RISSB product for prioritisation

Primary information	
Type of product being suggested:	National Rule
Title of product being suggested:	In-cab signalling systems
Date of suggestion:	12 February 2018
Reason for suggestion:	There are currently no high level national rules relating to In-cab signalling systems
Railway discipline area:	Safety/Train control systems

Scope:

Across the Australian Rail Network, several Rail Infrastructure Managers are currently undertaking project to introduce the European Train Control System or a Communication Based Train Control System. There is no high level national rule that provides information to any of the undertakings in relation to the operational requirements of these systems.

RISSB is currently updating the signalling principles to include ETCS and CBTC requirements and this information should then be transferred to operational requirements as a national rule.
The National Rule to be developed must be assessed to ensure that the RISSB Railway Operating Principles are taken into consideration and all identified hazards have the appropriate controls developed to manage the risk to So Far as is Reasonably Practicable.

Electronic Authority Systems (I.E. QR DTC and Roy Hills IETO) would not be in the scope for this rule. The National Rule for In-Cab Signalling Systems should outline the requirements for normal, abnormal and degraded operations and include the issue and receipt of rail traffic Occupancy Authorities, Automatic Train Operation, joint occupancy and interface requirements at the transition from lineside to in-cab signalling.

The introduction of an In-Cab signalling rule will also trigger a review of other national rule documents to ensure that consistency is maintained throughout the suite (I.E. Setting Back and Propelling, Protection of Rail Traffic and rules relating to the occupation of track by workers). The development of an occupancy table like the table in AS 4292 section 5 should also be a consideration.

Objective:

The Objective of the In-Cab Signalling Rule is to provide a high-level set of rules relating to the operation and management of an In-Cab Signalling system for use by Rail Infrastructure Manager and Railway Operators to improve harmonisation across networks.

Hazard identification:			
1	Rail traffic separation	6	Interface arrangements (level crossing)
2	Route integrity	7	Rolling stock integrity
3	Rail traffic worker separation	8	
4	Abnormal working	9	
5	Degraded working	10	

Benefits:

<u>Safety</u>

In-Cab signalling systems like ETCS and CBTC incorporate a Train Protection System which is generally a predictive system managing rail traffic over speed and limit of authority supervision. These systems reduce both the likelihood and consequence of limit of authority overruns and derailments due to over speed. Because of this the requirements for administrative controls is significantly reduced.

<u>Interoperability</u>[i] / <u>harmonisation</u>[ii]

ETCS was developed to improve interoperability in Europe and all suppliers' products are designed to work with all systems. The development of the national rule will assist Railway Operators in developing and maintaining harmonisation be ensure the systems installed are interoperable with other In-Cab Systems (I.E. the system install on the TFNSW network will operate on the Queensland Rail Network) meaning that the XPT service from Sydney to Brisbane will need no modification or additions controls for the service to operate.

<u>Financial</u>

Drawing down a national rule reduces the FTE cost to the project.

<u>Environmental</u>

Nil

Impacts:

Unsure of impacts at this moment

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i <u>Interoperability</u> - the ability of a process, system or a product to work with other process, systems or products (aka compatible systems through managed interfaces).

ii <u>Harmonisation</u> - the act of bringing into agreement so as to work effectively together (aka uniformity of systems).