



**Monitoring report form  
(Version 05.1)**

**MONITORING REPORT**

<b>Title of the project activity</b>	Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan	
<b>UNFCCC reference number of the project activity</b>	5794	
<b>Version number of the monitoring report</b>	1	
<b>Completion date of the monitoring report</b>	16/02/2017	
<b>Monitoring period number and duration of this monitoring period</b>	Monitoring period number: 02 Duration: 01/04/2014 - 30/09/2016 (Including both days)	
<b>Project participant(s)</b>	M/s D. J. Malpani	
<b>Host Party</b>	India	
<b>Sectoral scope(s)</b>	01 Energy Industries (renewable - /non-renewable sources)	
<b>Selected methodology(ies)</b>	AMS-I.D. Version 16	
<b>Selected standardized baseline(s)</b>	Not Applicable	
<b>Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD</b>	34,109 tCO <sub>2</sub> e	
<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 1 January 2013 onwards
	0 tCO <sub>2</sub> e	29,192 tCO <sub>2</sub> e

## SECTION A. Description of project activity

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

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#### Purpose of the project activity and the measures taken for GHG emission reductions or net anthropogenic GHG removals by sinks:

The project activity is grid-connected wind power generation in District- Jaisalmer, State- Rajasthan in India. M/s D. J. Malpani is the owner and developer of the project activity. The total capacity of the project activity is 7.5 MW (5 WTGs × 1.50 MW). The project activity employs Wind Turbine Generators (WTGs) of Class S-82 manufactured by M/s. Suzlon Energy Limited. The project activity is supplying the generated electricity to NEWNE Grid of India.

The purpose of the project activity is generation of clean electricity by utilizing kinetic energy of wind. The project activity is estimated to generate 14,374 MWh of electricity annually; with estimated emission reductions of 13,636 tCO<sub>2e</sub> / annum<sub>1</sub> for the entire crediting period of 7 years.

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

The total capacity of the project activity is 7.5 MW (5 WTGs × 1.50 MW). The project activity employs Wind Turbine Generators (WTGs) of Class S-82 manufactured by M/s. Suzlon Energy Limited.

#### Technical specifications for Class S-82:

<b>1.</b>	<b>Main Data</b>	
	Turbine type	Horizontal axis turbine
	Rated Power	1500 kW
	Rotor Diameter	82 m
	Hub height (including foundation)	Approximately 78.5 m
	Rotational Speed	15.6 to 18.4 rpm
<b>2.</b>	<b>Rotor</b>	
	Number of rotor blades	3
	Rotor Orientation	Upwind
	Material	Epoxy bonded fiber glass
<b>3.</b>	<b>Gear Box</b>	
	Type of Gear Box housing	One planetary stage / Two helical stages
	Ratio	1: 95.09
	Power	1650 kW
	Type of cooling	Forced oil cooling lubrication system
<b>4.</b>	<b>Generator System</b>	
	Generator type	Single speed induction generator with slip rings, variable rotor resistance via Suzlon Flexi slip system
	Rated power	1500 kW
	Speed at rated power	1511 rpm
	Rated voltage	690 V AC (phase to phase)
	Frequency	50 Hz
	Insulation Class	Class H
<b>5.</b>	<b>Tower</b>	
	Tower type	Tubular tower (corrosion proof painting on inner and outer surface) with welded steel plates
	Tower Height	76 m
<b>6.</b>	<b>Operational Parameters</b>	

Cut-in wind speed	4 m/s
Rated wind speed	14 m/s
Cut-off wind speed	20 m/s
Survival wind speed	52.5 m/s

The project technology is indigenous & no technology transfer is involved.

**Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.):**

The project activity has been commissioned & running successfully. The details are given below:

Sr. No.	Loc. No.	Capacity, MW	Village	Commissioning date
1.	AK-278	1.5	Sangana	30/03/2011
2.	AK-283	1.5	Asayach	21/03/2011
3.	AK-262	1.5	Chord	30/03/2011
4.	AK-321	1.5	Chord	30/03/2011
5.	AK-331	1.5	Asayach	21/03/2011

**Total GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period:**

The project activity has exported 30,772 MWh of electricity to the NEWNE Grid during the monitoring period under consideration i.e. 01/04/2014 to 30/09/2016 (including both days). This has helped in mitigating 29,192 tCO<sub>2</sub>e during the same period.

