Date : 25/01/2017
Description of CL				
Version of applied methodology ACM0002 indicated at project webpage is inconsistent with the same mentioned in the registered PDD and MR. Please clarify the inconsistency observed. (Ref: para 373 VVS v.9)				
Project participant response				Date : 10/02/2017

During project registration, version 5 dated 05/09/2009 of the PDD was submitted to UNFCCC for registration. The version of the methodology considered in version 5 of the PDD was version 9. During the registration process, the project came under review in April 2010. During resubmission of the PDD (Version 6 dated 24/09/2010) for registration, the version of the methodology was changed to version 10. The change in the methodology from version 9 to 10, does not impact the project activity. The change in version impacts only those project activities that retrofit or replace renewable energy power generation units, to restore the installed power generation capacity to or above its original level. Since this project activity is a green field activity, the change has no implication on the project.

The version of the methodology in the revised monitoring report has been changed to version 10 to reflect the version appearing in the registered PDD.

**Documentation provided by project participant**

MR version 02, dated 10/02/2016

**DOE assessment**

**Date:** 28/02/2016

Version of methodology mentioned in the monitoring report is consistent with the registered PDD. The assessment team has confirmed that there is no impact on emission reduction calculations due to change in version of the methodology ACM0002 from version 09 to 10.

CL #1 is closed.

<b>CL ID</b>	02	<b>Section No.</b>	E.8	<b>Date :</b> 28/02/2017
<b>Description of CL</b>				
Actual emission reductions achieved during the current monitoring period are higher than the estimated ERs in the registered PDD for same period. Kindly clarify the reason.				
<b>Project participant response</b>				<b>Date :</b> 10/03/2017
Actual emission reductions achieved during the current monitoring period are 9.49% higher than the envisaged value mentioned in the registered PDD for the equivalent period due to higher availability of wind at site. As availability of wind is a natural phenomenon, thus same is beyond the control of CLP.				
Further, during project registration 21.07% PLF has been considered to demonstrate the project additionality. However, during this monitoring period, project has achieved 23.07% of PLF (34,041.13 MWh) which is 9.4% higher than the envisaged PLF value. Furthermore, sensitivity analysis mentioned in registered PDD clearly mentioned that project would be additionality even if PLF increased upto 10%. Thus, increase in generation observed in this monitoring period would not affect the project design.				
<b>Documentation provided by project participant</b>				
MR version 03, dated 10/03/2017				
<b>DOE assessment</b>				<b>Date:</b> 25/03/2017
The actual emission reduction achieved during the current monitoring period are 9.49% greater than the estimated amount of emission reductions at the time of validation, which is due to the high PLF achieved by the project activity during the monitoring period. PLF estimated at the time of validation was 21.07%, however actual PLF achieved during the current monitoring period is verified as 23.07 % (around 9.4% greater than the estimated).				
It is to be noted that PLF is completely governed by the availability of wind, which is natural phenomenon and same is beyond the control of PP. Furthermore, the assessment team checked the registered PDD and verified that in the sensitivity analysis, increase in PLF is well within the sensitivity analysis margin of 10% assumed in the financial calculation and does not have any impact on additionality, hence the assessment team has concluded the increase in emission reduction of the project activity is justified and acceptable.				
CL #2 is closed.				

**Table 3. CAR from this verification**

<b>CAR ID</b>	03	<b>Section no.</b>	E.3	<b>Date :</b> 25/01/2017
<b>Description of CAR</b>				
<ul style="list-style-type: none"> <li>Section A.1 of MR: It is stated that the project contributing towards reduction in the energy demand supply gap in state of Karnataka, however the project is located in Maharashtra. Please clarify the appropriateness of the statement. (Ref: para 373 VVS v.9)</li> <li>During the site visit it is known that name of O&amp;M contractor has been changed, please clarify why the same is not updated in the MR.</li> </ul>				
<b>Project participant response</b>				<b>Date :</b> 10/02/2017

<ul style="list-style-type: none"> <li>Project is located in Maharashtra. Thus, section A.1 of MR has been revised appropriately.</li> <li>Enercon, India and Wind World (India) Limited are same entity. From 01/01/2013 onwards, Enercon, India changed its name and renewed name of the entity is Wind World (India) Limited.</li> </ul>
<b>Documentation provided by project participant</b>
<ul style="list-style-type: none"> <li>Revised monitoring report, version 02, dated 10/02/2017</li> <li>Fresh Certificate of Incorporation Consequent upon change of name issued by Registers of companies, Govt. India</li> </ul>
<b>DOE assessment</b>
<ul style="list-style-type: none"> <li>Location of the project activity is correctly mentioned in section A.1 of the revised MR.</li> <li>Name of entity Enercon(India) Limited is changed as Wind World India Limited from 01/01/2013, this is verified through the fresh Certificate of Incorporation Consequent upon change of name issued by Registers of companies, Govt. India. The PP has updated this information in the relevant sections of the MR appropriately.</li> </ul>
CAR #3 is closed.

