



AUSTRALIAN RAIL TRACK CORPORATION LTD

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Discipline

Engineering Standard - NSW

Category

Electrical

Title

Requirements for Portable Earthing Equipment for the High Voltage System

Reference Number

PMS 01 - (RIC Standard: EP 95 10 00 06 SP)

Document Control

Status	Date	Prepared	Reviewed	Endorsed	Approved
Issue 1 Revision 2	Mar 05	Standards and Systems	Signalling Standards Engineer	GM Infrastructure Strategy & Performance	Safety Committee
		Refer to Reference Number	T Moore	M Owens	Refer to minutes of meeting 24/01/05

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The technical content of this document has been approved by the relevant ARTC engineering authority and has also been endorsed by the ARTC Safety Committee.

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About This Standard

This Document sets out the minimum requirements of the Portable Earthing Equipment for use on the Australian Rail Track Corporation's High Voltage AC Electricity Distribution System. This document is not applicable to earthing devices for use with enclosed switchgear or earthing devices integral with enclosed switchgear.

Document History

Primary Source – RIC Standard EP 95 10 00 06 SP Version 1.0

List of Amendments –

ISSUE	DATE	CLAUSE	DESCRIPTION
1.1	05/01/2005		Reformatted to ARTC Standard
1.1	11/03/2005	Disclaimer	Minor editorial change

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1 General

The portable earthing equipment shall conform to the requirements of Electricity Council of NSW "Guide to Electrical Workers Safety Equipment EC 14" and ARTC publication POP 02 - "Suitable Operating Equipment".

2 Rating

The ARTC high voltage distribution system operates at the following voltage levels:

2.2kV

11 kV

33kV

66kV

132kV

Substation Earthing Sets shall withstand a fault at 24kA for 0.5 seconds and remain intact.

Transmission Line Earthing Sets shall withstand a fault level of 16kA for 0.5 seconds and remain intact. Transmission lines that have a fault level higher than this are identified on the Electrical Operating diagrams and adequately rated earthing sets must be used.

3 Configuration of Equipment

3.1 Substation Earthing Sets

The equipment shall consist of three separate cables (1 per phase) joined on a trifurcating plate.

The trifurcating plate shall have a 14mm hole suitable for connection to a substation earth point. The operating sticks may be detachable.

3.2 Transmission Line Earthing Sets

The equipment shall be suitable for connecting between a driven earth spike and/or permanent earth and several phase conductors and an aerial earth wire if present.

The equipment may consist of a single set of connected cables with sufficient conductor clamps and earth spike clamps, or a set of cables with suitable clamps at each end.

The operating sticks may be detachable.

3.3 Line Clamps

The line clamps are to be suitable for both copper and aluminium busbars and line conductors varying in size from 6mm to 25mm diameter.