



**Monitoring report form**  
**(Version 05.1)**

*Complete this form in accordance with the Attachment "Instructions for filling out the monitoring report form" at the end of this form.*

**MONITORING REPORT**

<b>Title of the project activity</b>	Wind based power generation by Panama Wind Energy Private Limited in Maharashtra, India	
<b>UNFCCC reference number of the project activity</b>	8524 <sup>1</sup>	
<b>Version number of the monitoring report</b>	01	
<b>Completion date of the monitoring report</b>	19/04/2016	
<b>Monitoring period number and duration of this monitoring period</b>	<b>Monitoring Period Number :</b> 02 <b>Duration of Monitoring Period :</b> 02/05/2015 to 01/04/2016	
<b>Project participant(s)</b>	Panama Wind Energy Private Limited	
<b>Host Party</b>	India	
<b>Sectoral scope(s)</b>	Sectoral scope: 01 (Energy Industries (renewable / non-renewable sources))	
<b>Selected methodology(ies)</b>	Selected Methodology: ACM0002 "Consolidated baseline methodology for grid connected electricity generation from renewable sources. (Version 12.3.0)"	
<b>Selected standardized baseline(s)</b>	N/A	
<b>Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD</b>	122,479 tCO <sub>2e</sub>	
<b>Total amount of GHG emission reductions or net GHG removals by sinks achieved in this monitoring period</b>	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 2 May 2015 onwards
	0 tCO <sub>2e</sub>	104,299 tCO <sub>2e</sub>

<sup>1</sup> <http://cdm.unfccc.int/Projects/DB/LRQA%20Ltd1354531234.95/view>

## SECTION A. Description of project activity

### A.1. Purpose and general description of project activity

#### The purpose of project activity:

The purpose of the project activity is to generate power using renewable energy source (wind) and sell the power generated to the state grid. The proposed 100.8 MW wind power project is also known as Project Sky. The project activity uses Wind Turbine Generators (WTGs) manufactured by General Electric (GE). The project activity generates electricity using wind potential and converts it into kinetic energy using Wind turbines, which drives the alternators to generate energy. The generated electricity is exported to the regional grid system which is under the purview of the NEWNE grid of India. The project initially aimed to install 100.8 MW by March 2012, however, till now only 72 MW (45 WTGs in number) is implemented in different phases and are in operation. The project implementation schedule is given as below:

WTG ID	Connecting Feeder	No. of WTGs	Date of commissioning
Location No. - 9,10,11,12,13	Feeder - 1	5	22-Feb-13
Location No. - 8	Feeder - 1	1	22-Apr-13
Location No. – 31	Feeder - 4	1	13-Jun-13
Location No. - 45,47,48	Feeder - 3	3	13-Jun-13
Location No. - 16,20,38,43	Feeder - 2	4	22-Apr-13
Location No. - 4, 49	Feeder - 1	2	1-Jan-14
Location No. – 42	Feeder - 3	1	7-Jul-13
Location No. - 50,51	Feeder - 4	2	13-Feb-14
Location No. - 5,6	Feeder - 3	2	2-Jul-13
Location No. – 7	Feeder - 4	1	2-Jul-13
Location No. - 14,17,26	Feeder - 2	3	10-May-13
Location No. - 41,46	Feeder - 3	2	28-May-13
Location No. - 22,23,34	Feeder - 2	3	28-May-13
Location No. - 18,37,55,63	Feeder - 4	4	28-May-13
Location No. – 40	Feeder - 3	1	13-Feb-14
Location No. - 52,56,62	Feeder - 4	3	1-Jan-14
Location No. – 61	Feeder - 4	1	7-Jul-13
Location No. – 32	Feeder - 3	1	26-Oct-13
Location No. - 15,19,25,27,28	Feeder - 2	5	6-Mar-13

Thus, out of the proposed 63 WTGs only 45 WTGs has been commissioned and further 18 WTGs referring to the project is still under the implementation stage. Thus, CERs which are claimed under the current monitoring period is for the commissioned WTGs i.e. 104,299 tCO<sub>2e</sub>.

#### Brief description of the installed technology and equipment:

The project activity involves WTG supplied by GE. The WTGs are GE XLE 1.6 MW machines. The WTGs implemented in this project have been supplied by GE as complete unit without any technology transfer.