<b>CAR ID</b>	04	<b>Section no.</b>	E.6 and E.7	<b>Date : 25/01/2017</b>
<b>Description of CAR</b>				
<ul style="list-style-type: none"> <li>Section C of MR: As per the registered monitoring plan, there is one set of meters (main meter and check meter) installed at 33 Kv side of substation, however only 2 main meters are reported in the MR. Please clarify why check meters details are not reported.</li> <li>Please clarify the reason if there were some meter replacements occurred during the current monitoring period and also submit the meter replacement certificates issued by responsible authority. (Ref: para 383 VVS v.9)</li> </ul>				
<b>Project participant response</b>				<b>Date : 10/02/2017</b>
<ul style="list-style-type: none"> <li>Details of all main and check meters for both the feeders are now incorporated in the revised monitoring report.</li> <li>Meter replacement reports are now attached with this submission.</li> </ul>				
<b>Documentation provided by project participant</b>				
Revised monitoring report, version 02, dated 10/02/2017				
Meter replacement report.				
<b>DOE assessment</b>				<b>Date: 28/02/2017</b>
Details of main and check meters are provided in section C of the revised monitoring report. Letter issued by testing division of state utility, indicates that old meters were replaced with new one; please clarify why the reason for replacement of meters is not mentioned.				
CAR #4 is open				
<b>Project participant response</b>				<b>Date: 10/03/2017</b>
According to the regulation issued by Central Electricity Authority pertaining to meter installation, project developers need to install ABT (Availability Based Tariff) meter instead of TOD (Time of Day) meter. Thus, state utility has replaced the TOD energy meters which were installed during project commissioning. Thus, as a project developer, CLP has to comply with the statutory regulation which is beyond the control of CLP. However, this change in energy meters doesn't have an adverse impact in the applicability of the methodology, additionally or the appropriateness of the baseline scenario.				
<b>Documentation provided by project participant</b>				
MR version 03, dated 10/03/2017				
<b>DOE assessment</b>				<b>Date: 25/03/2017</b>
Existing TOD meters were replaced with new ABT meters to comply with the national standards prevailing in the state. The PP has included meter replacement details in the revised MR appropriately in line with the comment raised.				
CAR #4 is closed.				

<b>CAR ID</b>	05	<b>Section no.</b>	E.5	<b>Date : 25/01/2017</b>
<b>Description of CAR</b>				
Description of the parameters $EG_{f2,y}$ , $EG_{f3,y}$ and $EG_y$ provided in section D.2 of the MR is not consistent with the same outlined under registered PDD. (Ref: para 373 VVS v.9)				
<b>Project participant response</b>				<b>Date: 10/02/2017</b>
Description of the parameters $EG_{f2,y}$ , $EG_{f3,y}$ and $EG_y$ have been revised in line with registered PDD.				
<b>Documentation provided by project participant</b>				
Revised monitoring report, version 02, dated 10/02/2017				

<b>DOE assessment</b>	<b>Date: 28/02/2017</b>
Description of parameters $EG_{f2,y}$ , $EG_{f3,y}$ and $EG_y$ is updated in section D.2, however the meter serial numbers reported under description of measured parameters are not updated. Please clarify the reason. CAR #5 is open	
<b>Project participant response</b>	<b>Date: 10/3/2017</b>
Energy meter numbers are now updated in revised monitoring report.	
<b>Documentation provided by project participant</b>	
Revised MR, version 03, dated 10/03/2017	
<b>DOE assessment</b>	<b>Date: 25/03/2017</b>
Meter serial numbers now updated under the description of monitored parameters, hence accepted. CAR #5 is closed.	

<b>CAR ID</b>	06	<b>Section no.</b>	E.7	<b>Date : 24/04/2017</b>
<b>Description of CAR</b>				
New check meter serial number for feeder-03 does not match with the calibration certificate. Date format used for the duration mentioned in section E of the MR is not consistent.				
<b>Project participant response</b>				<b>Date : 26/04/2017</b>
Meter serial number for new check meter is corrected in the revised MR. Date format is made consistent in section E of the MR.				
<b>Documentation provided by project participant</b>				
Revised monitoring report, version 04, dated 26/04/2017				
<b>DOE assessment</b>				<b>Date: 26/04/2017</b>
Serial number of check meter is corrected and found consistent with calibration certificate. Date format is updated and made consistent in section E of the MR. CAR #6 is closed.				

