



EFFECTIVE MAINTENANCE IN GENERATOR STATOR WINDING

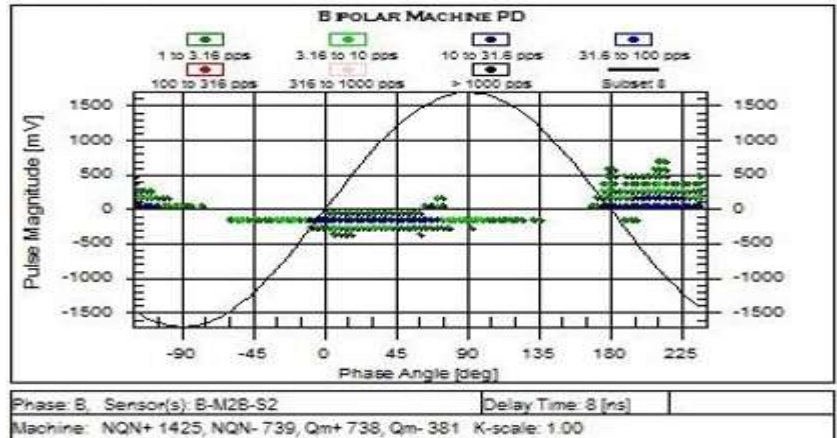


Figure 1 – PD data showing high surface PD

Company: West Canadian Plant
Type of Machine: Gas Turbine Generator
Year of Manufacture: 2010
Ratings: 13.8 kV; 90 MW; 3600 rpm
PD Couplers: BUS EMCs (80 pF sensors)
Instrument: TGA-B

Details:
 “... The overall ‘Very High’ level causes some concern. The PD clusters indicates presence of slot area, the slot exit and interphasal discharges...” *Excerpt from Partial Discharge Test Report from data taken in April 2015. Figure 1 from the report shows high PD activity.*

“...The PD levels in all three phases are significantly lower than in the first readings. Apparently the maintenance in 2015 (repairs to the stress relief coatings) has been successful. This is the second test done in this machine and the trend shows significant decrease in level... The LOW levels of PD compared to other air cooled windings of similar voltage class means this asset does not, as yet, have any significant problems...” *Excerpt from Partial Discharge Test Report from data taken in June 2016. Figure 2 from the report shows the trend with significant drop in PD activity as result of the maintenance work.*



Figure 2 – Trend showing significant drop in PD activity after maintenance