

548 – Recent Changes in IEC Standards for Rotor and Stator Winding Insulation Testing

Authors: Howard Sedding (Qualitrol – Iris Power), Greg Stone (Qualitrol – Iris Power), Mladen Sasic (Qualitrol – Iris Power)

Abstract: Testing of the insulation systems of rotating machines is a key element in ensuring the fitness for service for new machines and those currently in operation. As such, these methods are used by manufacturers, end users and third parties, e.g., repair and rewind service providers as quality assurance and tools to aid maintenance planning. There are numerous international standards that govern the testing of rotating machine insulation systems including those published by IEC and IEEE. This contribution focuses on IEC standards concerning the factory and field testing of stator and rotor winding insulation systems. A number of these standards have been in common use for many years, however, recently a number of new standards have been (or are being) developed, or existing documents substantially revised (or under revision) to address issues such as,

- Off- and on-line partial discharge testing of stator windings
- Dielectric dissipation factor testing
- Insulation resistance testing
- Qualification testing of partial discharge resistant insulation systems for inverter fed applications
- Off-line PD testing of rotating machines subject to repetitive voltage impulses
- Turn insulation testing of rotor and stator windings

This contribution will briefly describe the purpose of these new or developing standards and the changes from existing documents.