

**Annex 4****MONITORING PLAN****A. Measuring and calculation procedure.****1. Measuring.**

The O&M Team will obtain the readings from the meters installed at the EURUS substation monthly, and it will report them in the spreadsheet for measurement control and will store the data discharged from the meters electronically.

Personnel of the O&M Team will be trained continuously. If new personnel are hired, they have to follow up a training program and will be formed in the specific skills required to carry out the Monitoring Plan.

**2. Calculation of electricity generation to be monitored:**

$$EG_y = G$$

$EG_y$ : Electricity generation data measured at output EURUS substation (Please see Figure 1 and Figure 2)

$G$ : Generation of electricity by the project activity.

Measurement and control.

<b>Eurus Wind Farm measurement control</b>			
<b>Year:</b>			
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>Month</b>	<b>Electricity generation data measured at output EURUS substation (GWh)</b>	<b>Electricity generation according with the energy bill (GWh)</b>	<b>Eurus validated electricity generation (GWh)</b>
A	B	C	If B=C measurement validated. (*)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			



<b>Annual total</b>			
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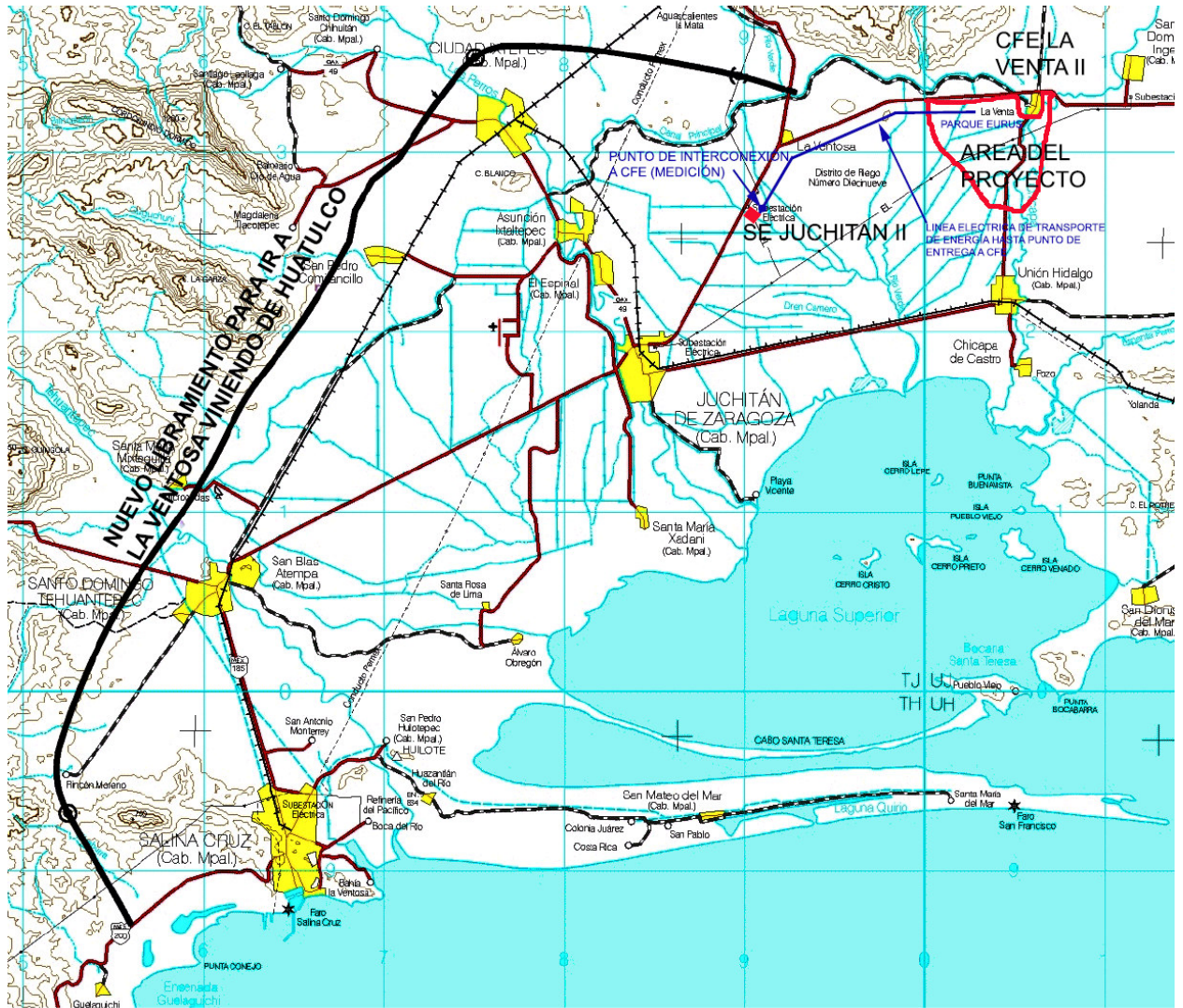
(\* ) If  $B \neq C$  an internal audit will be carried out to verify the data in accordance to the Corrective and Preventive Actions.

