

TECHNICAL AUDIT REPORT

GREENSOLVER
28 Boulevard Haussmann, 75009
Paris



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

Mission carried out on 11/12/2024

Names of auditors: 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 substation

~~Geographical location of the wind farm: _____~~



2. Provided documents: _____

Documents	References	Dates	Comments
Prevention Plan	PDP 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
Manufacturer:	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 delivery points associated with the wind farm:	1
Manufacturer and model of the PDL:	ORMAZABAL
Maintainer:	/

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

Degraded state - Action required, low importance



Critical state - Action required, high importance





Critical state - Action required, high priority



5. Inspection results:

Audited turbine VDN 2

Tower base:

	Description	Status	Notes	Pictures
Access	Presence of the ICPE panel at the entrance of the access.	Normal state	No defects were found during the audit.	
	Condition of the access road.	Normal condition	No defects were found during the audit.	
	Condition of the access staircase, conservation, bolting.	Normal condition	No defects were found during the audit.	

Access	Visual inspection of foundations, search for cracks and deterioration, bolting.	Degraded condition	<p>Foam has appeared, making the foundation slippery.</p> <p>EDPR Comment: The inspection will be carried out during the next maintenance by SGRE</p>	
	Visual inspection of the surrounding area, vegetation, ruts, mud, ?.	Normal condition	No defects were found during the audit.	
	Condition of the access door, filter, grille, and locking mechanism.	Deteriorated condition	<p>The display on the door is damaged by weather conditions.</p> <p>EDPR Comment: A check 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 condition	No defects were found during the audit.	
"General interior condition"	Wall preservation condition, presence of oil, cleanliness.	Normal condition	No defects were found during the audit.	

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

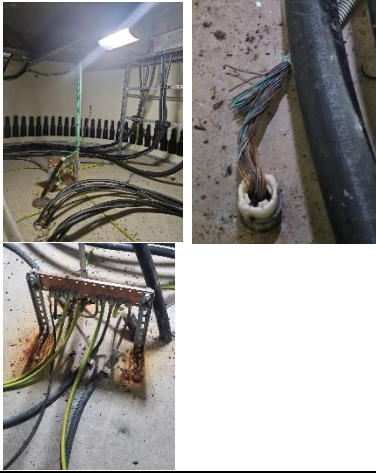

Severity level of states: Normal state - No action required.






Degraded state - Action required, low importance



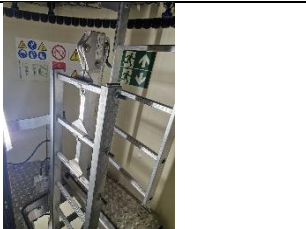

Critical state - Action required, high importance

Critical state - Action required, high priority

Tour:

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

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

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




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




Degraded state - Action required, low importance

Critical state - Action required, high importance

Critical state - Action required, high priority

Nacelle:

	Description	Status	Notes	"Images"
Nacelle	"Condition of cleanliness/ General"	Degraded condition	<p>Slight oil spill under the slow shaft.</p> <p>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</p>	
	No defects were found during the audit. Access	Normal condition		
		Normal state	No defects were found during the audit.	
	Display	Normal state	No defects were found during the audit.	

Gondola	Evacuator - ResQ	Degraded condition	<p>The box is slightly damaged, dirty</p> <p>Comment from EDPR: EDPR will look into replacing the box.</p>		
	Winch	Normal condition	No defects were found during the audit.		
	"Electrical cabinets"	Normal condition	No defects were found during the audit.		



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

Degraded state - Action required, low importance

Critical state - Action required, high importance

Critical state - Action required, high priority

Gear Box:

	Description	Status	Notes	Pictures
General condition	"Check of cleanliness, presence of hoods and screens, electrical and mechanical hazards."	"Deteriorated condition"	<p>The entire gearbox is very correct. However, the arrangement and dispersion of electrical cables need to be reconsidered. In this In this design, there is a risk of wear on the electrical cables. Installing ducts would avoid this risk and improve optimization of the space.</p> <p>EDPR Comment: The 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 gear box feet.	Normal condition	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 condition	No defects were found during the audit.		
Sniffer / filter	Filter status check (without disassembly).	Normal condition	The oil filter housing does not leak.		
Silent block	Inspection of the silent block condition (presence of dust).	Normal condition	No defects were found during the audit.		
Tightening	Visual inspection of marking traces for screw tightening.	Normal condition	No defects were found during the audit.		

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

Degraded state - Action required, low importance


Critical state - Action required, high importance

Critical state - Action required, high priority

Generator:

	Description	Status	Notes	Pictures
General condition	"Check of cleanliness, presence of hoods and screens, electrical and mechanical hazards."	Normal condition	No defects were found during the audit.	

Roof:

	Condition	Status	Notes	Pictures
"General Condition"	Access	Degraded state	<p>A screw is damaged and the roof is slightly dented at the access hatch level</p> <p>EDPR Comment: The necessary repair will be carried out by SGRE during the next maintenance</p>	

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


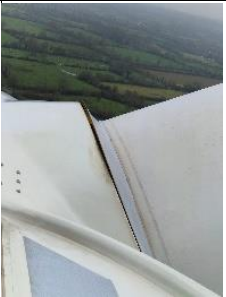
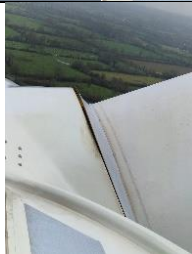



Severity level of states: Normal state - No action required.



Degraded state - Action required, low importance

Critical state - Action required, high importance

Critical state - Action required, high priority

Rotor:

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

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




Critical state - Action required, high importance





Critical state - Action required, high priority

Audited delivery post Vaudrimesnil:

	Description	Status	Notes	Pictures
Access	Surroundings	Normal condition	No defects were found during the audit.	
	State of PDL structures	Normal state	No defects were found during the audit.	
Access	Display	Degraded state	The display is damaged by weather conditions.	
	"Access doors"	Normal condition	No defects were found during the audit.	

Interior	Condition of walls, cleanliness.	Normal condition	No defects were found during the audit.	
	Condition of HT cell conservation (obstacles, interlocking, ?).	Normal condition	No defects were found during the audit.	

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

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

6. Conclusion following the results:

Tower foot:

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

Actions to be taken after sampling:

- Clean the foundation -

- Review the stickers displaying important information. -

- Replace the ground 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 wind farm.

Actions to be taken after sampling:

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

- Fix the leak.

Roof:

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

Delivery post:

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.