

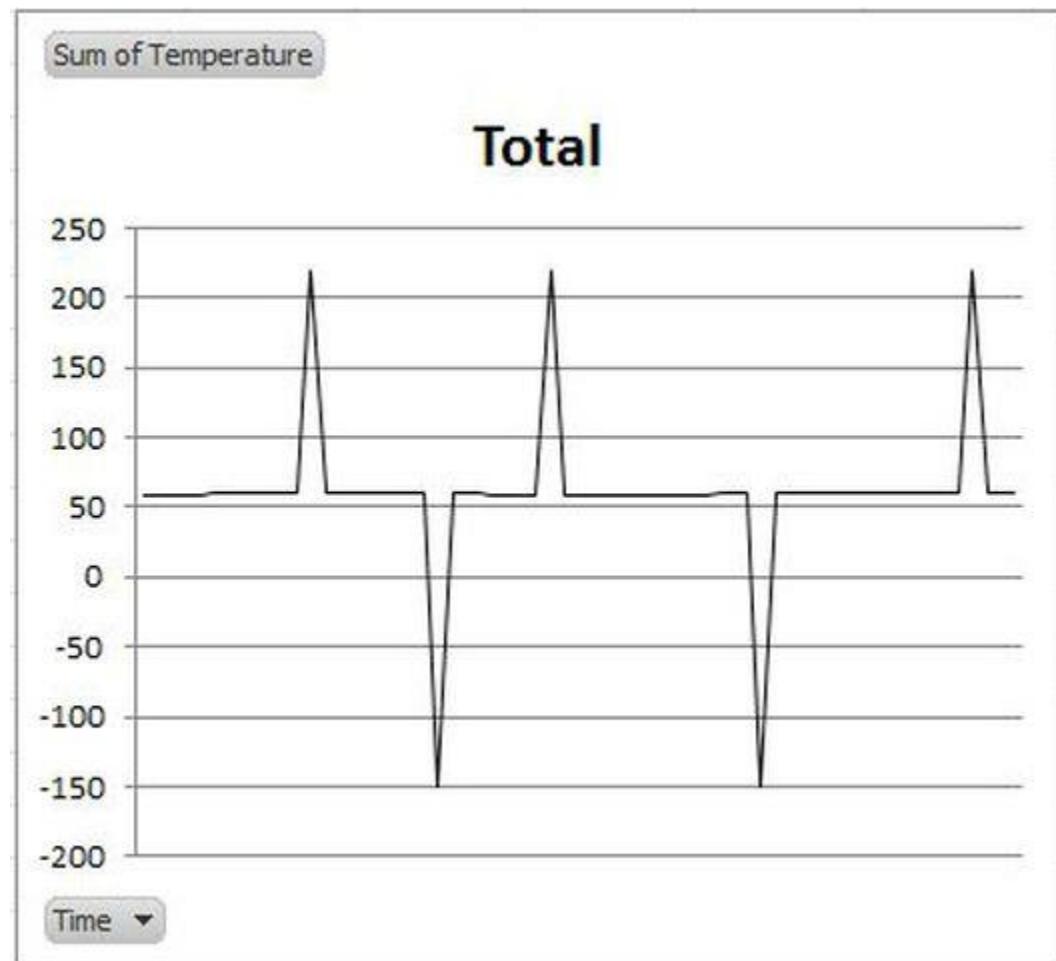
Test/Replace PT100

Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

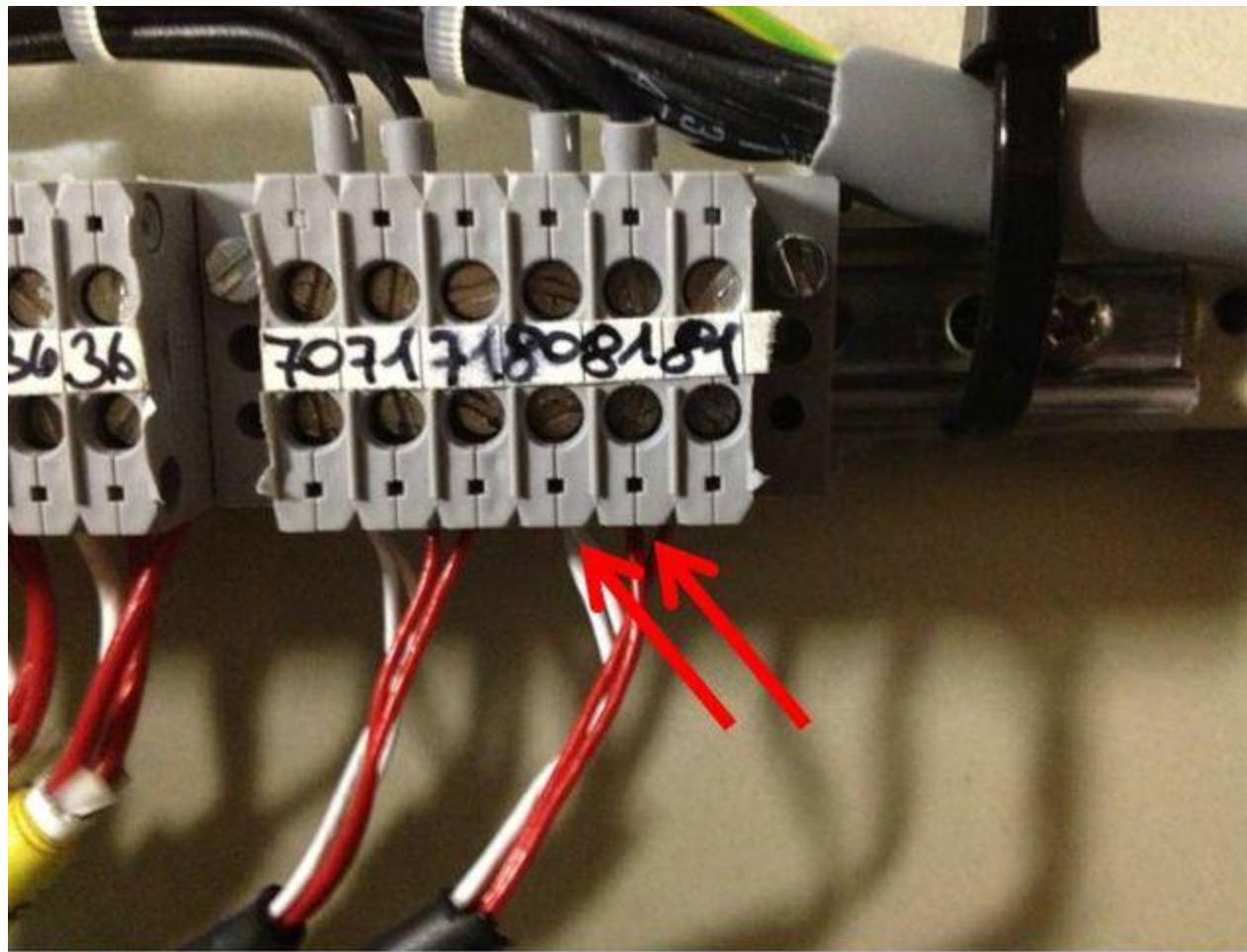
- **Explanation**

In the Collected Data Viewer, check the temperature measurement going back several days if needed. Collect the minimum and maximum temperatures.



In the data, look for momentary spikes in temperature (<30 Seconds- durations longer than 30 seconds will cause alarm 877- Pt100 fault gen. bear. Rear).

Sensors can be tested in the generator junction box. Generator bearing rear sensor wires are at terminals 80 (white), 81 (red) & 81 (#2 red).





Connect a multi-meter to the PT100 wires in the generator junction box.