## A.2. Location of project activity

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**Host Party(ies):** India

**Region/ State/ Province, etc.:** Rajasthan

**City/ Town/ Community, etc.:** Taluka: Fatehgarh & Jaisalmer, District: Jaisalmer

**Physical/ Geographical location:**

The project activity is located in District- Jaisalmer, State- Rajasthan in India. The details of project location are given below:

Sr. No.	Location No.	Khasra No.	Village	Taluka	Latitude	Longitude
1.	AK-278	83/P, 76/P	Sangana	Fatehgarh	N 26°47'48.7"	E 71°08'12.6"
2.	AK-283	147/P	Asayach	Jaisalmer	N 26°48'54.9"	E 71°07'04.6"
3.	AK-262	370/P	Chord	Fatehgarh	N 26°45'32.0"	E 71°09'49.3"
4.	AK-321	310/P	Chord	Fatehgarh	N 26°47'36.7"	E 71°10'15.8"
5.	AK-331	94/P	Asayach	Jaisalmer	N 26°49'45.3"	E 71°07'59.6"

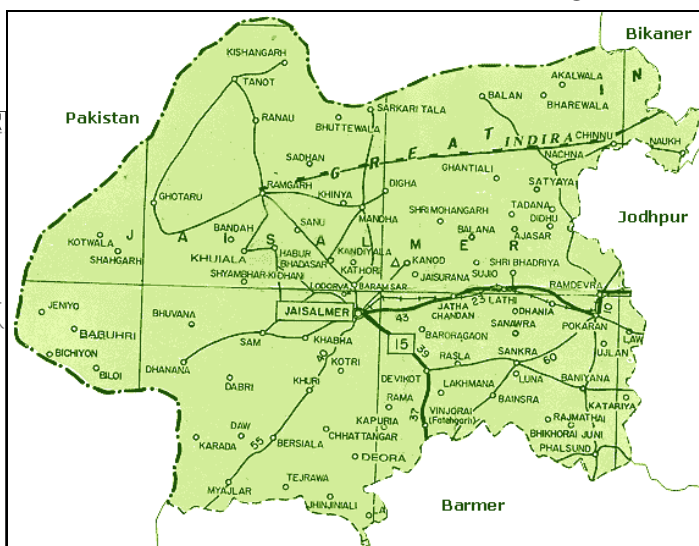
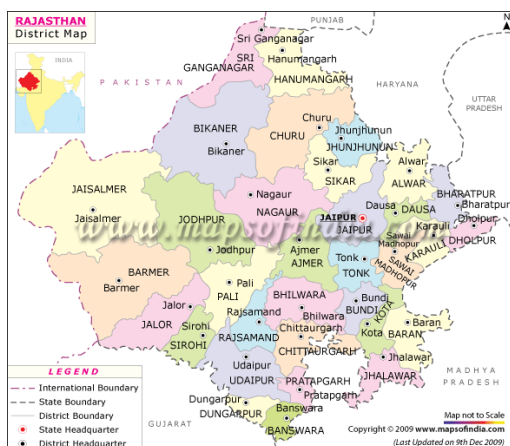


Figure: 01 Project activity on Map

**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 (host)	Private entity: M/s D. J. Malpani	No

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

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**Title of methodology :** Grid connected renewable electricity generation

**Reference :** AMS- I.D.

**Version number :** 16

Additionally the project has referred:

- Tool to calculate the emission factor for an electricity system (Version- 02.2.1 , EB- 63, Annex-19)

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

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**Type of crediting period:** Renewable

**Start date of crediting period:** 01/03/2012

**Length of crediting period:** 07 years

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

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M/s D. J. Malpani

The above entity is project participant as mentioned in Appendix 1 of MR

**SECTION B. Implementation of project activity****B.1. Description of implemented registered project activity**

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**Information on the implementation and actual operation of the project activity:**

The project activity has been commissioned & running successfully. Please refer table under section A.1 (Relevant dates for the project activity).

No phased implementation involved.

**Brief description of the installed technology and equipment;**

The total capacity of the project activity is 7.5 MW (5 WTGs × 1.50 MW). The project activity employs Wind Turbine Generators (WTGs) of Class S-82 manufactured by M/s. Suzlon Energy Limited.

The Technical specifications for Class S-82 can be referred from section A.1 (Brief description of the installed technology and equipment).

The project technology is indigenous & no technology transfer is involved.

