

TECHNICAL AUDIT REPORT

GREENSOLVER
28 Haussmann Boulevard, 75009
PARIS



Location of intervention: Wind farm "
Source of Sèves, 50490 ? Vaudrimesnil.

Assignment completed on 11/12/2024

Names of verifiers: AUVRAY Pierre-SOCOTEC

Name of the escort: Enzo GEBLEUX - EDPR

Case number: 2412H0270000001 Intervention number: H0270241200000000329
Nature of the mission: Technical audit of a wind farm.

1. Characteristics of the wind farm:

Name of the wind farm:	Source of Sèves
Operating company:	EDPR
Geographic coordinates:	? Latitude: 49° 9' 26.3" ? Longitude: -1° 26' 43.6"
Location:	Vaudrimesnil 50490 ? Saint-Sauveur-Villages
Composition of the park:	5 wind turbines & 1 transformer station

Geographical location of the wind farm site:



2. Documents provided:

Documents	References	Dates	Comments
Prevention Plan	Prevention Plan V12	10/12/2024	Studied
Previous periodic general inspection reports (Lift, Hoist, Fire Extinguisher, RESQ, LDV, Elec BT)	Socotec	04/2024	Studied

3. Characteristics of the audited turbines:

Identification:	VDN 2
Builder:	Siemens Gamesa
Model:	SG97 T120
Power (W):	2 MW
Tower height (m):	120 m
Rotor (m):	97 m
Maintainer:	SGRE



Photo representative of an SG97 T120 wind turbine

4. Characteristics of the audited delivery point:

Number of PDL associated with the wind farm site	1
Manufacturer and model of the PDL:	ORMAZABAL
Maintainer:	/

Severity level of states: Normal state - No action required.

Degraded state - Action required, low priority



Critical state - Action required, high priority





Critical state - Action required, high priority, immediate attention

5. Inspection results:

Audited turbine VDN 2

Tower base:

	Description	Condition	Observations	Images
Access	Presence of the ICPE panel at the access entrance.	Normal state	No defects were found during the audit.	
	Condition of the access road.	Normal state	No defects were found during the audit.	
	Condition of the access staircase, preservation, bolting.	Normal state	No defects were found during the audit.	

Access	Visual inspection of foundations, search for cracks and degradation, bolting.	Dilapidated condition	<p>Foam has appeared, making the foundation slippery.</p> <p>EDPR Comment: The control will be carried out during the next maintenance by SGRE</p>	
	Visual inspection of the surrounding area, vegetation, ruts, mud, ?.	Normal state	No defects were found during the audit.	
	Condition of the access door, filter, grille, and door fastening.	Damaged condition	<p>The display on the door is damaged by weather conditions.</p> <p>Comment from EDPR: A control will be carried out during the next site inspection by EDPR</p>	
General condition of the platform	Condition of the platform, deformation, bolting, cleanliness, hatch,...	Normal state	No defects were found during the audit.	
"General internal condition"	Condition of wall preservation, presence of oil, cleanliness.	Normal state	No defects were found during the audit.	

General internal condition	Elevator	Normal state	No defects were found during the audit.	
	State of preservation of HT cells	Normal state	No defects were found during the audit.	
	Condition of the electrical cabinets	Normal state	No defects were found during the audit.	
	Condition and presence of mandatory postings.	Normal state	No defects were found during the audit.	

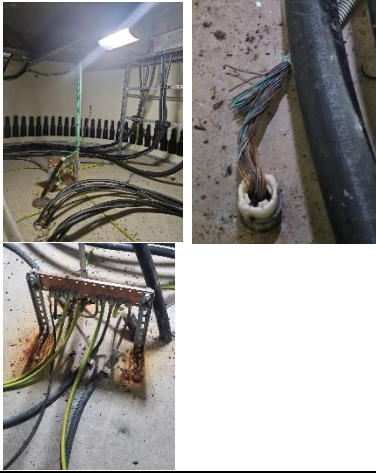

Severity level of states: Normal state - No action required.