The data validated will be registered in this form:

<b>Eurus Wind Farm Generation</b>	
<b>Year:</b>	
<b>Month</b>	<b>Monthly Generation (GWh)</b>
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	
<b>Annual total</b>	

## 2.2. Calculation of emission reductions.

<b>Eurus Wind Farm emission reductions</b>		
<b>Year:</b>		
<b>A</b>	<b>B</b>	<b>C</b>
<b>Annual validated generation (GWh)</b>	<b>Emission factor <i>ex-ante</i> (tCO<sub>2</sub>/GWh)</b>	<b>Emission reductions (tCO<sub>2</sub>)</b>
A	B	A*B
A	<b>609,6</b>	A*609,6



PROYECTO EOLICO DE AUTOABASTECIMIENTO EURUS, SA DE CV  
ESQUEMA DE INTERCONEXION Y PUNTO DE MEDICION  
DE ENERGIA ENTREGADA A CFE

Figure 1

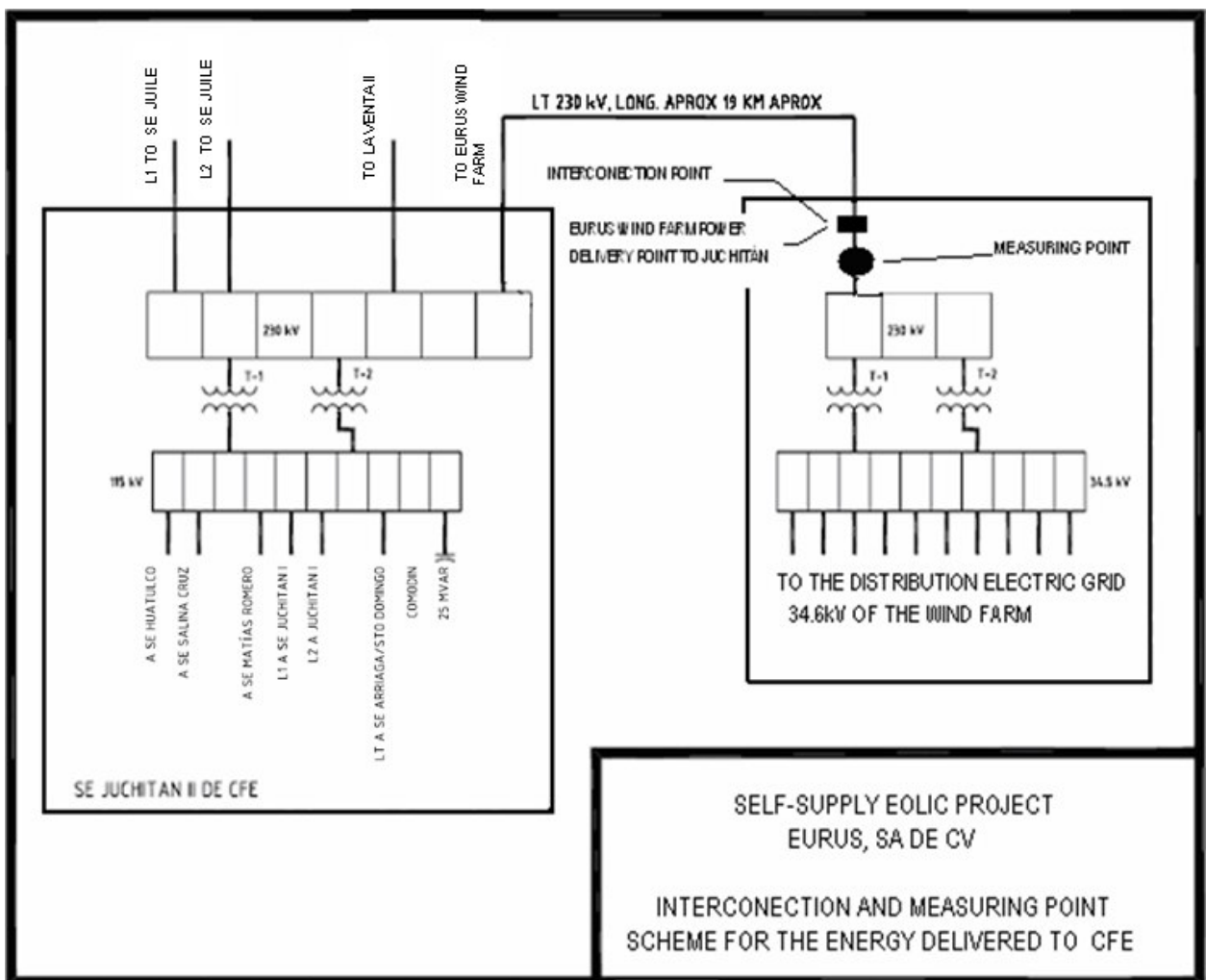


Figure 2

**B. Quality control (QC) procedures and quality assurance procedures (QA).**

1. *Monitoring equipment*

- 1.1. Monitoring equipment shall be set up under the “Mexican Law”.
- 1.2. Monitoring equipment shall be authorized through a certificated formal process.
- 1.3. After set up monitoring equipment shall be calibrated and checked periodically by CFE for accuracy.

2. *Monitoring of amount of electricity.*

- 2.1. The amount of electricity transmitted to the grid shall be measured automatically by the established equipment. The measured variables are simultaneously transferred to Eurús central control system.
- 2.2. The measured amount of electricity shall be collected daily, weekly, and monthly and shall be archived in electronic way.
- 2.3. The collected variables in article 2.2. shall be checked with the energy bill.



3. *Corrective and preventive actions:*

- 3.1. If the two variables compared in article 2.3. are different, the operation condition of electricity meters and other equipments shall be examined. In case measurements are improperly operated by the monitoring equipment, internal investigation and correction procedure shall be followed.
- 3.2. Corrective and preventive actions will be properly documented.

4. Internal audit procedure:

- 4.1. The Manager of the Regional Service Heads is responsible of elaborate and executes the internal audit.
- 4.2. Internal audit has the purpose of determining if the Monitoring Plan is being properly documented as well as identify any deficiency, disagreement o deviation, providing the application of corrective and preventive actions.
- 4.3. Internal audit will be implemented at least once per year.

**C. Monitoring the sustainable development.**

<b>Eurus Wind Farm</b>		
<b>Year:</b>		
<b>Dimension</b>	<b>Criteria</b>	<b>Indicators</b>
