

# Air Cooled Generator Major Inspection

Quartzelec's intensive cleaning and advanced testing eliminated contamination and saline deposits from a 79.375MVA generator's windings, mitigating the risk of Partial Discharge, restoring reliability and surpassing standard compliance requirements

ENEL | POWER GENERATION | MAHON, SPAIN

## Our Customer's Challenge

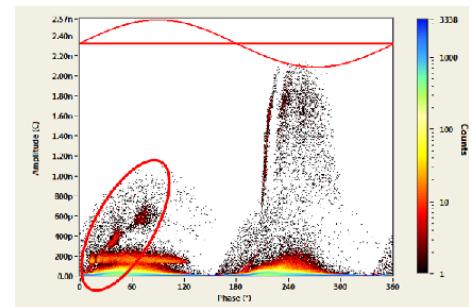
Enel is a multinational energy company and one of the world's leading integrated electricity and gas operators, present in over 30 countries and serving more than 70 million customers globally.

During a major inspection, the air-cooled generator showed significant contamination. Despite dry ice cleaning, salty contamination remained in hard-to-reach areas of its windings, posing risks including tracking and Partial Discharge (PD), even though basic electrical parameters including Insulation Resistance (IR) and Polarisation Index (PI) were within compliance.

The customer required a solution to ensure the generator's safe operation by detecting and mitigating hidden contamination that standard parameters had failed to identify.

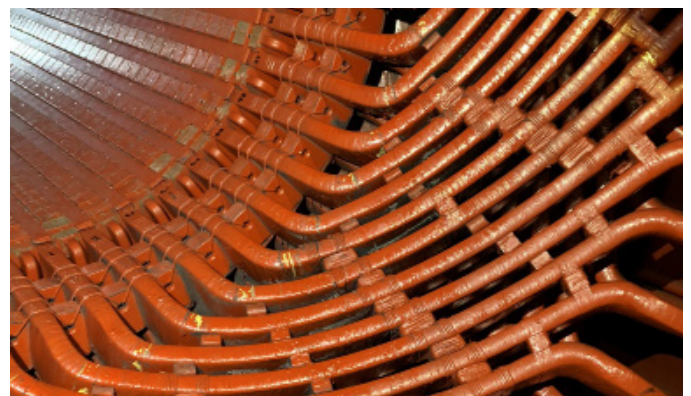
## The Quartzelec Solution

Quartzelec performed advanced electrical testing, including Tan Delta and PD analysis, to identify contamination risks from saline deposits. Deep cleaning was conducted in hard-to-access areas until electrical parameters showed optimal results and final electrical tests were conducted, which confirmed the complete removal of any hidden contamination, mitigating the risks of PD.



## Key Benefits

- Advanced testing was conducted to identify hidden contamination that IR and PI testing could not identify
- Enhanced electrical safety from the improvement of electrical parameters
- Long Term Operational Reliability, ensuring generator efficiency
- Exceeding Customer Operations as the comprehensive and thorough approach that delivered exceptional results



*Quartzelec expertise in electrical testing made all the difference. They went above and beyond to deliver a solution that ensured safety and reliability for our operations" - Jorge Lucero Jerez, Electrical Maintenance Manager*

Contamination  
Removal

Advanced  
Testing

Reliability  
Restoration

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