The technical details of the WTG are as follows

<b>Rotor:</b>	
Diameters	82.5 m
Number of Blades	3
Swept area	5346m <sup>2</sup>
Rotor speed range	9-18 rpm
Rotational direction	Clockwise looking downwind
Maximum tip speed	77.2 m/s

Orientation	Upwind
Speed regulation	Pitch control
Aerodynamic brakes	Full feathering
<b>Pitch System:</b>	
Principle	Independent blade pitch control
Actuation	Individual electric drive
<b>Yaw System:</b>	
Yaw rate	0.5 degree/s

**Relevant dates for the project activity:**

Project sky got registered under CDM on 05/12/2012, and the start date of the project activity is 01/03/2011. The crediting period start date is 05/12/2012 and the details for the date of commissioning for the WTGs commissioned are given below:-

WTG ID	Date of commissioning
Location No. - 9,10,11,12,13	22-Feb-13
Location No. - 8	22-Apr-13
Location No. – 31	13-Jun-13
Location No. - 45,47,48	13-Jun-13
Location No. - 16,20,38,43	22-Apr-13
Location No. - 4, 49	1-Jan-14
Location No. – 42	7-Jul-13
Location No. - 50,51	13-Feb-14
Location No. - 5,6	2-Jul-13
Location No. – 7	2-Jul-13
Location No. - 14,17,26	10-May-13
Location No. - 41,46	28-May-13
Location No. - 22,23,34	28-May-13
Location No. - 18,37,55,63	28-May-13
Location No. – 40	13-Feb-14
Location No. - 52,56,62	1-Jan-14
Location No. – 61	7-Jul-13
Location No. – 32	26-Oct-13
Location No. - 15,19,25,27,28	6-Mar-13

**Total emission reductions achieved in this monitoring period:**

The net power generation is 109,951.24 MWh from the implemented project of 72 MW and the emission reduction achieved by the operation of implemented WTGs is 104,299 tCO<sub>2e</sub>

**A.2. Location of project activity**

Sr. No	Location No	Coordinate in Lat/Long		Date of Commissioning
		Latitude	Longitude	
1	Location No 1	N17 17 42.4	E73 46 33.3	Yet to commission
2	Location No 2	N17 17 51.2	E73 46 32.5	
3	Location No 3	N17 17 59.8	E73 46 32.3	
4	Location No 21	N17 18 19.7	E73 47 02.1	
5	Location No 24	N17 18 36.8	E73 46 59.5	
6	Location No 29	N17 19 08.7	E73 47 31.3	

7	Location No 30	N17 19 09.1	E73 47 48.7	
8	Location No 33	N17 19 18.1	E73 47 27.0	
9	Location No 35	N17 18 59.5	E73 47 54.8	
10	Location No 36	N17 19 06.7	E73 48 09.0	
11	Location No 44	N17 19 00.2	E73 48 37.4	
12	Location No 53	N17 18 40.9	E73 48 53.1	
13	Location No 54	N17 18 48.5	E73 48 57.0	
14	Location No 59	N17 18 32.6	E73 49 17.6	
15	Location No 60	N17 18 40.6	E73 49 20.4	
16	Location No 39	N17 19 50.4	E73 48 40.3	
17	Location No 57	N17 19 12.7	E73 49 08.7	
18	Location No 58	N17 19 22.7	E73 49 15.5	
19	Location No 4	N17 18 18.2	E73 47 19.8	01/01/2014
20	Location No 5	N17 19 52.2	E73 48 58.8	02/07/2013
21	Location No 6	N17 19 37.4	E73 48 50.2	02/07/2013
22	Location No 7	N17 18 56.2	E73 49 19.9	02/07/2013
23	Location No 8	N17 18 43.3	E73 46 48.0	22/04/2013
24	Location No 9	N17 18 49.6	E73 46 37.0	22/02/2013
25	Location No 10	N17 18 56.3	E73 46 42.8	22/02/2013
26	Location No 11	N17 19 02.3	E73 46 49.5	22/02/2013
27	Location No 12	N17 19 09.8	E73 46 53.0	22/02/2013
28	Location No 13	N17 19 16.1	E73 46 59.4	22/02/2013
29	Location No 14	N17 19 22.5	E73 47 05.5	10/05/2013
30	Location No 15	N17 19 28.6	E73 47 12.8	06/03/2013
31	Location No 16	N17 19 34.8	E73 47 19.5	22/04/2013
32	Location No 17	N17 19 39.8	E73 47 28.0	10/05/2013
33	Location No 18	N17 19 00.7	E73 49 33.5	28/05/2013
34	Location No 19	N17 19 30.8	E73 47 35.6	06/03/2013
35	Location No 20	N17 19 36.6	E73 47 45.0	22/04/2013
36	Location No 22	N17 18 26.1	E73 47 14.7	28/05/2013
37	Location No 23	N17 18 27.7	E73 47 27.0	28/05/2013
38	Location No 25	N17 18 45.3	E73 47 00.6	06/03/2013
39	Location No 26	N17 18 53.0	E73 47 04.7	10/05/2013
40	Location No 27	N17 18 59.8	E73 47 10.7	06/03/2013
41	Location No 28	N17 19 06.7	E73 47 18.1	06/03/2013
42	Location No 31	N17 18 56.4	E73 50 01.9	13/06/2013
43	Location No 32	N17 18 33.6	E73 48 31.8	26/10/2013
44	Location No 34	N17 18 10.1	E73 47 24.3	28/05/2013
45	Location No 37	N17 18 41.0	E73 48 37.3	28/05/2013
46	Location No 38	N17 19 44.8	E73 47 37.7	22/04/2013
47	Location No 40	N17 19 39.7	E73 48 33.6	13/02/2014
48	Location No 41	N17 19 44.9	E73 48 56.0	28/05/2013
49	Location No 42	N17 19 31.8	E73 49 09.3	07/07/2013
50	Location No 43	N17 18 54.7	E73 47 25.7	22/04/2013
51	Location No 45	N17 19 08.6	E73 48 40.5	13/06/2013
52	Location No 46	N17 19 16.4	E73 48 43.0	28/05/2013
53	Location No 47	N17 19 19.9	E73 48 52.8	13/06/2013
54	Location No 48	N17 19 27.6	E73 48 59.3	13/06/2013
55	Location No 49	N17 18 50.6	E73 47 56.6	01/01/2014
56	Location No 50	N17 18 20.0	E73 48 54.6	13/02/2014
57	Location No 51	N17 18 25.2	E73 48 47.2	13/02/2014