<b>Environmental</b>	1. CO <sub>2</sub> emissions reduction by using renewable energy sources.  2. Natural resources conservation	1. GHG Emission reductions (ton CO <sub>2</sub> )  2. The environmental indicators will be provided in accordance to the SEMARNAT Environmental Program (Plan de Vigilancia Ambiental). The data gather to accomplish the Environmental Program by SEMARNAT mandatory will be incorporated within the Monitoring Plan.
<b>Economical</b>	Contribution to the Municipality	Local Taxes (MEX\$)
<b>Social</b>	Employment	- No. Steady (jobs/year) - No. Temporary (jobs/year)

Eurus S.A. de C.V. will elaborate a report every semester during the project activity. These reports will be delivered to the SEMARNAT every semester to carry out the demanded requirements and will be incorporated to the Monitoring Plan.



**Informative example of the periodical reports that will be submitted to SEMARNAT as a requirement of the EIA:**

**This reports may be modify during the project life in order to fulfil all the legal requirements that SEMARNAT could introduce during the project life.**

These periodical reports to SEMARNAT, as well as the possible visits and audits form SEMARNAT will be attached to the Monitoring Plan.

<b>Title</b>	<b>Length</b>	<b>Environmental Impact</b>	<b>Activities</b>	<b>Results</b>
Study on birds and bats	One year previous the project activity and one year after the construction phase.	Potential risk of the birds and bats dead due to collisions with the wind turbines	Birds and bats monitoring in order to determine risks and alternatives.	Diversity and legal status. Distribution. Flight behaviour. Location of nesting and feeding areas.
Noise Study.	Before and during the project activity.	Possible affectation due to the increase of the noise level in the operation phase	Noise level monitoring under the NOM-081-SEMARNAT-1992 criteria  Scattering noise model.	Comparative between noise generated during the operation phase and the maximum allowed in the NOM-081-SEMARNAT-1992.
Soil Conservation.	Preparation and construction phases.  Operation and Maintenance phases.	Possible soil affectation in the wind turbine site.	The construction activities will be carried out in the previously selected areas.  Soil conservation consists in the vegetal conservation during the operation phase.	Archive the adopted measurements verification.
Particles Control	Preparation and construction phases.	Particles generation during the preparation and construction phases.	The soil next to the location of the wind turbines will be water spread.  The raw materials	Archive the adopted measurements verification.



