# HEAVILY TRACKED BUSHING DETECTED IN HYDROGEN COOLED TURBO GENERATOR

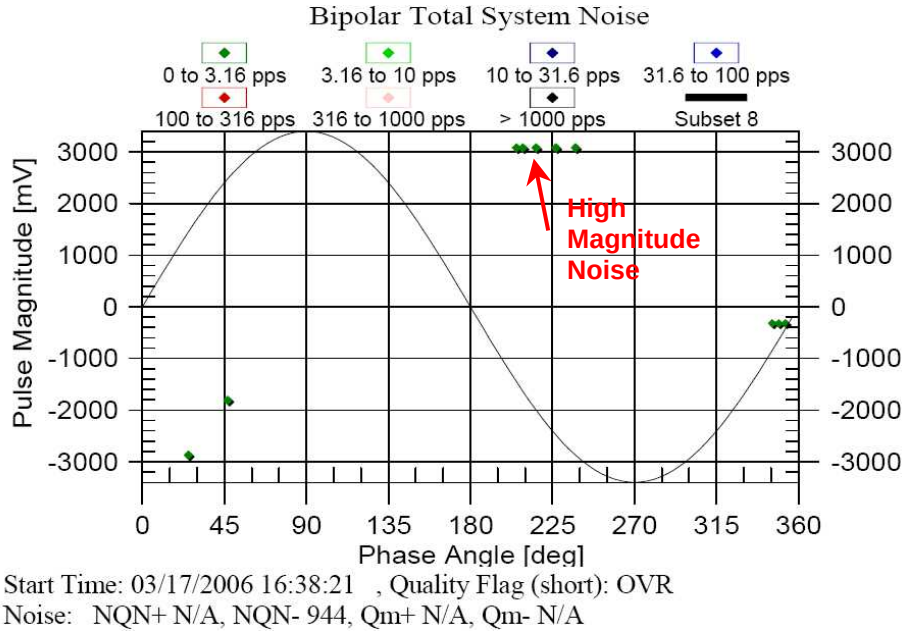


*Figure 1. Graph showing high level system noise (OVR: out of range)*

**Company:** Italian utility
**Ratings**: 390 MW, 20kV, Hydrogen Cooled Turbine Generator
**Manufacturer:** Confidential
**Related Info:** Installed in 1970
**PD Sensors:** Two Bus Couplers per phase

**Details:**

During a partial discharge measurement using the TGA-B portable instrument, high levels of PD activity (over 3000mV position, well above the highest range, see Figure 1) were detected on the C phase outside of the hydrogen environment. As consequence, the user briefly shut down the unit for a visual inspection to verify the mechanical connections in the main lead areas and to inspect the generator bushing for cracks or signs of tracking. The user found that the generator bushing of phase C was heavily tracked (Figure 2). The plant had changed from a base to peak load operation, which may have accelerated the electrical tracking (due to condensation when the unit is off).

*Figure 2. Heavily tracked generator bushing (photo taken after cleaning)*

Iris Power LP
1 Westside Drive, Unit 2
Toronto, Ontario, Canada
M9C 1B2
Phone: (416) 620- 5600
Fax: (416) 620- 1995