**Description of the events or situations that occurred during the monitoring period that may impact the applicability of the applied methodology and, where applicable, the applied standardized baseline**

There are no events or situations that occurred during the monitoring period that impacted the applicability of the applied methodology.

**How the issues resulting from these events or situations have been addressed.**

There are no events or situations that occurred during the monitoring period that impacted the applicability of the applied methodology.

PP confirms that there are no changes to the registered CDM project activity.

**B.2. Post-registration changes****B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline**

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Not Applicable

**B.2.2. Corrections**

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Not Applicable

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

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Not Applicable

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

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Not Applicable

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

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Not Applicable

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

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Not Applicable

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

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Not Applicable

**SECTION C. Description of monitoring system**

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The monitoring of the project activity is given as below:

- The electricity generated by the project activity WTGs is evacuated to the pooling station at 33 kV/220 kV level. The project activity WTGs along with other WTGs, are connected to the feeder-wise metering point/s, where each metering point consists of both main & check meters. These tri vector energy meters are having accuracy class of 0.2s.
- The joint meter reading is taken on monthly basis at these metering point/s by the representatives of PP & State Utility, which records parameters like export, import.
- All these metering points are further connected to the common delivery point at the 220 kV level.
- The common metering point at 220 kV GSS concurrently records total electricity (total export and total import) received from all connected metering points. The common metering point consists of both main & check meters. These energy meters are having accuracy class of 0.2s. The monthly JMR is taken by the representative of PP & State Utility.
- Billing of the energy is being done based on the energy break up available at the metering at 220 kV level.
- The monitoring & measurement of electricity is being done on continuous basis; while recording is done on monthly basis as Joint Meter Reading by the representatives of State Utility & PP.
- The value of monthly export by the project activity along with import and net export is recorded in the monthly Break up of net export units report.
- The values of monthly export & import by the project activity recorded in the monthly Break up of net export units report is calculated based on the apportioning method by the state utility.
- The meters shall be approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The calibration of the meters is carried out by State Utility.
- The calibration of the meters is carried out at least once in three years (as per paragraph 17 (c) of General Guidelines to SSC CDM methodologies, Version 17). In the absence of the meter calibration—Guidelines for Assessing Compliance with the Calibration Frequency Requirements will be applied appropriately to confirm the conservativeness of metering and emission reductions.

- The net electricity supplied to the grid is converted to MWh for calculation of emission reductions.
- Data will be archived in electronic form for two years after the end of crediting period or of the last issuance of CERs for this project activity, whichever occurs later.
- The PP is responsible for data collection & archiving.

**Apportioning Procedure:**

The apportioning of the electricity is the responsibility of the State Utility. The sample apportioning procedure adopted for any given WTG for any given month is given below:

**Generation Ratio at metering point (33 kV/220 kV level GSS):**

The generation ratio is the ratio of electricity generated by installed WTG of PP to the total generation by all the connected WTGs to the applicable metering point.

$$G_{R, \text{ metering point}} = \frac{EG_{\text{ Controller, WTG}}}{EG_{\text{ Controller, metering point}}} \dots\dots\dots (a)$$

Where:

- $G_{R, \text{ metering point}}$  : Generation Ratio at metering point
- $EG_{\text{ Controller, WTG}}$  : Electricity generated by installed WTG of PP connected to the applicable metering point
- $EG_{\text{ Controller, metering point}}$  : Total generation by all the connected WTGs to the applicable metering point

**Calculation of net electricity exported at applicable metering point:**

The Main and Check meters at the applicable metering point measures number of parameters including export and import for all the connected WTGs.

The import, kWh by the WTG at the metering point is calculated in the following manner:

$$EG_{\text{ Import, metering point}} = G_{R, \text{ metering point}} \times EG_{\text{ Total Import, metering point}} \dots\dots\dots (b)$$

Where:

- $EG_{\text{ Import, metering point}}$  : Import, kWh by the WTG at the metering point
- $G_{R, \text{ metering point}}$  : Generation Ratio at metering point
- $EG_{\text{ Total Import, metering point}}$  : Total Import, kWh by all the WTGs at the metering point

The export, kWh by the WTG at the metering point is calculated in the following manner:

$$EG_{\text{ Export, metering point}} = G_{R, \text{ metering point}} \times EG_{\text{ Total Export, metering point}} \dots\dots\dots (c)$$

Where:

- $EG_{\text{ Export, metering point}}$  : Export, kWh by the WTG at the metering point
- $G_{R, \text{ metering point}}$  : Generation Ratio at metering point
- $EG_{\text{ Total Export, metering point}}$  : Total Export, kWh by all the WTGs at the metering point

The net electricity exported by the WTG at the 33 kV/220 kV level metering point is calculated by subtracting equation (b) from (c).

