Superseded by T HR EL 12005 ST v1.0, 26/11/2020

Transport Asset Standards Authority

For queries regarding this document
standards@transport.nsw.gov.au
www.transport.nsw.gov.au

Technical Note – TN 011: 2019

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Subject: Amendments to bonding requirements in EP 12 20 00 01 SP *Bonding of Overhead Wiring Structures to Rail,* version 3.0

This technical note is issued by the Asset Standards Authority (ASA) to notify amendments to bonding requirements and inclusion of removal of OHWS bonding requirements in EP 12 20 00 01 SP *Bonding of Overhead Wiring Structures to Rail*, version 3.0.

1. Section 2 Bonding requirements

Replace the contents of Section 2 with the following:

Overhead wiring structures (OHWS) and other structures that support 1500 V overhead wiring at prescribed locations shall be bonded to a traction rail via a spark gap or similar device. All other OHWS are not required to be bonded to rail via spark gaps or similar devices.

All OHWS that are not bonded do not require the 'DO NOT BOND' label.

All bonded structures are required to be fitted with a label to indicate the location and type of bond. The intention of the label is to improve the ability to locate bonds at prescribed locations. It also helps to improve reliability by ensuring that missing bonds can be easily identified and visually inspected in the event of bonds being damaged, stolen or disconnected.

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2. Addition of new Section 4

Add the following section after Section 3 Prescribed locations:

Section 4 Removal of OHWS bonding

Existing spark gaps which are installed on OHWS that are not in prescribed locations shall be maintained where these OHWS are not double insulated and within 2 m of continuous earthed structures.

Existing spark gaps shall only be removed when the adjacent and continuous earthed structures are made compliant with 2 m clearance requirements. Clearance may also be achieved through the installation of insulated sections.

This requirement does not apply to new infrastructure or new modifications to existing infrastructure that are required to comply with the 2 m clearance between continuous earthed conductive structures and OHWS.

3. Re-numbering of sections

With the addition of a new section after existing Section 3, the remaining of sections in the document will now read as follows:

Section 5 Inspection Requirements

Section 5.1 Six-week inspection

Section 5.2 Three-month inspection

Authorisation:

	Technical content prepared by	Checked and approved by	Interdisciplinary coordination checked by	Authorised for release
Signature				
Date				
Name	Nick Giannoulis	Terry Niemeier	Peter McGregor	Jagath Peiris
Position	Principal Engineer Earthing, Bonding and Electrolysis	Lead Electrical Engineer	A/Chief Engineer	A/Director Network Standards and Services

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Engineering Standard
Electrical

RailCorp

EP 12 20 00 01 SP

BONDING OF OVERHEAD WIRING STRUCTURES TO RAIL

Version 3.0

Issued May 2010

Engineering Standard

Owner:	Chief Engineer Electrical		
Approved by:	Wilfred Leung Chief Engineer Electrical	Authorised by:	Wilfred Leung Chief Engineer Electrical

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Document control

Version	Date	Summary of change
	November 2001	Last Technical Review
2.0	May 2010	Application of TMA 400 format

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1 Introduction

This standard details the existing requirements for the bonding of OHW structures to rail, including the required maintenance intervals.

The maintenance intervals have been documented in this standard as the portion of the Technical Maintenance Plans for this aspect of the electrical infrastructure has not been completed.

2 Bonding Requirement

Overhead wiring (OHW) structures and other structures that support 1500V overhead wiring, at prescribed locations must be bonded to a traction rail via a spark gap or similar device.

All OHW other structures are not required to be bonded to rail via spark gaps or similar devices. Un-bonded structures are to be fitted with a “DO NOT BOND” label.

3 Prescribed Locations

The overhead wiring structures satisfying the following location criteria must be bonded to rail:

- Where passengers and/or the public are likely to contact the structure, including OHW structures at platforms and up to 10m beyond the ends of the platforms.
- Where staff normally board, alight from, or touch rolling stock whilst standing on the ground within 2m of a OHW structure (Goods Sidings, Yards and Maintenance Centres, etc).
- Where a 1500 volt switch is installed on the structure.
- Where important structures might otherwise be exposed excessively to corrosion (e.g. bridges).
- Where signalling or other electrical equipment is mounted on the structure.
- Where structures are located in areas with potentially explosive atmospheres (e.g. coal and wheat loaders).

4 Inspection Requirements

All OHW structures which are bonded to rail shall be inspected at intervals of 6 weeks and 3 months as detailed below.

4.1 6 Week Inspection

- The bonding cables shall be visually examined to verify that the bond conductor has not been disconnected or removed.

4.2 3 Month Inspection

- The spark gap capsule shall be tested to ensure that it has not short circuited.
- The bond cable shall be tested to verify that it is electrically continuous and connected to the rail.
- The configuration of the capsule and cable at the OHW structure is verified as correct (see drawing E/70699)