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:	*Service Transition and Operational Readiness Review of New or Modified Rolling Stock*
Date of suggestion:	*February 2019*
Reason for suggestion:	*There is currently an observed deficiency in the suite of RISSB standards/Codes of Practice in dealing with service transitions and operational readiness review of new or significantly modified rolling stock. There is also an opportunity in the industry given the amount of new infrastructure being built and introduced to the railway industry in Australia (such as the introduction of CBTC and HCMTs to the Melbourne rail network). All stakeholders can benefit from having access to a consistent, regulated and standardised way of managing and conducting a service transition and operational readiness assessment.*
Railway discipline area:	*Infrastructure – Rolling Stock*

Objective:

The objective of this standard is to describe acceptable methods and approaches that are required to ensure that the transition of a new or modified rolling stock into an existing railway operation goes as smoothly as possible and that the system meets the predefined operational readiness criteria. This stands shall develop the breadth and depth of the service transition and operational readiness methods and approaches that are consistent with the history, hazards, and complexity of the service and operation. The users of this standard, by following the guidelines given, should be able to confirm that:

- *The new or modified rolling stock is physically ready to be commissioned;*
- *The managers and operators are prepared to manage and operate the new system; and*
- *The necessary supporting assets (tools, procedures, staffing, compliance with regulations, rules, etc.) is in place.*

Scope:

This standard specifies the conditions and circumstances when a service transition or an operational readiness review is needed prior to start-up of a new or modified rolling stock. It also establishes the responsibilities and authorities of the designers, manufacturers, contractors and commissioning teams in the process leading to the introduction of new rolling stock.

The standard will provide guidance and a framework for the following tasks:

- *Delivery, commissioning and handover of new or modified rolling stock*
- *Appointment, preparation and training of personnel for operating and maintaining the new or modified rolling stock*
- *Achieving required regulatory approvals*

- *Test and commissioning activities such as:*
  - *Type approvals*
  - *Factory acceptance testing*
  - *Site acceptance testing*
  - *System integration testing*
  - *Network integration testing*
  - *Construction certification*
  - *Final as-built witnessing*
- *Service transition management plan which includes:*
  - *Inspection of completed installations*
  - *New staffing*
  - *Testing and commissioning of critical control and operational systems*
  - *Finalisation of asset management system*
  - *Delivery of training*
  - *Formal acceptance of externally managed works*
  - *Transfer of incomplete issues into defects management system*
  - *Transfer of knowledge and information*

As part of this standard, operational readiness tools and pre-assessment success factors need to be identified and described. Pre-assessment success factors may include defining ways to:

- *Develop change specifications*
- *Identify change targets*
- *Define roles and responsibilities*
- *Define and understand the end state*
- *Create feedback plans*
- *Establish alignment among stakeholders*
- *Develop implementation checklist*
- *Develop risk assessment and escalation processes*
- *Develop operation and maintenance manuals*
- *Develop training materials*
- *Depending on the scale of the project, develop training facility (i.e. test site, simulator, mock up, etc.)*

The standard may also discuss the role of the readiness review process in the safety management system process.

The standard should be organised in such a way that is useful to both managers who need an overview of the processes, methods, decisions and products as well as the individuals who are responsible for planning and the conduct of service transition and operational readiness reviews and assessments.

Hazard identification: *(what safety hazards would the proposed product seek to address)*

1	*Failure to identify and mitigate constraints or risks that may prevent the successful achievement of project ramp-ups and transition into steady state operation*	6	*Increase interruption or restoration time*
2	*Failure to establish assurance over operational readiness program with focus on costs, scheduled milestones and risks/opportunities*	7	*Effect of schedule pressure on quality of work*
3	*Failure to refer risk of "unknown" status items to proper management levels*	8	*Failure to manage the risk of human error when new equipment is introduced when effective training is overlooked*

4	*Failure to properly relate "unknown status" items to potential consequences if these items are not ready*	9	*Failure to effectively integrate new operating rules which may be required due to new performance characteristics of the rolling stock or the new technology*
5	*Failure to transfer information and knowledge from project environment to operation*	10	*Failure to manage safety critical incidents by standardising the in-service introduction requirements and assuring that effective maintenance practices are established and functioning*

Definitions

i 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: *(enter wherever applicable in below categories)*

Safety

The introduction of a new fleet has the potential to create significant safety risks especially where a new fleet has not been introduced for a significant period. Post certification, the rolling stock is susceptible to low reliability and failure modes not observed during testing. Additionally, the rolling stock operating controls and human machine interfaces are likely to be very different; this creates a higher operational risk. Under some circumstances, the fleet may introduce completely new performance limits which may require new operating rules, for example the introduction of a fleet capable of doing 50 km/h higher than the existing speed. The risks above are high level risks which impact the core railway operation. Implementing a standard which will provide operators and regulating bodies with a framework and process to identify and manage the above type risks has significant benefits.

Interoperability / harmonisation

This standard will harmonise and unify the consistency of approach in service transition and operational readiness assessment at the state and national level for an efficient delivery of services according to defined service levels and service delivery processes. Given the large number of stakeholders involved in a service transition and operational readiness project, it is essential to establish clear expectations for good practice and a high quality service.

Financial

A very important dimension of an operational readiness process is budget and financials. An effective and high quality management of project status, program and operational issues, which can be achieved by following the requirements in this standard, will minimize project delays and unnecessary costs. Also, cost savings can be achieved by reducing reworks and identifying issues such as design faults early on in the project

Environmental

Implementing a standardized service transition and operational readiness process can include assurances that environmental and health issues (such as excessive noise) have been considered and addressed in an appropriate and timely manner in the project.

Impacts:		
Service transition and operational readiness assessment can applied to any new and modified infrastructure that is going to be introduced to the railway operations. At the very high level the infrastructure can be broken down to track rolling stock, control systems and signalling. A more granular classification might be required for development of more specific requirements in each category.		
Reference / source materials: *(This is very important; it will directly impact the tone/style/flavour of the product. It will also have an impact on the research we undertake and therefore impact timescales/cost. It may also be useful to identify reference / source materials that should be avoided.)*		
#	Reference / source material	Available from
1	IEC 61133 - Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service	
2		
3		
4		
5		

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).