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**Discipline**

**Engineering Standard – NSW**

**Category**

**Electrical**

**Title**

**Transmission Line and Cable Earthing**

**Reference Number**

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**Document Control**

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		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 details the requirements for the earthing of transmission lines and cables in the ARTC high voltage and low voltage networks. Other documents in this Volume may need to be referred to for further information in some cases.

This document does not include safety earths and working earths.

## Document History

**Primary Source** – RIC Standard EP 12 10 00 12 SP Version 2.0

### List of Amendments –

ISSUE	DATE	CLAUSE	DESCRIPTION
1.1	05/01/2005		Reformatted to ARTC Standard
1.2	11/03/2005	Disclaimer	Minor editorial change

## Contents

<b>1. High Voltage Cable Sheaths and Armour .....</b>	<b>6</b>
<b>2. Aerial Bundled Cable Terminations .....</b>	<b>6</b>
2.1. High Voltage ABC Terminated to Switch .....	6
2.2. High Voltage ABC Terminated to Transmission Line .....	6
<b>3. Aerial Earth Wire .....</b>	<b>6</b>
<b>4. Buildings Under High Voltage Transmission Lines .....</b>	<b>6</b>
<b>5. Stay Wires .....</b>	<b>6</b>
<b>6. Metal Poles with High Voltage Attached .....</b>	<b>6</b>

## **1 High Voltage Cable Sheaths and Armour**

At a System Substation all high voltage cable sheaths and armouring must be connected directly to the earth grid. For further information refer to Specification PDS 04 - "System Substation Earthing".

At a Distribution Substation all high voltage cable sheaths and armouring must be connected to the main high voltage earth. The connection is made at the high voltage earth bar in the case of a ground mounted substation and at the common earth bar in the case of underground substations. For further information refer to Specification PDS 05 - "Distribution Substation Earthing".

Where a dividing box is used for aerial cable terminations, the dividing box must be connected to the main high voltage earth, for example refer to drawing B/81680.

## **2 Aerial Bundled Cable Terminations**

### **2.1 High Voltage ABC Terminated to Switch**

*Standard requirements for this configuration have not yet been determined.*

### **2.2 High Voltage ABC Terminated to Transmission Line**

*Standard requirements for this configuration have not yet been determined.*

## **3 Aerial Earth Wire**

*Standard requirements for this configuration have not yet been determined.*

## **4 Buildings Under High Voltage Transmission Lines**

Refer to RailCorp publication EP12100022SP - "Buildings and Structures Under Overhead Lines".

## **5 Stay Wires**

For the earthing and insulation of stay wires refer to the Electricity Supply Association of Australia guide C(b)1 - Guidelines for Design and Maintenance of Overhead Distribution and Transmission Lines.

## **6 Metal Poles with High Voltage Attached**

*Standard requirements for this configuration have not yet been determined.*