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Level 2

Configuration management and change to protection and control systems

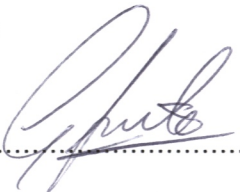
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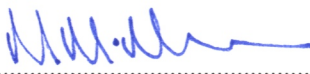
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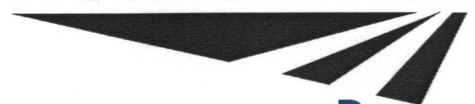
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1 Purpose

This standard states the requirement for management of hardware and software configuration of electrical fault protection and control devices.

2 Scope

This standard applies to all protection and control devices for electrical installations, including traction electrification systems and fixed plant equipment.

Requirements for the development and application of settings, testing, monitoring the protection system and configuration control are stated in this standard.

All PaCD settings are subjected to the processes within this standard.

This standard does not apply to SCADA only devices.

3 Roles and responsibilities

The roles and responsibilities are identified as follows:

- a) The E&P Maintenance Engineer is responsible for the review and updating of the records held within CCMS. This management includes the granting of access rights to protection documents.
- b) The E&P Maintenance Engineer is responsible for monitoring performance and fault investigation of the protection system.

NOTE The development, application and commissioning of settings may be a maintenance activity, but this activity would normally be carried out as part of a project. The project would normally update the affected protection data bases, registers and records in conjunction with the E&P Maintenance Engineer.

4 Definitions

For the purposes of this standard, the following definitions apply:

CCMS	Network Rail's Corporate Content Management System.
Competence	The ability to undertake responsibilities and to perform activities to a recognised standard on a regular basis. A combination of practical thinking skills, experience and knowledge, and a willingness to undertake work activities in accordance with agreed standards, rules and procedures.
Competent person	A person who has acquired the relevant competence through a combination of training, qualifications and experience with the knowledge and skills to carry out the task being undertaken.
Deficiencies	Inadequacies in records or systems, including hardware and software applications that do not conform to the specified or design requirements.
Defect	A deficiency in the PaCD configuration.

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ECO	Electrical Control Operator
Engineering Manager	Person responsible for approving new and amended records.
E&PME	Person responsible for the maintenance of electrification and plant assets.
Fixed Plant	Signalling distribution power supplies and other non-traction electrical distribution equipment.
In-service file	The operational settings applied to the PaCD. For software formatted settings, the in-service file is the settings downloaded from the PaCD. For other settings, the in-service file is the setting sheet signed off by the Commissioning Engineer as applied.
Mask	A generic PaCD file that has been fully verified for a specified configuration. The detailed design and development of Masks are subject to the processes specified in NR/L2/ELP/27311.
MFD	Major Feeding Diagram
PaCD	Protection and Control Device
PaCD configuration	Hardware, interfaces and software that define the operation of the PaCD function.
PaCD settings	The variables that are changed from the PaCD configuration to create the required site specific protection file. The PaCD settings may include an overcurrent threshold for an example but not normally the internal logic functional map within the PaCD or external interfaces.
Protection and control device	A configurable and re-settable protection relay with the ability to monitor electrical circuits with the provision to provide trip and alarm signals with local indications. The protection and control device may have the ability to provide management control functions and communication functions operable over SCADA and dial-up modem systems.
Protection asset information	Information required to model the electrical system for the purpose of protection calculations and PaCD settings.
Protection Design Engineer	A competent person responsible for the design and configuration of protection & control systems for electrical installations.
Protection Approval Engineer	A competent person other than the Protection Design Engineer responsible for the approval of the design and configuration of protection & control systems for electrical installations.
Record	All information bearing media (including electronically stored data) created, received or modified in the course of carrying out amendments to protection asset information, protection