

Application of IED to Condition Based Maintenance of Medium Voltage GCB/VCB

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Abstract : Time base maintenance (TBM) is conventionally applied by the power utilities to maintain circuit breakers (CBs), transformers, bus bars and cables, which may result in under maintenance or over maintenance. As information and communication technology (ICT) industry develops, the maintenance policies of many power utilities have gradually changed from TBM to condition base maintenance (CBM) to improve system operating efficiency, operation cost and power supply reliability. This paper discusses the feasibility of using intelligent electronic devices (IEDs) to construct a CB CBM management platform. CBs in power substations can be monitored using IEDs with additional logic configuration and wire connections. The CB monitoring data can be sent through intranet to a control center and be analyzed and integrated by the Elipse Power Studio software. Finally, a human-machine interface (HMI) of supervisory control and data acquisition (SCADA) system can be designed to construct a CBM management platform to provide maintenance decision information for the maintenance personnel, management personnel and CB manufacturers.

Keywords : circuit breaker, condition base maintenance, intelligent electronic device, time base maintenance, SCADA

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