

TECHNICAL AUDIT REPORT

GREENSOLVER

28 Boulevard Haussmann
75009 PARIS



Location of intervention: Wind farm «
Source de Sèves », 50490 – Vaudrimesnil.

Mission completed on 11/12/2024

Names of the auditors : AUVRAY Pierre-SOCOTEC

Name of the accompanist : Enzo GEBLEUX - EDPR

Case No .: 2412H0270000001

Intervention No .: H0270241200000000329 **Nature
of the mission :** Technical audit of a wind power plant.

1. Characteristics of the wind farm:

Park naming:	Source of Sap
Operating company:	EDPR
Geographic coordinates:	<ul style="list-style-type: none">• Latitude: 49° 9' 26.3"• Longitude: -1° 26' 43.6"
Location:	Vaudrimesnil 50490 – Saint-Sauveur-Villages
Park constitution:	5 WTG & 1PDL

Geographical location of the wind farm site:



2. Documents provided:

Documents	References	Dates	Comments
Prevention plan	PDP V12	10/12/2024	Studied
Previous periodic general audit reports (Lift, Hoist, Fire extinguisher, RESQ, LDV, Electric 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



Representative photo of a SG97 T120 wind turbine.

4. Characteristics of the audited delivery station:

Number of PDLs associated with the wind site	1
PDL Manufacturer and Model:	ORMAZABAL
Maintainer:	/

Status Severity Level: **Normal Status – No action required.**

Degraded state – Action to be taken, low importance



Serious condition – Action to be taken, high importance






Critical Condition – Action to be taken, immediate importance





5. Inspection results:

VDN 2 audited turbine

Tower foot:

	Description	State	Observations	Images
Access	Presence of the ICPE sign at the entrance to the access.	Normal state	No defects were found during the audit.	
	Status of the access path.	Normal state	No defects were found during of the audit.	
	State of conservation of the access staircase, conservation, bolts.	Normal state	No defects were found during of the audit.	

Access	Visual inspection of foundations, search for cracks and damage, bolts.	Degraded state	Moss has appeared which makes the foundation slippery. <i>EDPR Comment: The check will be carried out during the next maintenance by SGRE</i>	
	Visual inspection of the condition of the surroundings, vegetation, ruts, mud, etc.	Normal state	No defects were found during of the audit.	
	Condition of the access door, filter, grid, lock.	Degraded state	The sign on the door is damaged by weather conditions. <i>EDPR Comment: A check will be made during the next site inspection by EDPR</i>	
General platform condition	State of conservation of the platform, deformation, bolts, cleanliness, hatch, etc.	Normal state	No defects were found during the audit.	
General interior condition	Condition of the walls, presence of oil, cleanliness.	Normal state	No defects were found during of the audit.	 

General interior condition	Elevator	Normal state	No defects were found during of the audit.	
	State of conservation of HT cells	Normal state	No defects were found during of the audit.	
	State of conservation of the cabinets electric	Normal state	No defects were found during of the audit.	
	Status and presence of mandatory displays.	Normal state	No defects were found during of the audit.	

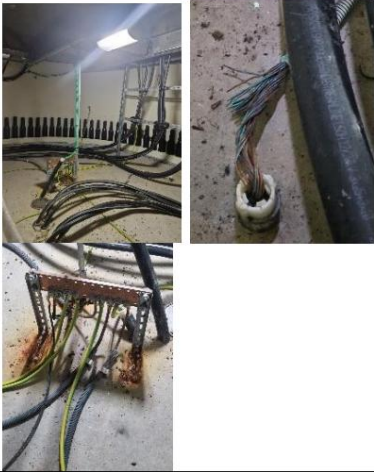

Status Severity Level: Normal Status – No action required.






Degraded state – Action to be taken, low importance

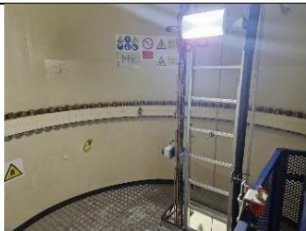



Serious condition – Action to be taken, high importance

Critical Condition – Action to be taken, immediate importance

Round :

	Description	State	Observations	Images
Foundation	State of cleanliness	Serious condition	Rusty and damaged ground cable <i>EDPR Comment: A specific inspection will be carried out during the year (QAQC Foundation)</i>	
	Lighting	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 of 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 - gate	Normal state	No defects were found during of the audit.	

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

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




Status Severity Level: Normal Status – No action required.




Degraded state – Action to be taken, low importance

Serious condition – Action to be taken, high importance

Critical Condition – Action to be taken, immediate importance

Nacelle:

	Description	State	Observations	Images
Nacelle	State of cleanliness/General	Degraded state	Slight grease overflow under the slow shaft. <i>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</i>	
	Lighting	Normal state	No defects were found during the audit.	
	Access	Normal state	No defects were found during the audit.	
	Display	Normal state	No defects were found during the audit.	

Nacelle	Evacuator - ResQ	Degraded state	The box is slightly damaged, dirty <i>EDPR Comment: EDPR will look to change the box.</i>		
	Hoist	Normal state	No defects were found during the audit.		
	Electrical cabinets	Normal state	No defects were found during the audit.		



