AS 7666:2013

RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD
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Australian Railway Interoperability

Accredited Australian Standards Development Organisation

Train Protection and Control Interoperability

STANDARD

This Australian Railway Standard AS 7666: Train Protection and Control Interoperability was prepared by the RISSB TPC Development Group. It was signed off by the RISSB TPC Development Group and Train Control Systems Standing Committee in October, 2013 and subsequently by the Development Advisory Board (DAB) in November, 2013. The DAB confirmed that the process used to develop the standard was in accordance with the RISSB accredited development process. On the 26, November, 2013 the RISSB Board approved the Standard for release. This Standard was published on the RISSB website (www.rissb.com.au) on the 13th December 2013.

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Chief Executive Officer
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The following organisations were represented on the TPC Development Group:

Australian Rail Track Corporation (ARTC), Queensland Rail, Thales Group,
Public Transport Authority -Western Australia, Bombardier Transport, Sydney Trains,
Opus Rail, Transport for New South Wales,
Queensland University of Technology.

This Standard was issued on two occasions for open review and was independently validated before being signed off and the approvals were granted.

RISSB wish to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the committees and through the open review periods.

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1 Scope and implementation

Interoperability is considered a vital requirement for rail systems in many parts of the world. In Australia, particularly, interoperability is needed to enable the safe and efficient movement of freight and passengers across the nation's rail networks. Standard AS7450, which this document supports, provides the Australian rail industry with a process for addressing the interoperability of current and future systems, assets or processes.

Train Protection and Control (TPC) systems are an essential enabler for the safe and efficient movement of trains between networks. TPC systems which fail to support the required level of interoperability can be a barrier to achieving the required operational outcomes. The appropriate consideration in the specification, design, operation and management of TPC systems is therefore crucial to achieving interoperability.

This standard provides guidance to the Australian Rail Industry on the implementation of AS7450 to TPC systems. For the purposes of this standard TPC systems are defined as including the equipment, operating rules, engineering and management processes which combine to ensure the safe, efficient movement of freight and passengers.

For the purposes of this standard all clauses containing the term "shall" are considered mandatory requirements, all clauses containing the term "should" are considered recommendations, and all other clauses are explanatory statements.

This document is the primary standard on TPC systems interoperability and will be supported by the following subordinate documents:

AS 7666 TPC Interoperability: Appendix B "ETCS Interoperability Guidance"

AS 7666 TPC Interoperability: Appendix C "CBTC Interoperability Guidance"

AS 7666 TPC Interoperability: Appendix D "ATMS Interoperability Guidance".

2 Objective

The objective of this Australian Standard is to provide the railway industry with guidance including a framework and process for planning and implementing any change to a TPC system where the change has potential to impact interoperability. In particular, this standard will support the introduction of "next generation" train protection and control technologies such as in-cab signalling, which are planned to be rolled out across the Australian Rail network.

The processes described in this standard follow the project development steps contained in AS/NZS 15288 (System Life Cycle Processes) and further elaborated in AS/NZS19760 (A guide to the application of AS/NZS15288.)

Additionally, the principles and assessment processes within AS7450 (Rail Systems Interoperability) have been incorporated within this document.

3 Structure of this standard

This standard describes considerations for TPC interoperability within the following framework:

- considerations for the business requirements of a new or modified TPC system. *Ref section 5.*
- considerations for the operational requirements of a new or modified TPC system. *Ref section 6.*
- the key functions of the TPC system. *Ref section 7.*