Thus, the net electricity exported at 33 kV/220 kV level metering point

$$= EG_{\text{ Export, metering point}} - EG_{\text{ Import, metering point}} \dots\dots\dots (d)$$

**Transmission Loss Calculation:**

The total transmission loss occurred during export of the electricity between the 33/220 kV level pooling station & 220 kV level common delivery point is calculated as the difference between total

aggregated reading of export for all metering points at 33/220 kV level and the total reading of export for same metering points recorded at the 220 kV level. Similarly transmission loss occurred during import of the electricity is also calculated.

The PP/WTG wise transmission loss during export & import is calculated by multiplying the values of arrived transmission loss for export & import for wind farm with the Generation Ratio at common delivery point.

**Generation Ratio at common delivery point:**

It is the ratio of electricity generated by installed WTG to the total generation by all the connected WTGs/ or connected metering points under common delivery point.

**GR**, Common Delivery Point = **EG** Controller, WTG / **EG** Controller, Common Delivery Point..... (e)

Where:

**GR**, Common Delivery Point : Generation Ratio at common delivery point

**EG** Controller, WTG : Electricity generated by installed WTG

**EG** Controller, Common Delivery Point : Total generation by all the connected WTGs/ or connected metering points under common delivery point

**Calculation of net electricity delivered to the Grid:**

The values of transmission loss during export & import for the given WTG are subtracting from **EG** Export, metering point & **EG** Import, metering point respectively to get the values of export and import respectively for the given month.

The net electricity delivered to the Grid by the given WTG for the given month (net export kWh) is then obtained by subtracting import from export. Thus,

= **Export – Import**..... (f)

These apportioned values viz import, export and net export kWh can be referred from the Monthly Break up of net export units report.

**Operation & Maintenance of the Project:**

Suzlon Infrastructure Services Ltd. is providing O & M services to the project promoter. Following services are provided by Suzlon Infrastructure Services Ltd.:

**Routine Maintenance Services:**

Routine maintenance labour work involves making available suitable manpower for operation and maintenance of the equipment and covers periodic preventive maintenance, cleaning and upkeep of the equipment including –

- Tower torquing
- Blade cleaning
- Nacelle torquing and cleaning
- Transformer oil filtration
- Control panel & LT panel maintenance
- Site and transformer yard maintenance

**Security Services:**

This service includes watch and ward and security of the wind turbines and the equipment.

**Management Services:**

- Data logging for power generation, grid availability, machine availability.
- Preparation and submission of monthly performance report in agreed format.
- Taking monthly meter reading jointly with utility of power generated at promoter's wind turbines and supplied to grid from the meter/s maintained by utility for the purpose and co-ordinate to obtain necessary power credit report/ certificate.

**Technical Services:**

- Visual inspection of the WTGs and all parts thereof.
- Technical assistance including checking of various technical, safety and operational parameters of the equipment, trouble shooting and relevant technical services

**Operational & Management Structure:**

Sr. No.	Monitoring Team	Responsibility
1	Project Head	<ul style="list-style-type: none"> <li>• Overall project management</li> <li>• Project execution</li> <li>• Review of project operations</li> <li>• Review of generation &amp; achieved emission reductions by project</li> <li>• Liaisoning with Consultant/Suzlon</li> </ul>
2	Project Coordinator	<ul style="list-style-type: none"> <li>• Data Archival (electronic)</li> <li>• Site visit for actual project monitoring Storage of data</li> <li>• Coordination with O &amp; M Contractor for day to-day operations</li> <li>• Coordination with Suzlon for regular calibration of meters</li> <li>• Reporting to Project Head</li> <li>• Online project monitoring</li> <li>• Feedback and corrective action wherever necessary</li> </ul>
3	O & M Contractor (Suzlon)	<ul style="list-style-type: none"> <li>• Compliance as per O &amp; M Agreement with the PP</li> </ul>

