World Academy of Science, Engineering and Technology
International Journal of Electrical and Computer Engineering
Vol:12, No:08, 2018

Defects Classification of Stator Coil Generators by Phase Resolve Partial Discharge

Authors : Chun-Yao Lee, Nando Purba, Benny Iskandar

Abstract : This paper proposed a phase resolve partial discharge (PRPD) shape method to classify types of defect stator coil generator by using off-line PD measurement instrument. The recorded PRPD, by using the instruments MPD600, can illustrate the PRPD patterns of partial discharge of unit's defects. In the paper, two of large units, No.2 and No.3, in Inalum hydropower plant, North Sumatera, Indonesia is adopted in the experimental measurement. The proposed PRPD shape method is to mark auxiliary lines on the PRPD patterns. The shapes of PRPD from two units are marked with the proposed method. Then, four types of defects in IEC 60034-27 standard is adopted to classify the defect types of the two units, which types are microvoids (S1), delamination tape layer (S2), slot defect (S3) and internal delamination (S4). Finally, the two units are actually inspected to validate the availability of the proposed PRPD shape method.

Keywords : partial discharge (PD), stator coil, defect, phase resolve pd (PRPD)
Conference Title : ICECE 2018 : International Conference on Electrical and Communication Engineering
Conference Location : Amsterdam, Netherlands
Conference Dates : August 06-07, 2018