<b>CAR ID</b>	07	<b>Section no.</b>	E.6	<b>Date : 15/11/2017</b>
<b>Description of CAR</b>				
<ol style="list-style-type: none"> <li>Please clarify why the line diagram of the monitoring system and the information flow as required in the instruction under the section 2.C of the Attachment of the CDM-MR FORM is not included in the MR.</li> <li>As per the monitoring plan, net electricity supplied to the grid (<math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>) is to be calculated using the apportioning procedure as outlined in section B.7.2 of the registered PDD, however in the ER this approach is not followed while calculating the said parameters. PP is requested to justify how the calculation method used in ER sheet for parameters (<math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>) is in line with the registered monitoring plan.</li> </ol>				
<b>Project participant response</b>				<b>Date : 10/03/2018</b>
<ol style="list-style-type: none"> <li>Information flow in this project activity already mentioned in section C of the MR. Further, line diagram of the monitoring system has now been included in the same section of the MR.</li> <li>This project activity involves the installation of 21 wind turbines (800 kW each) providing a total capacity of 16.8 MW. Further, total 21 wind turbines are connected to 2 feeders (viz. feeder no 2 and 3). As the project WEGs are connected to a common feeder (a common pool where CLP and other project developers feed electricity), state utility (Maharashtra State Electricity Distribution Company Limited, "MSEDCL") apportioned the electricity generation data based on a) individual project WEGs controller reading, b) summation of all controller reading of WEGs (belongs to CLP and other developers) connected with the common feeder and c) joint meter reading (based on billing meter) and issues month wise "Energy Break-up Report" which contains electricity export, import and net export by the project WEGs connected to the same feeder. These values (mentioned in "Energy Break-up Report") are the main source to calculate the baseline emission by this project activity and same is in line with section B.7.1 of the PDD. As the controller reading of WEGs belongs to other project developers (which is required to calculate summation of all controller reading of WEGs connected under the common feeder) are confidential information, hence, MSEDCL is not disclosing the same and this is beyond the control of CLP.</li> </ol>				

Export and import data mentioned in “Generation Details” worksheet directly sourced from “Energy Break-up Report” issued by state utility. For a specific month, the net electricity generation by each wind turbine under same feeder have been aggregated and mentioned in “Emission Reduction” worksheet and used for emission reduction calculation. Thus, for CLP, to calculate the net electricity export ( $EG_{f2,JMR,export}$  and  $EG_{f3,JMR,export}$ ) and import ( $EG_{f2,JMR,Import}$  and  $EG_{f3,JMR,Import}$ ) mentioned in Joint Meter Report (JMR) are not required as same have already been used by state utility to issue “Energy Break-up Report”.

As the Energy Break-up Report issued by MSEDCL, a state utility, thus, same is the most authentic document to calculate emission reduction calculation. Further, the cross-checking of the net electricity supplied has been done with the tariff invoices raised by the CLP on the State Electricity Utility. Thus, the procedure adopted in this periodic verification is in line with the approved PDD after Post Registration Changes and actual site practice.

Documentation provided by project participant	
Revised MR, version 05, dated 10/03/2018	
DOE assessment	Date: 30/03/2018
<ol style="list-style-type: none"> <li>1. The PP has included the line diagram of the monitoring system and the information flow in section C of the revised MR, found to be satisfactory, hence accepted.</li> <li>2. During the onsite visit it is observed that WTGs of project activity are connected to 2 separate feeders (each feeder is a common pool where the PP and other project developers feeds electricity). Hence net electricity supplied to the grid by project activity via particular feeder (<math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>) is calculated using apportioning procedure as described Appendix 3 of the registered PDD.</li> </ol> <p>As indicated in the apportioning formula that generation data of other project developers is used to calculate the parameter <math>EG_{f2,y}</math> and <math>EG_{f3,y}</math>, however due to confidentiality reasons, O&amp;M contractor does not disclose the same and therefore beyond the control of PP. Thus, summation of generation data from other WTGs (Non-project WTGs connected to the same feeder) is not available to PP. The apportioning procedure is solely implemented by MSEDCL, is the common practice followed for wind projects in the State of Maharashtra, India.</p> <p>It is clearly stated in the monitoring plan (PDD section B.7.1) that <math>EG_{f2,y}</math> and <math>EG_{f3,y}</math> will be calculated using apportioning procedure implemented by MSEDCL and values of parameter will be directly sourced from energy breakup sheet certified by MSEDCL.</p> <p>The assessment team has verified that values of parameter <math>EG_{f2,y}</math> and <math>EG_{f3,y}</math> are directly sourced from energy breakup sheets which is in line with the requirements of approved monitoring plan. Energy breakup report contains details of power exported/imported to/from the grid and net power exported by each of the wind WTGs connected to the particular feeder as mentioned in the registered PDD.</p> <p>In the ER calculation sheet “Export” and “import” data for each feeder reported in the tab “Generation Details” are the data directly sourced from “Energy Break-up Report” issued by MSEDCL. For a specific month, the net electricity supplied by the WTGs connected to particular feeder have been aggregated and reported in the tab “Emission Reductions”. Thus, the assessment team is able to confirm that monitoring parameters are reported in line with the registered monitoring plan.</p>	
CAR #7 is closed.	

**Table 4. FAR from this verification**

FAR ID	xx	Section No.	Date: DD/MM/YYYY
Description of FAR			
Project participant response			Date: DD/MM/YYYY
Documentation provided by project participant			
DOE assessment			Date: DD/MM/YYYY

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: project activities, verifying and certifying		