

Severity Index Level in Effectively Managing Medium Voltage Underground Power Cable

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Abstract : Partial Discharge (PD) diagnostic mapping testing is one of the main diagnostic testing techniques that are widely used in the field or onsite testing for underground power cable in medium voltage level. The existence of PD activities is an early indication of insulation weakness hence early detection of PD activities can be determined and provides an initial prediction on the condition of the cable. To effectively manage the results of PD Mapping test, it is important to have acceptable criteria to facilitate prioritization of mitigation action. Tenaga Nasional Berhad (TNB) through Distribution Network (DN) division have developed PD severity model name Severity Index (SI) for offline PD mapping test since 2007 based on onsite test experience. However, this severity index recommendation action had never been revised since its establishment. At present, PD measurements data have been extensively increased, hence the severity level indication and the effectiveness of the recommendation actions can be analyzed and verified again. Based on the new revision, the recommended action to be taken will be able to reflect the actual defect condition. Hence, will be accurately prioritizing preventive action plan and minimizing maintenance expenditure.

Keywords : partial discharge, severity index, diagnostic testing, medium voltage, power cable

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