With the multi-meter set to read Ω , check the resistance value against the resistance/temperature conversion chart.

Compare the temperature to the value in the TAC controller. If the resistance value equates to a temperature out of range, the sensor is faulty and must be replaced.

Relevant spare parts	
Description	Item No.
PT100 GEN.BEARING ELIN	105232

Clean grease from bearing

Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

- **Explanation**

Using the generator bearing cleanout tool (Elin A-E and Winergy models) remove the grease catch container from the end of the generator.



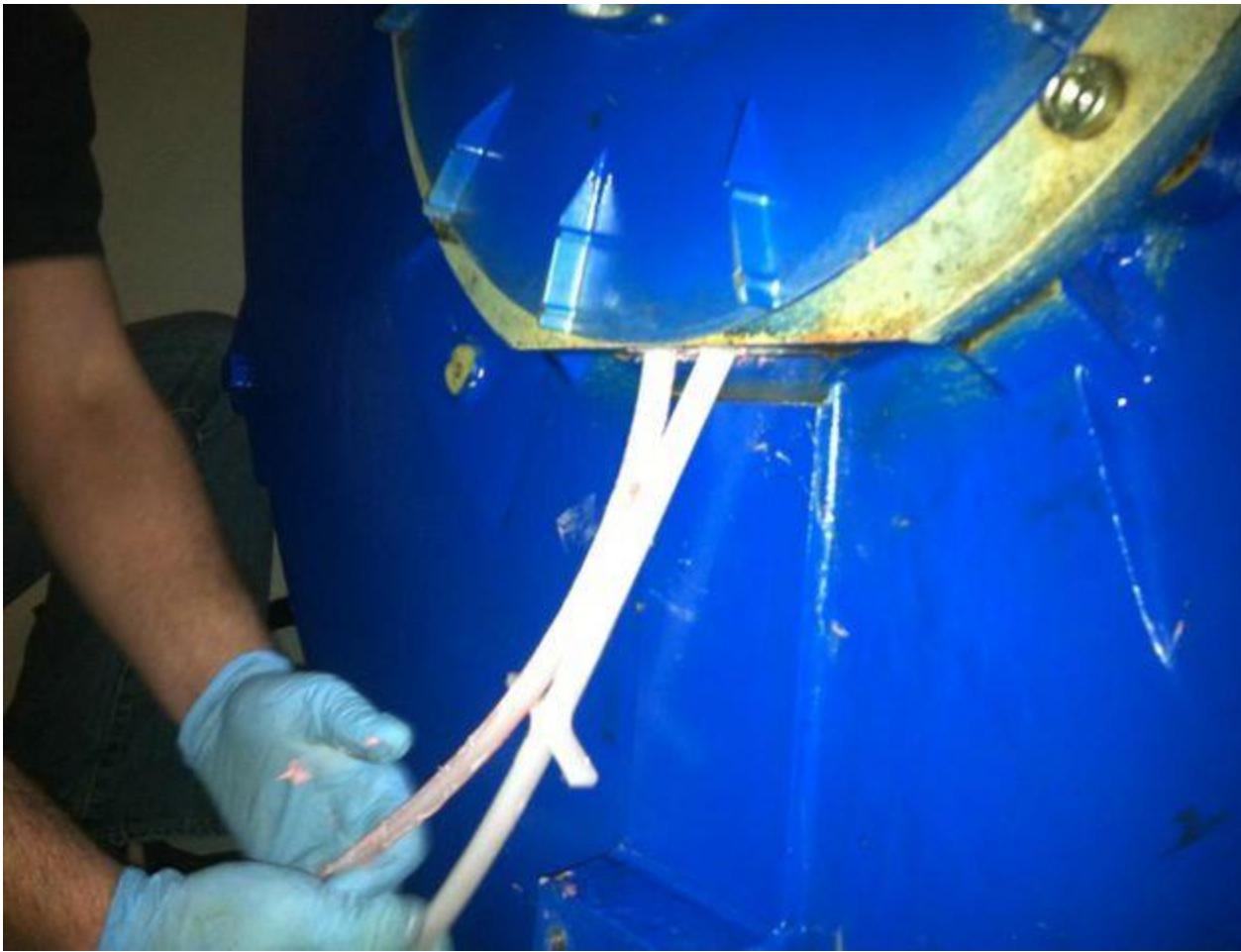
Run the end of the bearing clean out tool up through the grease drain opening.