58	Location No 52	N17 18 31.6	E73 48 53.1	01/01/2014
59	Location No 55	N17 18 57.1	E73 49 02.3	28/05/2013
60	Location No 56	N17 19 04.4	E73 49 07.2	01/01/2014
61	Location No 61	N17 18 48.5	E73 49 22.2	07/07/2013
62	Location No 62	N17 18 49.0	E73 49 40.0	01/01/2014
63	Location No 63	N17 18 52.9	E73 49 51.8	28/05/2013

### A.3. Parties and project participant(s)

Party involved (host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate whether the Party involved wishes to be considered as project participant (yes/no)
India	Panama Wind Energy Private Limited	NO

### A.4. Reference of applied methodology and standardized baseline

- **Title:** ACM0002: Consolidated baseline methodology for grid connected electricity generation from renewable sources.

**Reference:** Version 12.3.0, EB 66 (valid from 17<sup>th</sup> September 2010)<sup>2</sup>

The following tools have been used for the project activity under consideration –

- **Tool to calculate emission factor for an electricity systems**  
**Reference:** Version 02.2.1/EB – 63, Annex 19<sup>3</sup>
- **Tool for the demonstration and assessment of additionality**  
**Reference:** Version 06.0.0, EB- 65, Annex 21<sup>4</sup>

### A.5. Crediting period of project activity

Type of crediting period	Fixed
Crediting period from	05/12/2012 to 04/12/2022
Length of the Crediting Period	10 Years 00 months
Monitoring period from	02/05/2015 to 01/04/2016
Length of the Monitoring Period	336 Days

### A.6. Contact information of responsible persons/entities

Organization name	Panama Wind Energy Private Limited
Contact person	Mr Dinesh Jagdale
Title	Director & Chief Operating Officer
Address	1 <sup>st</sup> Floor, Lunkad Towers, Viman Nagar, PIN 411 014, Pune Maharashtra.
Telephone	+91 20 67287405 +91 9822035814
Email	<a href="mailto:djagdale@panama-group.com">djagdale@panama-group.com</a>

<sup>2</sup> <http://cdm.unfccc.int/methodologies/DB/UB3431UT9I5KN2MUL2FGZXZ6CV71LT>

<sup>3</sup> <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v2.2.1.pdf>

<sup>4</sup> <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v6.0.0.pdf>

The entity as indicated in the table above and in Appendix 1 is the project participant for project for this project activity.