**Indicative line diagram displaying the GHG collection and management system:**

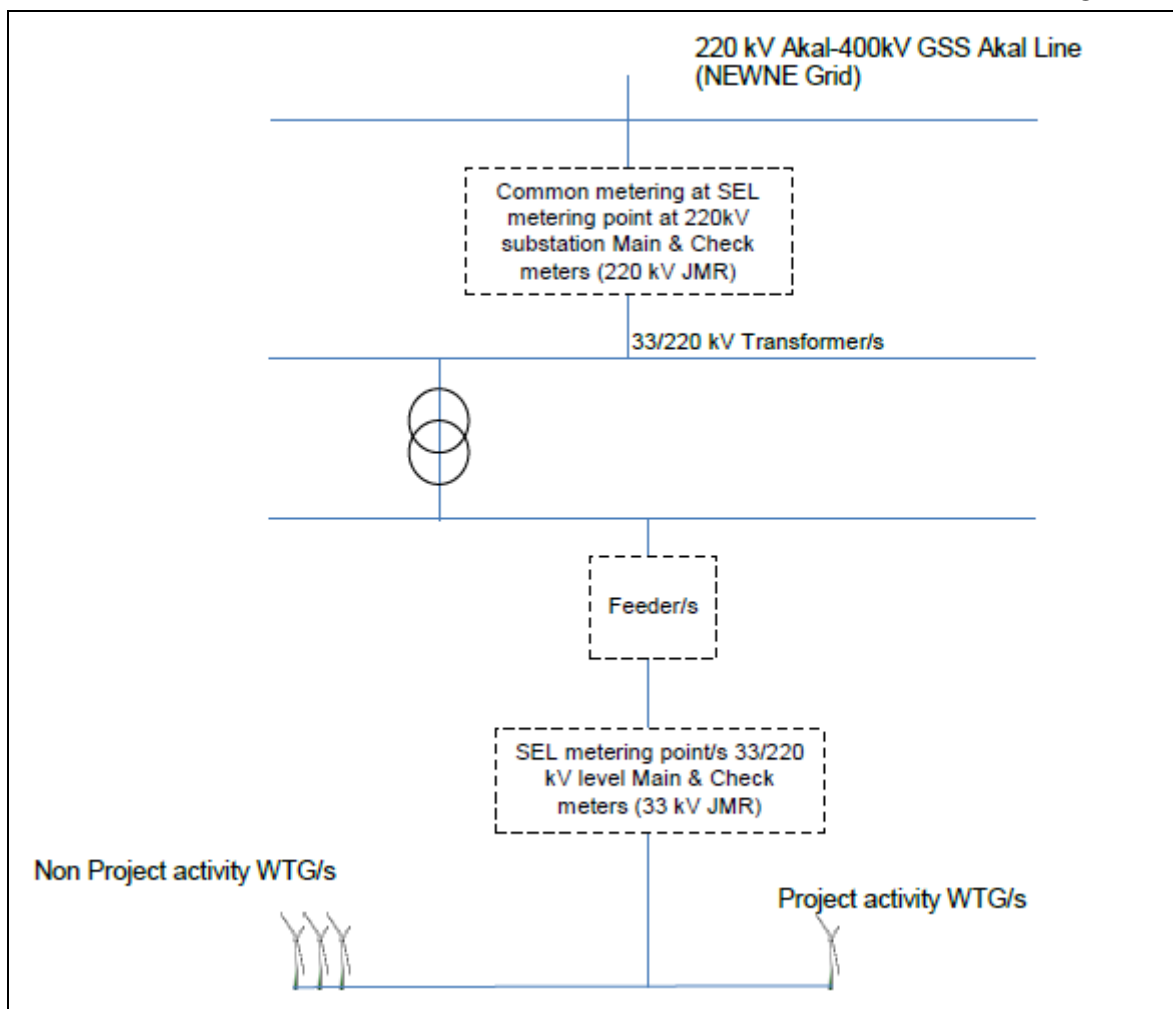


Figure 02: Indicative line diagram with location of metering equipment

## SECTION D. Data and parameters

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

<b>Data/parameter:</b>	$EF_{CO_2,grid,y}$
Unit	tCO <sub>2</sub> / MWh
Description	Combined margin CO <sub>2</sub> emission factor for the project electricity system.
Source of data	CEA CO <sub>2</sub> Baseline Database (Version- 6.0, Date- March 2011). The value is calculated for year 2007-08, 2008-09 & 2009-10.
Value(s) applied)	0.9487
Choice of data or measurement methods and procedures	The value applied is taken from the plant from CEA reviews. The weights used for calculating combined margin emission factor are 0.75 and 0.25 for operating margin and built margin respectively and $EF_y$ is calculated for ex – ante.
Purpose of data	Baseline emission calculations
Additional comments	The calculation is done as ex ante.