Status Severity Level: Normal Status – No action required.






Degraded state – Action to be taken, low importance

Serious condition – Action to be taken, high importance

Critical Condition – Action to be taken, immediate importance

Gear Box:

	Description	State	Observations	Images
General condition	Checking cleanliness, presence of covers and screens, electrical risks and mechanical risks.	Degraded state	<p>The entire gearbox is very correct. However, the arrangement and dispersion of the electrical cables need to be reconsidered. In this design, there is a risk of wear of the electrical cables. The installation of cable ducts would avoid this risk and improve space optimization.</p> <p><i>EDPR Comment: Repair will be carried out if some components are damaged, but the arrangement will not be affected</i></p>	
	Checking the condition of the silent blocks of the gear box feet.	Normal state	No defects were found during the audit.	

General condition	Check the cleanliness of the cooling radiator, presence of oil leaks, condition of the hoses.	Degraded state	<p>Presence of oil leak.</p> <p><i>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</i></p>		
Level	Visual level check of oil.	Normal state	No defects were found during the audit.		
Breather / filter	Checking the condition of the filters (without dismantling).	Normal state	The oil filter bowl is not leaking.		
Silent block	Checking the condition of the silent blocks (presence of dust).	Normal state	No defects were found during the audit.		
Tightening	Visual check of marking traces for screw tightening.	Normal state	No defects were found during the audit.		

Status Severity Level: Normal Status – No action required.

Degraded state – Action to be taken, low importance


Serious condition – Action to be taken, high importance



Critical Condition – Action to be taken, immediate importance

Generator:

	Description	State	Observations	Images
General condition	Checking cleanliness, presence of covers and screens, electrical risks and mechanical risks.	Normal state	No defects were found during the audit.	

Roof :

	Description	State	Observations	Images
General condition	Access	Degraded state	<p>A screw is damaged and the roof is slightly dented at the access hatch.</p> <p><i>EDPR Comment: The Repair necessary will be carried out by SGRE during the next maintenance</i></p>	

General condition	Anchor points	Normal state	No defects were found during the audit.	
	Weather mast	Degraded state	<p>Trace of rust on the part connecting the 2 weather masts.</p> <p><i>EDPR Comment: EDPR will check how to handle this issue.</i></p>	


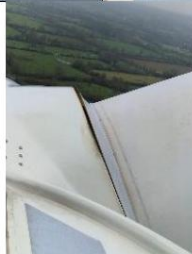


Status Severity Level: Normal Status – No action required.



Degraded state – Action to be taken, low importance

Serious condition – Action to be taken, high importance

Critical Condition – Action to be taken, immediate importance

Rotor:

	Description	State	Observations	Images			
Pale	Pale 1 – roof view	Degraded state	Open joint, the blade appears worn in places <i>EDPR Comment: The ICPE inspection has already been carried out without any problems noted. SGRE will check during the next maintenance.</i>				
	Pale 2 – roof view	Degraded state	Open joint <i>EDPR Comment: The ICPE inspection has already been carried out without any problems noted. SGRE will check during the next maintenance.</i>				
	Pale 3 – roof view	Normal state	No defects were found during the audit.				
Interior	State	Degraded state	Traces of dust <i>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</i>				

HUB	Access	Degraded state	<p>A little grease present at the entrance</p> <p><i>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</i></p>	
	Interior	Degraded state	<p>Presence of dust and oil which can accelerate the degradation of the hoses</p> <p><i>EDPR Comment: The necessary cleaning will be carried out by SGRE during the next maintenance.</i></p>	




Status Severity Level: Normal Status – No action required.




Degraded state – Action to be taken, low importance




Serious condition – Action to be taken, high importance





Critical Condition – Action to be taken, immediate importance

Vaudrimesnil audited delivery station :

	Description	State	Observations	Images
Access	Surroundings	Normal state	No defects were found during the audit.	
	Status 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 state	No defects were found during the audit.	

Interior	State of conservation of the walls, cleanliness.	Normal state	No defects were found during the audit.	
	State of conservation of HT cells (obstacles, interlocking, etc.).	Normal state	No defects were found during the audit.	 

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

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

6. Conclusion following the results:

Tower foot:

The sampling made it possible to determine a correct set of the "Tower foot" part of the turbines of the wind farm site.

Actions to be taken following sampling:

- Clean the foundation
- Perform a review of the stickers showing important information.
- Replace the ground cables in the foundation

Round :

- Clean the last section

Gear box:

The sampling made it possible to determine a fairly correct set of the "Gear box" part of the turbines at the wind farm site.

Actions to be taken following sampling:

- Find a better arrangement for the layout of the gear box electrical cables, it
It is advisable to install cable ducts to optimize space.
- Repair the leak.

Roof :

- Clean and repaint the mast at the corroded part

Delivery post:

The sampling made it possible to determine a very correct set of the "PDL" part of the wind site.

Actions to be taken following sampling:

- Create a new display outside the PDL.