RISSB Product Proposal (and Prioritisation)

RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD
ABN: 58 105 001 465

Primary information	
Type of product being suggested:	Standard
Title of product being suggested:	Approach to developing an Operations Concepts Definition
Date of suggestion:	14/02/19
Reason for suggestion:	Lack of consistent process to allow development of an Operations Concept. A standard would define key components of an OpsCon / ConOps document.
Railway discipline area:	Across all Rail domains - infrastructure, rolling stock, train control, operations, safety

Objective:

What – standardised methodology to allow development of a OpsCon.

For whom – Executive, systems engineers, designers, operators, design managers

Why – To allow development of clear operational needs and demands of the system, being designed or altered, through utilisation of a consistent process followed at a national level. This will allow requirements to be well understood and agreed by key stakeholders across all projects nationally leading to the generation of efficiency across the rail industry.

Scope:

Currently there are no standards at a national level that mandate the approach to developing rigorous OpsCon which are expected to be used as the basis for validation throughout the system life cycle. This is a critical document developed during the plan stage of the system life cycle, prior to finalising the business case. If not undertaken with the required level of rigour, it leads to misunderstood Business Requirement Specification and subsequent System Requirement Specification and ultimately a sub optimal product.

Standards exist at state level (TfNSW and DPTI), indicating the likely need for a national standard. An international IEEE standard also exists, not specific to rail. The structure of the standard should follow similar format to these standards including sections such as:

- Operations concept definition development
- Operational performance capability
- Operational constraints
- Operational service levels
- Operational assets and facilities
- Operational process scenarios
- Operational users
- Operational interfaces
- Operating modes

This standard would support designers to create design with a central vision and understanding of the end product and operation of the railway.

Hazard identification:

1	Misunderstood operational requirements (human interaction, level of training etc)	6	

2	Ineffective solutions to design problems being developed (poor design leading to safety implications)	7	
3	Not considering whole of life implications (CAPEX and OPEX) – reduced funding which precludes from meeting SFAIRP requirement	8	
4	Not considering all constraints both at state level and nationally (safety in design and system assurance)	9	
5		10	

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:

Safety

- Allow consideration and eventual reduction of safety risk so far as is reasonably practicable through making informed decisions
- Improved design effectiveness
- Improve OPEX considerations to justify TLS costs
- Improve requirements breakdown to allow safety in design considerations
- Improve technical interface understanding (and therefore management) throughout design.

Interoperability / harmonisation

- Effectiveness across rail network at a national level
- Improvement in stakeholder relationships and alignment
- Rail organisations in all states could apply this standard.

Financial

- Whole of life cycle cost considerations would be considered when drafting operational concepts/requirements which will allow development of a rigorous Benefits Realisation Plan within the FBC.
- Guidelines will provide a framework to allow greater opportunities to drive innovation and allow potential economic benefits

Environmental

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Impacts:		
No impacts foreseen.		
Reference / source materials:		
#	Reference / source material	Available from
1	T MU AM 06008 ST, Operations Concept Definition	TfNSW
2	ST-RC-OE-1017 DPTI Operations Concept Definition Standard	DPTI
3	IEEE Guide for Information Technology System Definition Concept of Operations (ConOps) Document	IEEE

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).