



Transport  
for NSW

## Reference material

# Interface Agreement between Signals & Control Systems and Condition Monitoring Systems, C&CS

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The content described might be of assistance to individuals and  
organisations performing work on Transport for NSW Rail Assets.*

*This document refers to organisational and positional roles and  
responsibilities in place prior to 1 July 2013 and may have been  
superseded by other documents.*

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This document may not be current. Current standards are available for download from the Asset Standards Authority website at [www.asa.transport.nsw.gov.au](http://www.asa.transport.nsw.gov.au).



# RailCorp

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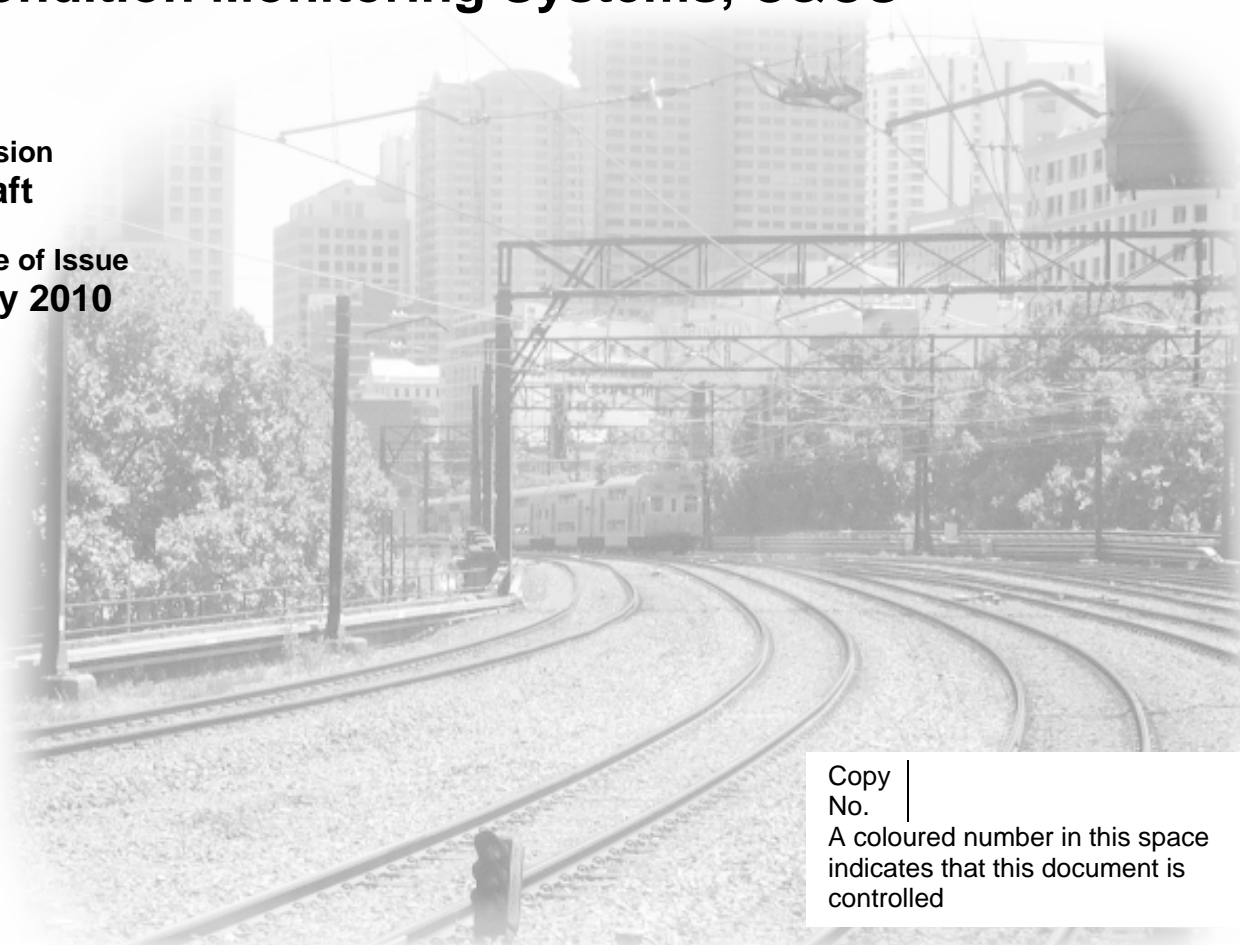
## Interface Agreement

between

## Signals & Control Systems and Condition Monitoring Systems, C&CS

**Version  
Draft**

**Date of Issue  
May 2010**



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## Signals & Control Systems and Condition Monitoring Systems, C&CS