			in trucks will be covered.	
Waste Control	Preparation and construction phases.  Operation and Maintenance phases.	Waste generation during construction and operation phases.	Preventive measurements adopted to reduce the waste generation. Measurements of waste generation, manure and disposal.	Archive the adopted measurements verification.  Analysis of the waste generated data.  Monitoring waste generation, manure and disposal.
Wild fauna Measurements Protection and Conservation	One year previous to the project activity	Possible affectation to the wild fauna during the preparation and construction phases.	Monitoring amphibian, reptile and mammals in project site.	Species inventory in the project site.  Density, abundance, requirements and behaviour patterns.
Compensation Measurement Program	During the project activity.	In order to benefit the vegetal conservation in the project site and nearby areas, compensation measurements will be implemented.	Vegetal conservation program.	Reforestation in protected areas.

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## Appendix 1

**B.7 Application of the monitoring methodology and description of the monitoring plan:****B.7.1 Data and parameters monitored:***(Copy this table for each data and parameter)*

<b>Data / Parameter:</b>	<b>EG<sub>v</sub></b>
Data unit:	MWh
Description:	Electricity supplied to the grid by the project
Source of data to be used:	Wind farm and electricity bill
Value of data applied for the purpose of calculating expected emission reductions in section B.5	983.600 MWh
Description of measurement methods and procedures to be applied:	Electricity supplied by the project activity to the grid. Double check by receipt of sales (do not taking into account the transportation electric losses). Calibrated metering by CFE.
QA/QC procedures to be applied:	This data will be directly used for calculation of emission reductions. The metering equipment will be properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment shall not exceed +0.2% of full-scale rating. To guarantee QA/QC, it will be double checked by receipts of electricity sales.
Any comment:	The data will be archived in electronic way. Archived data kept during the crediting period and two years later.

<b>Data / Parameter:</b>	<b>Employment</b>
Data unit:	Number.
Description:	Number of employees at 31 of December every year.
Source of data to be used:	Eurus S.A. de C.V. Accounting Department
Value of data applied for the purpose of calculating expected emission reductions in section B.5	NA
Description of measurement methods and procedures to be applied:	NA
QA/QC procedures to be applied:	NA
Any comment:	The data will be archived in electronic way. Archived data kept during the crediting period and two years later.





<b>Data / Parameter:</b>	<b>Local Taxes.</b>
Data unit:	MEX\$.
Description:	Total local tax paid associated with the project activity
Source of data to be used:	Eurus S.A. de C.V. Accounting Department
Value of data applied for the purpose of calculating expected emission reductions in section B.5	NA
Description of measurement methods and procedures to be applied:	NA
QA/QC procedures to be applied:	NA
Any comment:	The data will be archived in electronic way. Archived data kept during the crediting period and two years later.

In addition it will be attached to these variables of the monitoring plan, the periodical reports send to the SEMARNAT (Environmental authorities) according to the Environmental Impact study, as well as the periodical reports and audits that the SEMARNAT could carried out. This reports and visit will we record and register and attached to the monitoring plan.

#### **B.7.2 Description of the monitoring plan:**

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The project meets the applicability criteria under the monitoring methodology, ACM0002 Version 06 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”. This methodology is designed for Power plants using wind resources, among others.

The methodology is appropriate for the project activity because:

- There is suitable capacity for the addition of electricity coming from wind resources.
- There is sufficient and clear information given to identify the geographic and system boundaries for the relevant electricity grid in which the project activity is to be developed. Information on the characteristics of the grid is available from the Comisión Federal de Energía (CFE).

For this purpose and in accordance with monitoring methodology, the information that needs to be monitored shall include the electricity generation from the proposed project activity, measured from the control house on site. Electricity losses related to transportation will not be considered since CFE is the owner of the transmission line, therefore they are responsible of those electricity losses.. Total electricity generation energy will be monitored by Eurus S.A. de C.V., at the end of every month. An annual report of total generation for each year will be produced by Eurus S.A. de C.V. Data will be obtained from the power meters located at the EURUS substation.. These meters comply with the Mexican Law. CFE defines the local standards and parameters to be followed in the electricity generation sector.



For the emission reductions calculation, it will be used the following formula:

Annual emission reduction = (project activity’s annual electricity dispatched to the grid) \* (CO<sub>2</sub> emission factor (*Ex-ante*) of the estimated baseline)

- Monitoring the generation output from the project activity (MWh)

In order to monitor the generation output of the wind farm, the measurement systems from the control panel of the wind farm will be used. To check the generation output, the electricity measured will be compared with the electricity bill.

Further details are discussed in Annex 4.

This figure describes the operational and management structure that will monitor emissions reductions generated by the project activity.