Use an O-Ring tool to catch the end of the cleanout tool.



Pull the tool completely around the shaft several times until little or no residual grease comes out with the tool.



Performing this task will not remove grease from the bearing, but will remove grease from the void that has already been used in the bearings. Given that no grease will be removed from the bearings, there is no need to replenish the grease.

NOTE: The generator cap cleaner should be white plastic. If a black rubber tool arrives, the tools department should be notified of the error. The black rubber tool will work for cleaning out the bearings but not as well as the white plastic tool.

Relevant Tools	
Tool No	Description
VT208363	GENERATOR CAP CLEANER

Inspect generator shaft/Generator Bearing

Does this solve the problem?

- 1] Yes
- 2] No
- 3] I don't know

- **Explanation**

Generally, a bearing that is rotating on the shaft (and a failed bearing) can be heard down tower when the turbine is operating.

If it is suspected that the bearing is rotating or has failed, allow the turbine to freewheel while listening closely to the generator.

If abnormal noise can be heard from the bearings, remove the bearing covers and inspect 1. The bearing and 2. The inner bearing race on the shaft for signs of rotation.

Damaged Bearing:



If the bearing is found to be damaged, it must be replaced. Select the correct bearing based on the generator type from document 0003-0086: - Generator Bearing Spare part list V82 (NM82, NM72) Generator.

Replace the bearing in accordance with document:0000-9630 - Elin Generator Bearing Replacement - NM64C, 1500, NM72/NM72c/NM82, 2000, V82-1.65MW

Relevant documentation	
Description	DMS No.
Generator Bearing Spare part list V82	0003-0086
Elin Generator Bearing Replacement	0000-9630

When the cover is removed and the bearing is exposed, a feeler gauge can be placed between the shaft and inner race to determine if spinning has caused wear on the shaft.

Using a feeler gauge to check for a gap between the rotor shaft and inner bearing race.





There should be zero clearance between the shaft and the bearing inner race. If there is any measurable gap between the inner race and the shaft, the bearing is spinning and the generator must be repaired (In accordance with the latest CIM 2020 solution) or replaced. If the bearing is found to be spinning on the shaft, complete a CIR for CIM 2020 and consult Engineering on how to proceed.

CIM Case	Task list
2020	114480
1291	10380

Change the faulty TOI-2 Tower, Water pump motor and Contactor Does this solve the problem?