Degraded state - Action required, low priority



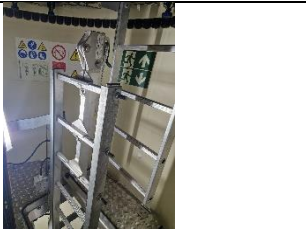

Critical state - Action required, high priority

Tower:

Critical state - Action required, high priority, immediate attention

	Description	Condition	Observations	Images
Foundation	State of cleanliness	Poor condition	<p>Rusted and damaged earthing cable</p> <p>EDPR Comment: A specific inspection will be carried out during the year (QAQC Foundation)</p>	
	Illumination	Normal state	No defects were found during the audit.	
	Access	Normal state	No defects were found during the audit.	
	Tightening	Normal state	No defects were found during the audit.	
Section 1	State of cleanliness	Normal state	No defects were found during the audit.	
	Lighting	Normal state	No defects were found during the audit.	
	Access - door within a carriage gate	Normal state	No defects were found during the audit.	

Section 1	Tightening	Normal state	No defects were found during the audit.	
Section 2	No defects were found during the audit. Lighting	Normal state	No defects were found during the audit.	
	No defects were found during the audit. Access - gate	Normal state		
		Normal state		
	Tightening	Normal state		
Section 3	No defects were found during the audit. Lighting	Normal state	No defects were found during the audit.	
	No defects were found during the audit. Access - gate	Normal state		
		Normal state		
	Tightening	Normal state		

Section 4	State of cleanliness	Damaged condition	Oil deposit around the tower at the level of the bolts.	
	Lighting	Normal state	No defects were found during the audit.	
	Access - door within a carriage gate	Normal state	No defects were found during the audit.	
	Tightening	Normal state	No defects were found during the audit.	
Yaw section	State of cleanliness	Normal state	No defects were found during the audit.	
	Lighting	Normal state	No defects were found during the audit.	
	Access - gate	Normal state	No defects were found during the audit.	
	Tightening	Normal state	No defects were found during the audit.	




Severity level of states: Normal state - No action required.




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Aerial work
platform:

	Description	Condition	Observations	Images
Aerial work platform	Cleanliness/General Condition	Dilapidated condition	Slight grease overflow under the slow tree. EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.	
	No defects were found during the audit. Access	Normal state		
		Normal state	No defects were found during the audit.	
	Display	Normal state	No defects were found during the audit.	

Aerial work platform	Extract fan - ResQ	Damaged condition	<p>The box is slightly damaged, dirty</p> <p>Comment from EDPR: EDPR will look into changing the box.</p>		
	Pulley block	Normal state	No defects were found during the audit.		
	Electrical cabinets	Normal state	No defects were found during the audit.		



Severity level of states: Normal state - No action required.



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Gear Box:

	Description	Condition	Observations	Images
General condition	Verification of cleanliness, presence of hoods and screens, electrical hazards and mechanical risks.	Damaged condition	<p>The entire gearbox is very correct. However, the arrangement and dispersion of electrical cables need to be reconsidered. In this conception, there is a risk of wear on the electrical cables. Installing ducts would avoid this risk and improve optimization of the space.</p> <p>Comment EDPR: Repair will be carried out if certain components are damaged, but the arrangement will not be altered</p>	
	Verification of the condition of the silent blocks of the gearbox mounts.	Normal state	No defects were found during the audit.	

General condition	Inspection of the cooling radiator cleanliness, presence of oil leaks, condition of hoses.	Deteriorated condition	<p>Presence of oil leak.</p> <p>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</p>		
Level	Visual check of the oil level.	Normal state	No defects were found during the audit.		
Blow-valve / filter	Inspection of filter condition (without disassembly).	Normal state	The oil filter housing does not leak.		
Silent block	Inspection of the silent block condition (presence of dust).	Normal state	No defects were found during the audit.		
Tightening	Visual inspection of marking traces for screw tightening.	Normal state	No defects were found during the audit.		

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Generator:

	Description	Condition	Observations	Images
General condition	Verification of cleanliness, presence of hoods and screens, electrical hazards and mechanical risks.	Normal state	No defects were found during the audit.	

