HIGH PD ACTIVITY IN UNIT 3 NOXON RAPIDS BECAME LOW AFTER REWINDING

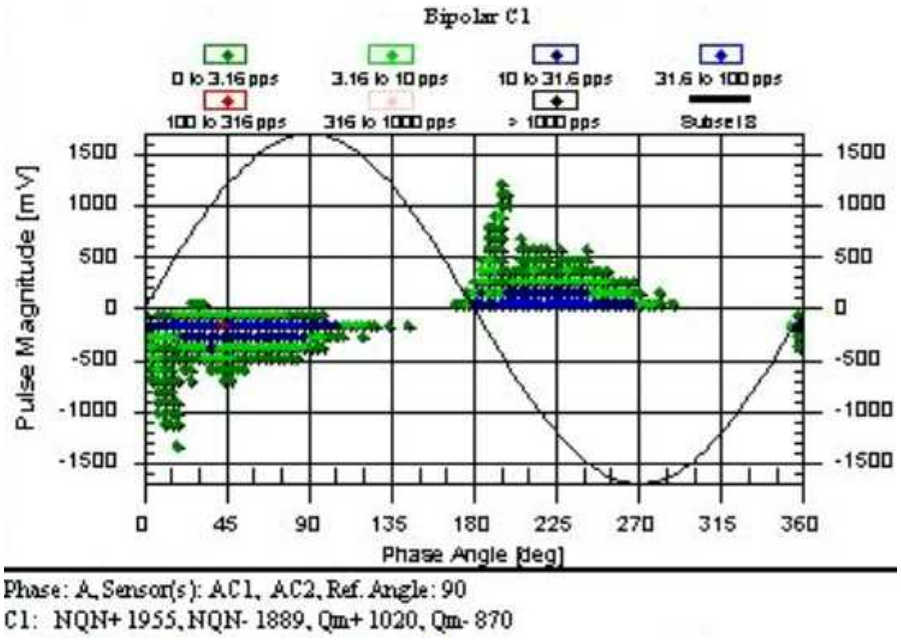

Figure 1. High PD activity

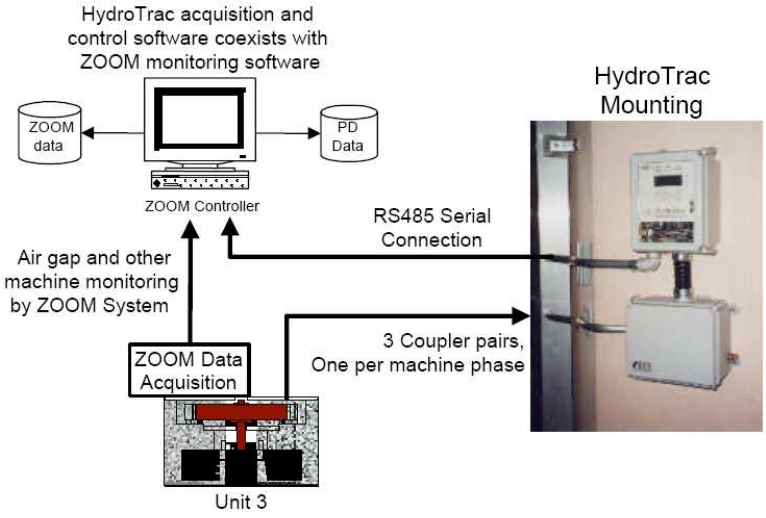

Figure 2. HydroTrac Monitoring System & VibroSystM's ZOOM

Company: Avista Utilities
Ratings: 108 MW, 13.8 kV, Hydraulic Generator
Manufacturer: Confidential
Related Info: Installed in 1959 and rewound in 1975, 1983 and 2004
PD Sensors: Two Bus Couplers per phase
Details:
"In 1998, partial discharge measuring equipment was installed as part of the control/monitoring systems upgrade. This consisted of two capacitive couplers on each phase connected to a HydroTrac continuous on-line monitoring system. When commissiong the system, engineers from Iris remarked that Unit 3 had some of highest partial discharge activity they had ever seen. Avista used data supplied by the partial discharge equipment to track stator winding condition. Partial discharge remained at very high levels and steady until the unit was rewound in 2004. Partial discharge activity has returned to levels expected from a new winding. It will be monitored over the life of the winding for signs of insulation decay."
Excerpt from article "Using On-Line Monitors to Improve Performance and Plan Corrective Actions", by M. Walden and J. Hamill" in Hydro Review / November 2005

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