Moreover the details of responsible for completing the CDM-MR-FORM as below: -

Name: Rucha Natu

Designation: Manager Operations

Organisation Name: EKI Energy Services Limited

Contact Details

Email Id: [rucha@enkingint.org](mailto:rucha@enkingint.org)

Direct tel. +91 731 428 9086

## SECTION B. Implementation of project activity

### B.1. Description of implemented registered project activity

Project sky, consist of 100.8 MW of the total capacity, which comprising commissioning of 63 WTGs of 1.6 MW each. However out of the 63 no. of WTGs, only 45 WTGs of capacity 1.6 MW each is commissioned as detailed below.

WTG ID	Date of commissioning
Location No. - 9,10,11,12,13	22-Feb-13
Location No. - 8	22-Apr-13
Location No. - 31	13-Jun-13
Location No. - 45,47,48	13-Jun-13
Location No. - 16,20,38,43	22-Apr-13
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Location No. - 22,23,34	28-May-13
Location No. - 18,37,55,63	28-May-13
Location No. - 40	13-Feb-14
Location No. - 52,56,62	1-Jan-14
Location No. - 61	7-Jul-13
Location No. - 32	26-Oct-13
Location No. - 15,19,25,27,28	6-Mar-13

All the 18 WTGs, of 1.6 MW each, which are not yet commission, as per the revised timeline and implementation scheduled defined in the Memorandum of Understanding signed dated 17/07/2015, between the PP and WTG Supplier would completely commission no later than 30<sup>th</sup> September 2016.

Thus by 30<sup>th</sup> of September 2016 project sky is determined to undergo for commissioning up to its full project capacity of 100.8 MW.

Wind Turbine Generators (WTGs) are installed in Maharashtra state. The technology used for the project activity is of GE XLE 1.6 MW machines.

All the commissioned WTGs have run successfully during the reported monitoring period.

No events or situations happened during the reported monitoring period which can alter the applicability of the applied methodology.

### B.2. Post-registration changes

#### B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline

There is no request for deviation applied during this monitoring period.

#### B.2.2. Corrections

Latitude and Longitude details as mentioned for WTGs in the registered PDD are approximations, as the project was under conceptual stage. However, geo-coordinates details later to the commissioning of the WTGs is been précised in the section “**A.2.4. Physical/Geographical location**” of the revised PDD version 2, which is approved by the UNFCCC as on 04/12/2015.

Further in line to the approved PDD, geo-coordinates are updated in the monitoring report for the verification cycle 02/05/2015 to 01/04/2016.

### **B.2.3. Changes to start date of crediting period**

There is no change proposed in the start date of crediting period.

### **B.2.4. Inclusion of a monitoring plan to the registered PDD that was not included at registration**

Not applicable as, registered PDD includes monitoring plan.

### **B.2.5. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline**

No permanent changes from registered monitoring plan, applied methodology or applied standardized baseline, is applicable.

### **B.2.6. Changes to project design of registered project activity**

Not applicable

### **B.2.7. Types of changes specific to afforestation or reforestation project activity**

Not applicable

## **SECTION C. Description of monitoring system**

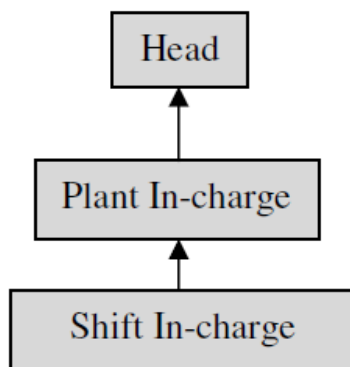
### **Roles & Responsibility Structure:**

The monitoring plan is developed in accordance with the modalities and procedures for CDM project activities and is proposed for grid-connected wind power project being implemented in Maharashtra, India. The monitoring plan, which is implemented by the project proponent describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project proponent. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipment's for this project activity. The team comprises of the following members:-



## Organisational Structure for Monitoring



PP has assigned the responsibility of operation and maintenance of WTGs to GE India Industrial private limited.

**Responsibilities of Head:** Overall functioning and maintenance of the project activity.

**Responsibilities of Plant In-charge:** Responsibility for Maintains the data records, ensures completeness of data, and reliability of data (calibration of equipment's).

**Responsibilities of Shift In-charge:** Responsibility for day to day data collection and maintains day to day log book for monitored data.

### QA/QC procedures:

The energy meters at the feeders are maintained and owned by MSEB. Neither the project proponent nor the site personnel have any control over it. The records are cross-checked with the records of sold electricity to MSEDCL. The meters are calibrated by MSEB at-least once in three years.