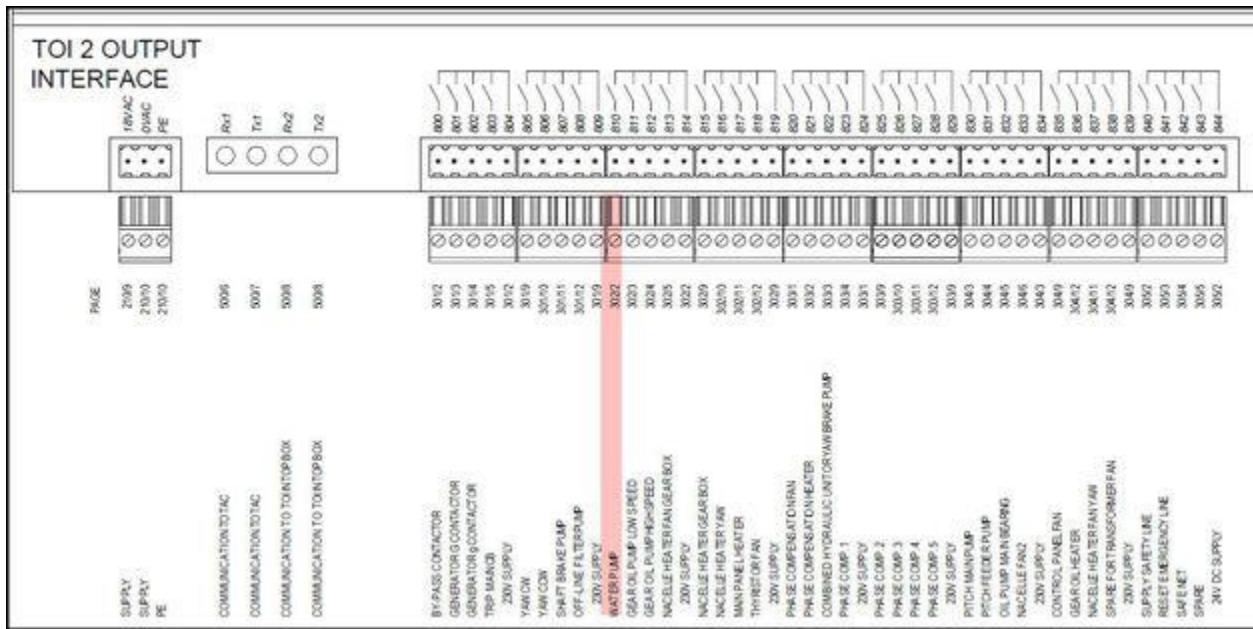
- 1] Yes
- 2] No
- 3] I don't know

- **Explanation**

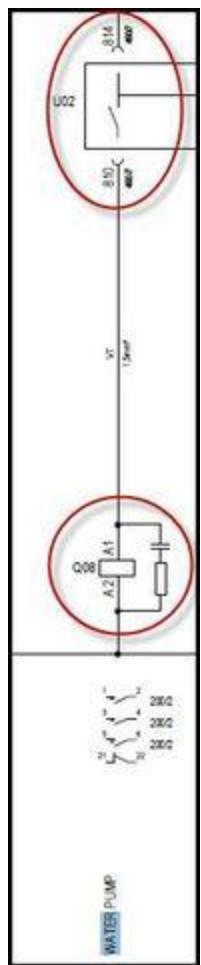
Check the bearing temperature at controller, if the temperature for Gen bearing and Gen windings equal and raised gradually, Test the motor operation through the controller test mode function, If the motor not run check .

AT2 Cabinet Check the TOI-2 Tower out put 810 Water pump, if there is no out put while testing change the TOI-2

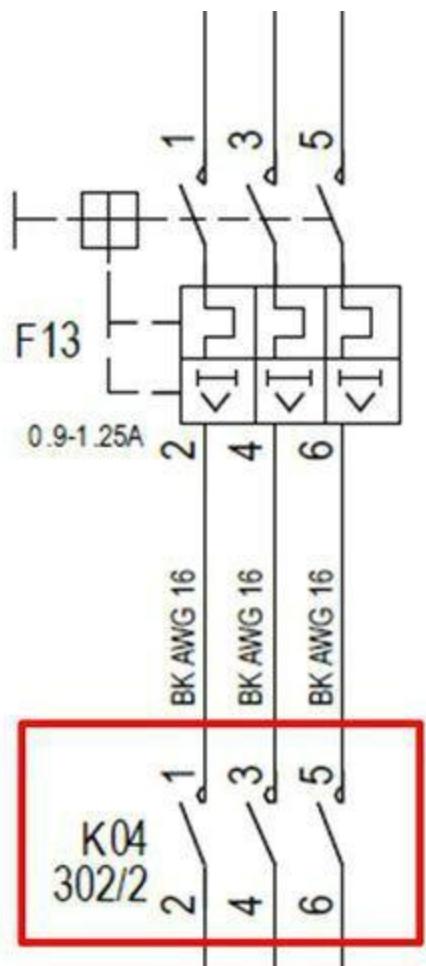
tower Check the motor contactor Q8/K04 coil supply and terminal out puts and if there is not output change the contactor.



