

# RISSB Product Proposal (and Prioritisation)

*(The information you provide in this form will be used to help stakeholders determine where the proposed product sits within the railway's priorities. **The more thorough your submission, the better the decision-making process in prioritising new ideas.***

*Light blue italicised text is for guidance and should be deleted as the form is completed. Feel free to write more words, text boxes will expand as necessary.)*

Primary information	
Type of product being suggested:	Standard
Title of product being suggested:	Light Rail Traction Power System Configuration and Performance Requirements for Stray Current Minimisation and Mitigation
Date of suggestion:	14/02/2019
Reason for suggestion:	There is no national standard for Light Rail Traction Power System Configuration and Performance.
Railway discipline area:	Infrastructure
Objective:	
<p><b>What:</b> A National Standard for Light Rail Traction Power System Configuration and Performance Requirements for Stray Current Minimisation and Mitigation</p> <p><b>For Whom:</b> Infrastructure Design and Construction Engineers, Light Rail Operations and Maintenance Providers, Utility Providers.</p> <p><b>Why:</b> To standardise light rail traction power systems to ensure minimal stray current impacts on infrastructures. This standard should present clear design methodologies and stray current interference limits.</p>	
Scope:	
<p>Recently ASA released a standard to define the requirements for the configuration and performance of traction power systems for light rail. This standard has emphasis on Stray Current minimisation and mitigation requirements for both light rail and utility assets. This standard is titled "Traction Power System Requirements - t-lr-el-00001-st-v2.0", and was developed for Transport NSW.</p> <p>Currently there is no such national standard of this nature. It would be useful to develop a RISSB standard to ensure national standardisation for future Light Rail system (particularly DC traction in urban environments), and help to minimise disputes between railway providers and utilities. Keep topics as extracted from "Traction Power System Requirements - t-lr-el-00001-st-v2.0" included;</p> <ol style="list-style-type: none"> <li>1. Traction power Stray Current minimisation and mitigation – light rail assets</li> <li>2. Traction Power Stray Current Minimisation and Mitigation – utility assets</li> <li>3. Earthing, bonding, stray direct current and lightning protection</li> <li>4. Traction Power reliability, availability, maintainability and safety</li> </ol>	
Hazard identification:	

1	Earthing and bonding requirements to ensure public safety in urban environment	6	
2	Minimising and mitigating the corrosion of underground assets due to stray current.	7	
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### **Definitions**

A **Guideline** is a set of informative guidance. It is not normative but informative.

A **Code of Practice** is a set of descriptions. It is the “how” one can meet a higher-level requirement (either of a Standard, or a piece of Legislation). It is normative, but by its nature can contain several options about how to achieve compliance with the higher-level requirement. It can also have some informative guidance within it if it is more practical than writing a separate guideline.

A **Standard** is a set of requirements only. It is the “what” must be done to be claim compliance to the standard. It is normative. It can also contain optional and/or supplementary requirements, but they still should be worded as requirements.

### **Benefits:**

#### **Safety**

Standardisation in design and construction practices for light rail system in relation to earthing and bonding requirements will ensure consistency between arrangement nation-wide.

#### **Interoperability / harmonisation**

This national standard proposal would set the benchmark for future light rail projects. In locations where DC traction systems are new infrastructure, it would assist in managing the interface requirements between local utilities and light rail design and construction as well as operations and maintenance. This standard could be adopted by design and construction, operations and maintenance and local utilities.

<b>Impacts:</b>		
Specialty resources required for input as the topic is technical in nature.		
<b>Reference / source materials:</b>		
#	Reference / source material	Available from
1	I.S. EN 50122-1 : 2011 RAILWAY APPLICATIONS - FIXED INSTALLATIONS - ELECTRICAL SAFETY, EARTHING AND THE RETURN CIRCUIT - PART 1: PROTECTIVE PROVISIONS AGAINST ELECTRIC SHOCK	SAI GLOBAL
2	Traction Power System Requirements - t-lr-el-00001-st-v2.0	ASA
3		
4		
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**Definitions**

ii **Interoperability** is the ability of a process, system or a product to work with other process, systems or products (aka compatible systems through managed interfaces).

iii **Harmonisation** - the act of bringing into agreement so as to work effectively together (aka uniformity of systems).