<b>Data/parameter:</b>	$EF_{grid, OM, y}$
Unit	tCO <sub>2</sub> / MWh
Description	Operating margin CO <sub>2</sub> emission factor for the project electricity system.
Source of data	CEA CO <sub>2</sub> Baseline Database (Version- 6.0, Date- March 2011). The value is calculated for year 2007-08, 2008-09 & 2009-10.

Value(s) applied)	0.9942
Choice of data or measurement methods and procedures	The value applied is taken from the plant from CEA reviews. The weights used for calculating combined margin emission factor are 0.75 and 0.25 for operating margin and built margin respectively and $EF_y$ is calculated for ex – ante.
Purpose of data	Baseline emission calculations
Additional comments	The calculation is done as ex ante.

<b>Data/parameter:</b>	$EF_{grid, BM, y}$
Unit	tCO <sub>2</sub> / MWh
Description	Build margin CO <sub>2</sub> emission factor for the project electricity system.
Source of data	CEA CO <sub>2</sub> Baseline Database (Version- 6.0, Date- March 2011). The value is calculated for year 2007-08, 2008-09 & 2009-10.
Value(s) applied)	0.8123
Choice of data or measurement methods and procedures	The value applied is taken from the plant from CEA reviews. The weights used for calculating combined margin emission factor are 0.75 and 0.25 for operating margin and built margin respectively and $EF_y$ is calculated for ex – ante.
Purpose of data	Baseline emission calculations
Additional comments	The calculation is done as ex ante.

## D.2. Data and parameters monitored

<b>Data/parameter:</b>	$EG_{BL,y}$
Unit	MWh/y
Description	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y
Measured/calculated/default	Measured and Calculated
Source of data	Monthly Break up of net export units report
Value(s) of monitored parameter	30,772

Monitoring equipment	<p><b>The details of the project activity metering equipment at 33 kV/220 kV level are given below:</b></p> <p><b>WTGs: AK-278 &amp; AK-283</b></p> <p><b>Metering arrangements: SEL – 77</b>  <b>Type:</b> Trivector meters  <b>Accuracy Class:</b> 0.2s  <b>Main meter no.:</b> MSB10307  <b>Check meter no.:</b> MSB10309  <b>Calibration frequency:</b> Once in three years</p> <p><b>WTGs: AK-331</b></p> <p><b>Metering arrangements: SEL – 102</b>  <b>Type:</b> Trivector meters  <b>Accuracy Class:</b> 0.2s  <b>Main meter no.:</b> RJB72835  <b>Check meter no.:</b> RJB72836  <b>Calibration frequency:</b> Once in three years</p> <p><b>WTGs: AK-262 &amp; AK-321</b></p> <p><b>Metering arrangements: SEL – 109</b>  <b>Type:</b> Trivector meters  <b>Accuracy Class:</b> 0.2s  <b>Main meter no.:</b> RJB 73526  <b>Check meter no.:</b> RJB 73527  <b>Calibration frequency:</b> Once in three years</p> <p><b>Metering arrangements: SEL – 142</b>  <b>Type:</b> Trivector meters  <b>Accuracy Class:</b> 0.2s  <b>Main meter no.:</b> RJB 74438  <b>Check meter no.:</b> RJB 74439  <b>Calibration frequency:</b> Once in three years</p>
Measuring/reading/recording frequency:	Monitoring Frequency: Continuous Recording frequency: Monthly
Calculation method (if applicable):	<p><b>Metering at 33 kV/220 kV level:</b></p> <p>The electricity generated by the project activity WTG/s is evacuated to the pooling station at 33 kV/220 kV level. The project activity WTG/s along with other WTGs, are connected to the feeder-wise metering point/s, where each metering point consists of both main &amp; check meters. These tri vector energy meters are having accuracy class of 0.2s.</p> <p>The joint meter reading is taken on monthly basis at these metering point/s by the representatives of PP &amp; State Utility, which records parameters like export, import.</p> <p>The electricity (export and import) for the connected WTG/s is apportioned on monthly basis by the State Utility at 33 kV/220 kV level on the basis of generation ratio at the applicable metering point (ratio of controller reading of connected WTG to the controller reading for all WTGs connected to the applicable metering point) and the electricity (export, import etc) recorded by the energy meters at 33 kV/220 kV GSS on monthly basis. It gives export kWh &amp; import kWh for connected WTG. The net export obtained at 33 kV/220 kV level for any given month for the connected WTG is then obtained by:</p> <p>Net Export = Export kWh – Import kWh</p> <p>All these metering points are further connected to the common delivery point at the 220 kV level.</p> <p><b>Metering at 220 kV level:</b></p>

