Safety critical communications by rail safety workers

The incidents

The Office of Transport Safety Investigations (OTSI) recently received investigation information in relation to two Signal Passed at Danger (SPAD) incidents which occurred in NSW in late 2021.

Baal Bone (Central West region)

A freight service requested authorisation from a Network Control Officer (NCO) to pass a signal which was set at stop. However, it was not that controller's jurisdiction, due to a control boundary change, which was not signposted. The NCO then incorrectly issued a verbal authorisation without coordinating with the controller who had jurisdiction for that area. The train continued without the appropriate clearance.

Maldon (South-West of Sydney)

After a storm event, several signals failed between two locations. An intercity passenger train was given verbal permission by the NCO to pass 3 signals at stop, and to obey the fourth signal. This signal was subsequently passed without authority by 190 metres due to miscommunication.

Investigations identified that there were issues with the verbal communication between the involved NCOs and train crews. Non-standard phraseology, ambiguous messaging, and incorrect readbacks, either not detected or corrected by Network Control, contributed. In addition, signal verification was not effectively communicated.

Key points for operators

Complex rules relate to the procedure of passing signals at danger, which are location and context specific. While train crew must pay particular attention to correctly identifying signals and understanding their limit of authority, it is of equal importance in instances of degraded safeworking conditions, that NCOs verify this information and confirm understanding of authority limits. In these circumstances, clear, concise, relevant messaging is critical.

The Rail Industry Safety and Standards Board (RISSB) has published industry recognised best practice for safety critical communications, developed using input from experts from across the rail industry. The RISSB *Code of Practice – Safety Critical Communications*[1] provides principles and practices for the transmission of safety critical communications by rail safety workers on the Australian railway network, including all heavy and light rail operations.

Recommended practices include:
- Using standard terms to reduce misunderstandings
- Identifying and correcting errors during readback, with a further readback of any corrected information
- Using written communications, where appropriate, to reduce miscommunication, provide an ongoing reference to rail safety workers and allow auditing
- Identifying emergency situations immediately broadcast using the standard term 'Emergency, Emergency, Emergency'
- Routine auditing of compliance to communication protocols.

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[1] Available from www.rissb.com.au

Safety message

The findings of these investigations highlight the importance of effective safety critical communications between rail safety workers.

Safety critical communications, including clarity and consistency, are an integral part of the safe and efficient operation of rail networks, particularly in instances of degraded safeworking conditions.

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