### Data Archiving:

Monthly data shall be archived electronically and in paper form and stored for the entire crediting period and two years thereafter.

### Training and maintenance requirements:

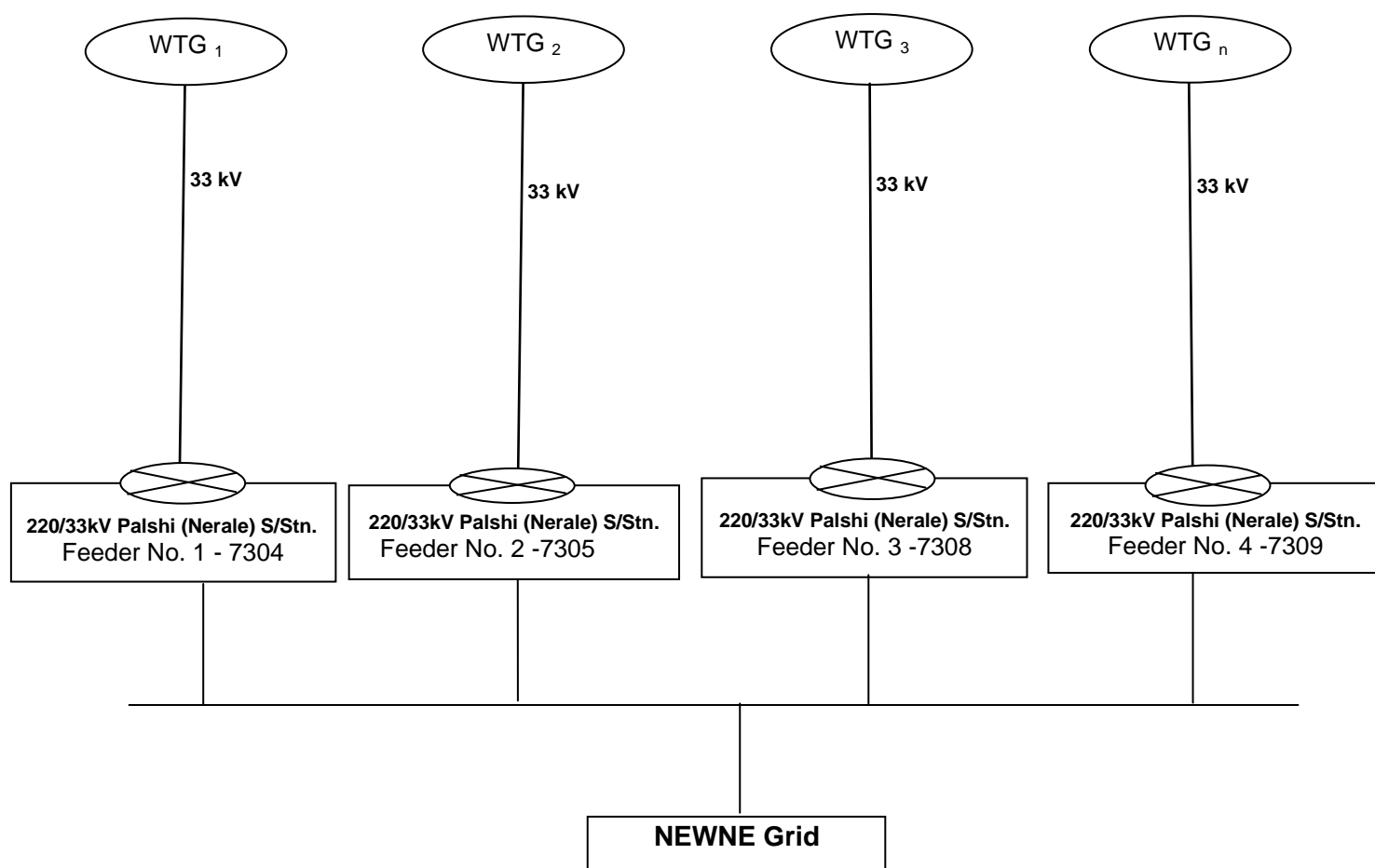
Training on the machine is an essential pre-requisite, to ensure necessary safety of man and machine. Further, in order to maximize the output from the WTGs, it is extremely essential, that the engineers and technicians understand the machines and keep them in good health. In order to ensure, that O&M team is deft at handling technical snags on top of the turbine, the necessity of ensuring that they are capable of climbing the tower with absolute ease and comfort has been established. Each and every site personnel is provided with proper training to meet the requirements of the Operations and maintenance. This ultimately leads to creativity in problem solving.

