**EUR24_06 - Influence of stator coil design on insulation system health assessment**

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Abstract:

This paper studies the influence of stator coil geometry on the diagnostic test results of rotating machines with different types of insulation systems. Industry standards provide their own guidelines which are used by most service providers, OEMs and in the petrochemical industry. These guidelines and acceptance limits are helpful in assessing the overall health of the stator insulation and the presence of any defects and the level of deterioration of the insulation. It is vital to note that the acceptance limits could be affected by the coil geometry and type of insulation used and are not fully covered by the industry standards. In order to study the influence of coil geometry, diagnostic test data has been collected for hundreds of rotating machines with various sizes and geometries. The systematic approach presented in this paper provides an assessment with possible economic impacts for unit life extension and explains the reasons and outcomes of the decisions taken.