Roof:

	Description	Condition	Observations	Images
General condition	Access	Damaged condition	<p>A screw is damaged and the roof is slightly dented at the level of the access hatch</p> <p>Comment EDPR: The necessary repair will be carried out by SGRE during the next maintenance</p>	

General condition	Anchorage points	Normal state	No defects were found during the audit.	
	Weather mast	Damaged condition	<p>Rust stain on the part connecting the 2 meteorological masts.</p> <p>Comment from EDPR: EDPR will check how to manage this issue.</p>	 


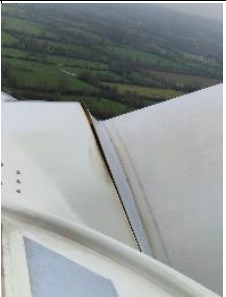



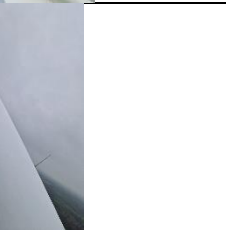
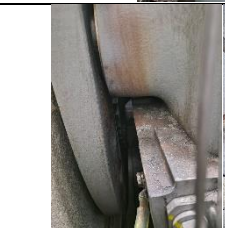

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Rotor:

Critical state - Action required, high priority, immediate attention

	Description	Condition	Observations	Images		
Pale	Pale 1 ? roof view	Dilapidated condition	Open joint, the pale appears worn in places Comment by EDPR: The ICPE inspection has already been carried out without any issues found. SGRE will verify during the next maintenance.			
	Bent 2 ? roof view	Damaged condition	Open joint Comment from EDPR: The ICPE inspection has already been carried out without any issues found. SGRE will verify during the next maintenance.			
	Bent 3 ? roof view	Normal state	No defects were found during the audit.			
Inside	Condition	Damaged condition	Dust traces EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.			

HUB	Access	Damaged condition	<p>A bit of grease present at the inlet</p> <p>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</p>	
	Inside	Damaged condition	<p>Presence of dust and oil that can accelerate the degradation of flexible connectors</p> <p>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</p>	




Severity level of states: Normal state - No action required.



Degraded state - Action required, low priority

Critical state - Action required, high priority





Critical state - Action required, high priority, immediate attention

Audited delivery point Vaudrimesnil :

	Description	Condition	Observations	Images
Access	Surroundings	Normal state	No defects were found during the audit.	
	Condition of PDL structures	Normal state	No defects were found during the audit.	
Access	Display	Degraded condition	The display is damaged by the climatic conditions.	
	Access doors	Normal state	No defects were found during the audit.	

Inside	Condition of wall conservation, cleanliness.	Normal state	No defects were found during the audit.	
	Condition of HT cells (obstacles, interlocking, ?).	Normal state	No defects were found during the audit.	

Inside	Condition of electrical cabinets (exterior/interior).	Normal state	No defects were found during the audit.	
	Condition and presence of mandatory postings.	Normal state	No defects were found during the audit.	
	State and presence of electrical PPE.	Normal state	No defects were found during the audit.	

Inside	State and presence of safety lighting.	Normal state	No defects were found during the audit.	
	State of equipment (PC, lighting, heating, equipment).	Normal state	No defects were found during the audit.	
	Condition of the auxiliary transformer (if present).	Normal state	No defects were found during the audit.	
	Condition and presence of spare fuses.	Normal state	Presence of spare fuses in the PDL.	

6. Conclusion following the results:

Tower base:

Sampling allowed to determine a correct set of the "Tower base" part of the wind turbines at the site.

Actions to be taken after sampling:

- Clean the foundation -

- Conduct a review of the self-adhesive labels displaying important information. -

- Replace the earthing cables in the foundation

Tower:

- Clean the last section

Gear box:

Sampling allowed to determine a fairly correct set of the "Gear box" part of the wind turbines at the site.

Actions to be taken after sampling:

- To find a better layout for the arrangement of the electrical cables of the gear box, it is recommended to install ducts to optimize space. -

- Repair the leak.

Roof:

- Clean and repaint the mast at the level of the corroded part

Delivery point:

Sampling allowed to determine a very correct set of the "PDL" part of the wind farm site.

Actions to be taken following the sampling:

- Create a new display outside the PDL.