### Line Diagram to show the monitoring system with appropriate voltage levels is given below

The below mentioned diagram represents the monitoring systems, voltage levels and metering arrangements at the Project site. The power generated by the WTGs implemented under the project are connected to feeder meters located at substation. There are 4 feeders dedicated for WTGs covered under this project activity only. Pair of check meters and main meters is provided at each of the four feeders. The main meter reading at the 4 feeders at sub-station is jointly undertaken by MSEDCL and project proponent representatives.

Power generated by the WTGs is collected at 33 kV and fed to pooling (sub) station near Nerale Village (8 kms away), where it is stepped up to 220 kV (national grid). The pooling station itself is

then connected to existing 2X220 kV single circuit lines (750m away) from Koyana (Pophali) to Karad and Pedambe to Karad.



## SECTION D. Data and parameters

### D.1. Data and parameters fixed ex ante or at renewal of crediting period

<b>Data/parameter:</b>	<b>EF<sub>grid,OM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	Operating margin CO <sub>2</sub> emission factor for NEWNE grid in the year y
Source of data	"Baseline Carbon Dioxide Emission Database Version 6.0" published by the Central Electricity Authority, Ministry of Power, Government of India.
Value(s) applied)	0.9941
Choice of data or measurement methods and procedures	Calculated as per ACM0002 with 3 years vintages (2007-08,2008-09,2009-10) data obtained from "CO2 Baseline Database for Indian Power Sector" version 6 published by the CEA, MoP, GoI, which is based on " tool to calculate emission factor for an electricity system, version 2.2.1"
Purpose of data	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Computed once during PDD finalization (ex-ante).

<b>Data/parameter:</b>	<b>EF<sub>grid,BM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	This is the build margin for the NEWNE grid of India

Source of data	"CO <sub>2</sub> Baseline Database for Indian Power Sector" version 6 published by the CEA, MoP, Gol. Weblink: <a href="http://www.cea.nic.in">www.cea.nic.in</a>
Value(s) applied)	0.8123
Choice of data or measurement methods and procedures	Calculated as per ACM0002 with year 2009-10 data obtained from "CO <sub>2</sub> Baseline Database for Indian Power Sector" version 6 published by the CEA, MoP, Gol. Which is based on "tool to calculate emission factor for an electricity system, version 2.2.1"
Purpose of data	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Computed once during PDD finalization (ex-ante).

<b>Data/parameter:</b>	<b>EF<sub>grid,CM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	This is the combined margin for the NEWNE grid of India
Source of data	CEA database version 6
Value(s) applied)	0.9486
Choice of data or measurement methods and procedures	Combined margin emission factor has been calculated by the Central Electricity Authority in accordance with CDM methodology: ACM0002 and tool to calculate the emission factor for an electricity system.
Purpose of data	Calculation of baseline emission
Additional comments	This is fixed ex-ante and it will remain same throughout during the crediting period.

## D.2. Data and parameters monitored

<b>Data/parameter:</b>	<b>EG<sub>facility,y</sub></b>
Unit	MWh/year
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Measured/calculated/default	Calculated
Source of data	Credit note/ reports generated by MSEDCL
Value(s) of monitored parameter	109,951.24
Monitoring equipment	Electronic tri-vector energy Meters are used for monitoring.
Measuring/reading/recording frequency:	Recording Frequency: Monthly from Energy Meter, Summarized Annually
Calculation method (if applicable):	<p>Accuracy Class: 0.2s Archiving Policy: Paper &amp; Electronic</p> <p>For measuring the energy delivered by the project activity, one set of main meters (part of interconnection facilities) and check meters is provided at each of the 4 feeders by the project proponent and respective electricity distribution company (MSEDCL).</p> <p>Monthly joint meter readings of the main meters and check meters located at 4 feeders (sub-station) is taken by the designated officials of the company and MSEDCL. The summation of all 4 feeder meters reading is be used for billing and emission reduction calculation purpose. Monthly joint meter readings are taken by the designated officials of the two parties on the synchronisation date of each unit as well as once during the monthly cycle.</p>

QA/QC procedures:	<p>The main and check meters is of accuracy class 0.2S and shall be calibrated at least once in three years.</p> <p>The records are cross-checked with the records of sold electricity to MSEDCL.</p>
Purpose of data:	Calculation of baseline emission.
Additional comments:	The readings of each of the main meters located at 4 feeders are used for emission reduction calculation purpose. These 4 feeders are connected to the WTGs covered in the project activity only.

