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

RISSB product for prioritisation

Primary information	
Type of product being suggested:	Standard
Title of product being suggested:	Operation of Remotely Piloted Aircraft Systems (Drones) on the Railway Network
Date of suggestion:	28 February 2018
Reason for suggestion:	The use of Drones within the rail industry is rapidly increasing with trails being undertaken to make best use of this technology. Although there are governing requirements for drones in general, there is no specific requirements for the use within the rail corridor/environment.
Railway discipline area:	Operations and Performance Standing Committee

Scope:

The use of Remotely Piloted Aircraft Systems (RPAS) on the Australian railway network covering the following requirements:

- Specification of RPAS's to be used.
- Operating restrictions and prohibited use.
- Pre-flight, flight and post flight planning.
- Operator capability.
- Specific activities including inspections, surveying, exploration.
- High voltage cables and substations.
- Interfaces with rail and road traffic.
- Geo-fencing and flight paths.
- Flights over densely populated areas (e.g. stations and disruptions).
- Crowd control and intelligence gathering.
- Catastrophic failure and recovery.
- Restricted air space.
- Unauthorised recreational flying over rail corridor / lease boundary.
- Tunnels, confined spaces, limited clearance.
- Management of unauthorised drones within a rail corridor.

This standard does not include the general requirements as set by CASA.

Objective:

To provide industry with a set of requirements which will ensure the current use of RPASs is recognised and assists in the evolving introduction and future use. This will address Accredited Rail Operator usage of drone technology for security, infrastructure inspections, trespasser locating, carrying payload and potential for rapid response capability. Current regulation is by the Civil Aviation Safety Authority (CASA) with no exceptions for operating in a rail environment.

Hazard identification:

1	RPAS Collision with trains/road vehicles	6	People in unsafe situations or conditions
2	RPAS Collision with People	7	Trespassers in the rail corridor
3	RPAS Collision with overhead lines	8	
4	RPAS Collision with other transport systems	9	
5	People undertaking activities in the rail corridor/danger zone	10	

Benefits:
Safety
With the impending take up of drone technology and void of any standard requirements to control the potential risk it is inevitable that safety will be compromised.
Interoperability[i] / harmonisation[ii]
This will support harmonisation as drone use is at its infancy and therefore providing this standard will provide an opportunity to commence a national approach to their use. Using these systems will be across borders and for RTOs that operate across borders.
Financial
Efficiencies would be made through remote operations not requiring sending people into a potential unsafe environment and time benefit (equals cost) in assessing and viewing remote areas.
Environmental
Removing the human footprint within certain activities and locations.
Impacts:
CASA overriding any standard requirements

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

ii Harmonisation - the act of bringing into agreement to work effectively together (aka uniformity of systems).