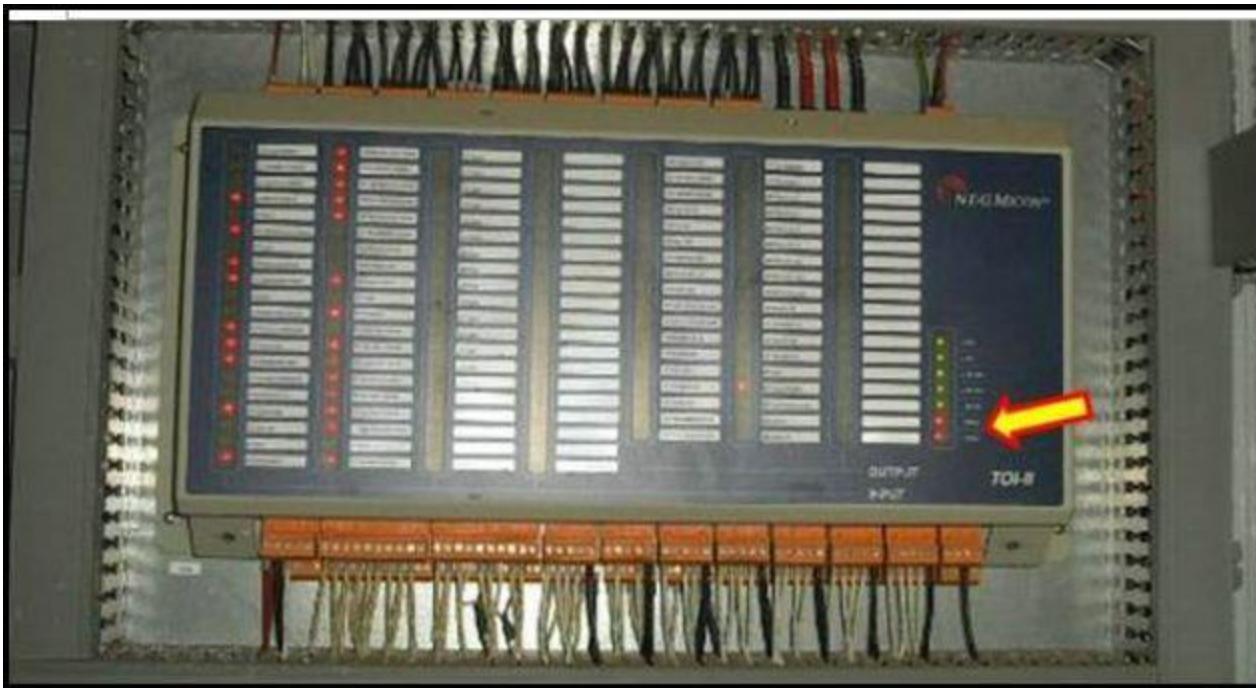
50Hz



60 Hz



Relevant spare parts	
Description	Item No.
TOI-II INTERF NM1500 TOWER	51701501



Relevant spare parts	
Description	Item No.
CONTACTOR 3RT1016-1AP02 230V 50/60Hz	60004394



At Nacelle Check input voltage to the motor (M06) and supply voltage present but motor not run,stop the test function disconnect the supply voltage and check the winding continuity,if the motor winding opened, the breaker will not trip since single phase circuit not closed. No fault current flow. Change the motor.

Relevant Spare Parts	
Item No	Description
60061710	MOTOR WATER PUMP UPS40-180F

Relevant Document	
Doc No	Description
0023-9289	Replace Water Pump for Generator



Refer to pump