### D.3. Implementation of sampling plan

Not Applicable

## SECTION E. Calculation of emission reductions or GHG removals by sinks

### E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

As per the approved methodology: ACM0002 “Consolidated baseline methodology for grid connected electricity generation from renewable sources. (Version 12.3.0)” baseline emissions for the project activity are calculated by multiplying the net quantity of electricity supplied by this project activity (EGBL, y) with the CO<sub>2</sub> baseline emission factor for the electricity displaced due to the project (EF<sub>CO2, grid, y</sub>) as follows:

$$BE_y = EF_{CO_2, grid, y} * EG_{BL, y}$$

Where,

EF <sub>CO2, grid, y</sub>	=	Baseline emission factor
	=	0.9486 tCO <sub>2</sub> e/MWh
EG <sub>BL, y</sub>	=	Net electricity supplied to the NEWNE regional grid (MWh)
	=	109,951.24 MWh
BE <sub>y</sub>	=	104,299 tCO <sub>2</sub> e (round down values)

### E.2. Calculation of project emissions or actual net GHG removals by sinks

Since the project activity is a renewable energy project which generates electricity using wind power therefore there are no resulting project emissions.

### E.3. Calculation of leakage

No leakage is considered from the project activity as per approved methodology.

**E.4. Summary of calculation of emission reductions or net GHG removals by sinks**

Item	Baseline emissions or baseline net GHG removals by sinks (t CO <sub>2</sub> e)	Project emissions or actual net GHG removals by sinks (t CO <sub>2</sub> e)	Leakage (t CO <sub>2</sub> e)	GHG emission reductions or net GHG removals by sinks (t CO <sub>2</sub> e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
<b>Total</b>	104,299	0	0	0	104,299	104,299

**E.5. Comparison of actual emission reductions or net GHG removals by sinks with estimates in registered PDD**

Item	Values estimated in ex ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO <sub>2</sub> e)	122,479	104,299

**E.6. Remarks on difference from estimated value in registered PDD**

&gt;&gt;

From E.5 above, we can observe that actual emission reduction for the current monitoring is lower than estimated emission reductions by -14.84% as out of the envisaged 63 WTGs, 18 WTGs are yet to commission, this has resulted in less CERs as compared to registered PDD for this monitoring period.

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**Annexure 1:**

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

Details	Calibration details of the_meters at Feeder No. 1							
Type of meter	Main Meter				Check Meter			
Location	220/33kV Palshi (Nerale) S/Stn. Feeder No. 1 - 7304							
WTG Connected	Location no: 4, 8-13, 49							
Accuracy class	0.2 s				0.2 s			
Meter Make	Elster				Elster			
Meter Sr. No.	16595568				13813597			
Calibration Details	Year 2012	Year 2013	Year 2014	Year 2015	Year 2012	Year 2013	Year 2014	Year 2015
Date of calibration	07/04/2012	28/08/2013	12/08/2014	13/06/2015	07/04/2012	28/08/2013	14/02/2014	13/06/2015
Calibration delay <sup>5</sup>	No delay				No delay			

Details	Calibration details of the_meters at Feeder No. 2							
Type of meter	Main Meter				Check Meter			
Location	220/33kV Palshi (Nerale) S/Stn. Feeder No. 2 - 7305							
WTG Connected	Location no: 14-17, 19-20, 22-23, 25-28, 34,38,43							
Accuracy class	0.2 s				0.2 s			
Meter Make	Elster				Elster			
Meter Sr. No.	16595569				13813601			
Calibration Details	Year 2012	Year 2013	Year 2014	Year 2015	Year 2012	Year 2013	Year 2014	Year 2015
Date of calibration	07/04/2012	28/08/2013	12/08/2014	13/06/2015	07/04/2012	28/08/2013	14/02/2014	13/06/2015
Calibration delay	No delay				No delay			

Details	Calibration details of the meters at Feeder No. 3									
Type of meter	Main Meter							Check Meter		
Location	220/33kV Palshi (Nerale) S/Stn. Feeder No. 3 - 7308									

<sup>5</sup> As per the registered PDD meters are calibrated at least once in three years.