Version  
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May 2010

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## 1 INTRODUCTION

The interface document identifies the interfaces between Condition Monitoring Systems, Control & Communications Systems and Signals & Control Systems and the responsibility at those interfaces.

The purpose is to establish clear accountabilities and ensure safety issues are well controlled.

## 2 SECTION RESPONSIBILITIES

Condition Monitoring Systems is responsible for the design of condition monitoring systems such as hot box detection systems, weighbridges, wheel condition monitors, infrastructure monitoring systems, etc.

Signals & Control Systems is responsible for the design and standards for signalling systems.

Signals & Control Systems exists within the Chief Engineers' Division of RailCorp and Condition Monitoring Systems exists in Communications & Control Systems (C&CS) Division under the Asset Operations Group (AOG).

Where a group is identified as 'Major responsibility' that group is the primary approval for the safety of that item.

## 3 INTERFACES

### 3.1 General

Interfaces between the section are considered only when an output or requirement from one section directly impacts on the designs of the other.

These interfaces can occur in three general areas, standards, projects (design) and operational.

### 3.2 Standards an Procedures

Once a standard is approved, its use may occur without reference back to the other section, providing the standard is applicable and complied with.

### 3.3 Projects

Individual projects may require direct liaison where the scope of the work may impact the other. The result should be a sign off of the arrangements by both groups.

### 3.4 Operational

Operational interfaces occur where train operating issues affecting condition monitoring systems of signals, has an impact on the other.

## 4 SPECIFIC INTERFACES

### 4.1 Standards and Procedures

ITEM	CONDITION MONITORING SYSTEMS RESPONSIBILITIES	SIGNALS & CONTROL SYSTEMS RESPONSIBILITIES
Rail-Rail/Rail-Earth Electrical connections to rail		Isolation 2.5kV No touch potential between rail & other conductive item, within reach (2.4m)
		Double insulation between equipment and rail
Track Circuit Interference	Use single type approved equipment	Type approval of wheel sensors and rail mounted gear
Surge Protection	Follow signals standards if near (20m). Signal locations SPG 712. Obtain Signal Design for rail connected surge protection	Design for rail connected surge protection
Location relative to Signal Equipment	Clear of existing cables and points equipment	Advice if signals to be moved
	No electrical connection within tuned loops	
Power Supply	Seek Signal (or Elec) Design if using signal supply	Provide design when requested
	Create standards for internal powers GPO & etc	
	Use isolation transformers	
EPR	Follow SPG 712 if within 20m of Signal locations	
Rail Cross Section – Mountings	Seek Track approval for mountings	
Ballast Profile – clear of sensors	Advice to Track to ballast requirements at sensors	
Sleepers - Mounting - Spacing	Seek Track approval for sleeper mountings and spacing	
Track Condition	Advice Track of location where track condition is critical	
Cables near track - protection - attachment	Comply with SPG 706 & SPG 709	Provide standards
Rail Drilling	Comply with SPG 709	
Sleeper Drilling	Comply with SPG 709 else seek approval from Track	
Strain Gauge Closure Rails	Seek approval by Track	
Spot welding to rails	Seek approval from Track	
Equipment Clearances	Design evidence that meets Track requirements	
	Seek Track approval	
Gluing to rails	Define preparation process	

ITEM	CONDITION MONITORING SYSTEMS RESPONSIBILITIES	SIGNALS & CONTROL SYSTEMS RESPONSIBILITIES
On track equipment	Process for install and removal	
Signage	Obtain approval for signage that may be observed by drivers from Signals	Advice and approval on signage that is visible by driver

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