	<p>The common metering point at 220 kV GSS concurrently records total electricity (total export and total import) receiving from all connected metering points. The common metering point consists of both main &amp; check meters. These energy meters are having accuracy class of 0.2s. The monthly JMR is taken by the representative of PP &amp; State Utility. Billing of the energy is being done based on the energy break up available at the metering at 220 kV level.</p> <p><b>Transmission loss:</b></p> <p>The total transmission loss occurred during export of the electricity between the 33/220 kV level pooling station &amp; 220 kV level common delivery point is calculated as the difference between total aggregated reading of exports for all metering points at 33/220 kV level and the total reading of exports for same metering points recorded at the 220 kV level. Similarly, transmission loss occurred during import of the electricity is also calculated.</p> <p>The PP/WTG wise transmission loss during export &amp; import is calculated by multiplying the values of arrived transmission loss for export &amp; import for wind farm with the Generation Ratio at common delivery point (ratio of electricity generated by installed WTG to the total generation by all the connected WTGs/ or connected metering points under common delivery point).</p> <p>The values of transmission loss during export &amp; import for the given WTG are subtracting from <math>EG_{\text{Export, metering point}}</math> &amp; <math>EG_{\text{Import, metering point}}</math> respectively to get the values of export and import respectively for the given month.</p> <p><b>Net electricity delivered to the Grid:</b></p> <p>The net electricity delivered to the Grid by the given WTG for the given month (net export kWh) is then obtained by subtracting import from export. The values of the net electricity delivered to the Grid are aggregated annually to get <math>EG_{BL,y}</math>.</p> <p>The value of net electricity delivered to the Grid (<math>EG_{BL,y}</math>) by the project activity per annum is converted to MWh before the calculation of emission reductions.</p>
QA/QC procedures:	The meters are approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The calibration of the meters is carried out by State Utility. The calibration of the meters is carried out at least once in three years (as per paragraph 17 (c) of General Guidelines to SSC CDM methodologies, Version 17). In the absence of the meter calibration—Guidelines For Assessing Compliance With The Calibration Frequency Requirements will be applied appropriately to confirm the conservativeness of metering and emission reductions.
Purpose of data:	Calculation of the Baseline emissions
Additional comments:	Data will be archived in electronic form for two years after the end of crediting period or of the last issuance of CERs for this project activity, whichever occurs later.

### D.3. Implementation of sampling plan

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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

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**Calculation of Baseline Emissions ( $BE_y$ ):**

The baseline emissions are the product of electrical energy baseline  $EG_{BL,y}$  expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

Thus:

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

#### **Grid emission factor:**

The grid emission factor for the project activity has been calculated ex ante as 0.9487 tCO<sub>2</sub>/MWh.

$$BE_y = 30,772 \text{ MWh} \times 0.9487 \text{ tCO}_2/\text{MWh} = 29,192 \text{ tCO}_2\text{e}$$

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

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#### **Calculation of Project Emissions (PE<sub>y</sub>):**

As per paragraph 19 of approved methodology AMS- I.D. (Version- 16, EB- 54), for most renewable energy project activities,  $PE_y = 0$ .

As project activity is wind power generation. The project emissions are thus considered as zero tCO<sub>2</sub>. Thus,  $PE_y = 0$ .

### **E.3. Calculation of leakage**

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#### **Calculation of Leakage Emissions (LE<sub>y</sub>):**

As per paragraph 20 of the approved methodology AMS- I.D. (Version- 16, EB- 54), If the energy generating equipment is transferred from another activity, leakage is to be considered.

The leakage emissions are considered as zero tCO<sub>2</sub> as no such equipment shall be transferred from another project activity. Thus,  $LE_y = 0$ .

**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>	29,192	0	0	0	29,192	29,192

**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)	34,109	29,192

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

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The actual emission reductions for the monitoring period under consideration are less by 14.41% than the value estimated in the registered CDM-PDD.

## 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 checked="" type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM
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<b>Salutation</b>	Mr.
<b>Last name</b>	Khinvasara
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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.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report		