<b>WTG Connected</b>	Location no: 5-6, 32, 40-42, 45-48							
<b>Accuracy class</b>	0.2 s				0.2 s			
<b>Meter Make</b>	Elster				Elster			
<b>Meter Sr. No.</b>	13813600				13132610			
<b>Calibration Details</b>	<b>Year 2012</b>	<b>Year 2013</b>	<b>Year 2014</b>	<b>Year 2015</b>	<b>Year 2012</b>	<b>Year 2013</b>	<b>Year 2014</b>	<b>Year 2015</b>
<b>Date of calibration</b>	07/04/2012	23/09/2013	10/09/2014	13/06/2015	07/04/2012	23/09/2013	10/09/2014	13/06/2015
<b>Calibration delay</b>	No delay				No delay			

Details	Calibration details of the_meters at Feeder No. 4							
Type of meter	Main Meter				Check Meter			
Location	220/33kV Palshi (Nerale) S/Stn. Feeder No. 4 - 7309							
WTG Connected	Location no: 7,18,31,37,50-52,55-56,61-63							
Accuracy class	0.2 s				0.2 s			
Meter Make	Elster				Elster			
Meter Sr. No.	13132640				13813602			
Calibration Details	Year 2012	Year 2013	Year 2014	Year 2015	Year 2012	Year 2013	Year 2014	Year 2015
Date of calibration	07/04/2012	23/09/2013	10/09/2014	13/06/2015	07/04/2012	23/09/2013	10/09/2014	13/06/2015
Calibration delay	No delay				No delay			

## Appendix 1. Contact information of project participants and responsible persons/entities

<b>Project participant and/or responsible person/ entity</b>	<input checked="" type="checkbox"/> Project participant <input type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM
<b>Organization name</b>	Panama Wind Energy Private Limited
<b>Street/P.O. Box</b>	Viman Nagar
<b>Building</b>	1st Floor, Lunkad Towers
<b>City</b>	Pune
<b>State/region</b>	Maharashtra
<b>Postcode</b>	411 014
<b>Country</b>	India
<b>Telephone</b>	+91 20 26125060
<b>Fax</b>	+ 91 20 26120580
<b>E-mail</b>	
<b>Website</b>	
<b>Contact person</b>	
<b>Title</b>	Director & Chief Operating Officer
<b>Salutation</b>	Mr.
<b>Last name</b>	Jagdale
<b>Middle name</b>	
<b>First name</b>	Dinesh
<b>Department</b>	
<b>Mobile</b>	+91 9822035814
<b>Direct fax</b>	+ 91 20 26120580
<b>Direct tel.</b>	+91 20 67287405
<b>Personal e-mail</b>	<a href="mailto:djagdale@panama-group.com">djagdale@panama-group.com</a>

<b>Project participant and/or responsible person/ entity</b>	<input type="checkbox"/> Project participant <input checked="" type="checkbox"/> Responsible person/ entity for completing the CDM-MR-FORM
<b>Organization name</b>	EKI Energy Services Limited
<b>Street/P.O. Box</b>	Opp. Gujarati Girls Collage, Maharani Road
<b>Building</b>	325 Block -C , Prem Trade Centre
<b>City</b>	Indore
<b>State/Region</b>	Madhya Pradesh
<b>Postcode</b>	452001
<b>Country</b>	India
<b>Telephone</b>	+91 731 428 9086
<b>Fax</b>	-
<b>E-mail</b>	<a href="mailto:rucha@enkingint.org">rucha@enkingint.org</a>
<b>Website</b>	<a href="http://www.enkingint.org">www.enkingint.org</a>
<b>Contact person</b>	-
<b>Title</b>	Consultant
<b>Salutation</b>	Ms.



<b>Last name</b>	Natu
<b>Middle name</b>	-
<b>First name</b>	Rucha
<b>Department</b>	Operations Management
<b>Mobile</b>	-
<b>Direct fax</b>	NA
<b>Direct tel.</b>	+91 731 428 9086
<b>Personal e-mail</b>	-

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## Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: <ul style="list-style-type: none"> <li>• Include provisions related to delayed submission of a monitoring plan;</li> <li>• Provisions related to the Host Party;</li> <li>• Remove reference to programme of activities;</li> <li>• Overall editorial improvement.</li> </ul>
04.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> <li>• Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0));</li> <li>• Include provisions related to standardized baselines;</li> <li>• Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1;</li> <li>• Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>;</li> <li>• Editorial improvement.</li> </ul>
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	28 May 2010	EB 54, Annex 34. Initial adoption.

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