

# Examination, Routine Maintenance and Certification of Signal Airlines and supports

Issue date: 11/04/08

Review date: 18/02/11

<b>SWMS number:</b> SMS-06-SW-1002	<b>SWMS Name:</b> Examination, Routine Maintenance and Certification of Signal Airlines and supports			<b>SWMS Team :</b> Signal Review Team
<b>Custodian (Position):</b> Signal Services & External Resources Manager	<b>Assumptions:</b> Site specific risks are addressed and assessed in pre- work briefing			
<b>Approving Authority (Position):</b> Safety and Quality Manager Commercial / Renewals	<b>Equipment/Plant/Tools:</b> <ul style="list-style-type: none"><li>• Oxygen Monitor</li><li>• Catalytic Converters</li><li>• Air or electric pump, Gas monitoring equipment</li><li>• Electric Fans</li><li>• Barriers, Fencing</li><li>• Watercart,</li><li>• Dust Masks</li><li>• GRN Radios</li><li>• Sharps disposal equipment</li><li>• Shears, Chainsaw, Whipper Snipper</li></ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>• Worksite Protection Plan</li><li>• Pre-work Brief</li><li>• Electrical Test Tags</li><li>• Infrastructure Certification Form</li></ul>	<b>Permits/Licences required :</b> <ul style="list-style-type: none"><li>• Airline Fitters</li></ul>	<b>Content reviewed by Technical expert (SME) and RailCorp safety professional</b> (position including Div/Group) Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals
<b>Applicable Standards, Codes of Practice and guidance:</b> <ul style="list-style-type: none"><li>• OH&amp;S Act 2000</li><li>• OH&amp;S Regulation 2001</li><li>• Rail Safety Regulation 2003</li><li>• RailCorp Network Rules &amp; Procedures</li><li>• Signalling Maintenance Procedures</li><li>• Technical Maintenance Plan</li><li>• Signal Engineering Standards</li><li>• Air Reticulation Systems SC09-20-00-00-SP</li><li>• RailCorp Safety Management System.</li><li>• MSDS for all chemicals and Hazardous substance used on site</li><li>• Australian Airline Standards AS4343-2005</li><li>• Australian Pressure Equipment - AS3788-2001</li><li>• City Region – Tunnel Emergency Evacuation Steps</li><li>• City Region – Site Safety Rules</li></ul>	<b>Inspection requirements</b> Nil	<b>Service schedule:</b> Nil	<b>Training/Qualification required:</b> <ul style="list-style-type: none"><li>• Construction Industry Induction</li><li>• Track Safety Awareness or RISI (Rail Industry Safety Induction)</li></ul>	

**Personal Protective Equipment required:**

- Safety Boots
- High Visibility Vests
- Hardhats
- Protective Clothing
- Safety Glasses
- Hearing Protection
- Dust masks
- Gloves

And as specified below.  
During all Site Works a FIRST AIDER MUST be Present

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<ul style="list-style-type: none"><li>• EC14 – Guide to Electrical Workers' Safety Equipment</li><li>• AS/NZS 2865:2001 Safe working in a confined space</li><li>• AS/NZS 1891.3 "Industrial fall arrest systems and devices</li><li>• National Code of Practice for Manual Handling [NOHSC:2005</li></ul>		<b>MIMS or METRE Ref:</b> Nil		
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Number	Step	Hazard or human error (Safety/Environmental hazards identified, including physical environment, human errors, plant and equipment)	Risk ranking before controls	Control (to be Implemented to eliminate or reduce the risk to the lowest practicable level)	Risk ranking after controls	Responsibility	Job step to be completed in accordance with (name associated documentation)
1	Supervisor undertakes site pre-work briefing and gives local induction.	Staff not Listening to Pre-Work Brief	B -	Identify all hazards, Staff to ensure they are properly Briefed as to risks involving Worksite.	D	Team Leader / Work Group Leader / All Staff	Pre-Work Briefing SMS-06-FM-0163
2	Supervisor verifies competence of personnel doing the task and currency of permits for work.	Expired Competency Cards & Permits, Unqualified type of Personnel for the Task.	B -	Visual Inspection of Personnel Competency Cards & Currency of Permits	D	Team Leader / Work Group Leader	Safety Training & Competence SMS-11-SR-0128
3	Review SWMS and confirm it is current.	Use of a SWMS that is out of date	C -	Ensure SWMS is current and up to date.	D	Team Leader / Work Group Leader	SWMS & SWI's SMS-06-PR-0023
4	Verify that plant and equipment for the task is fit-for-purpose.	Plant & Equipment kept in poor working condition	C +	Conduct a Daily Plant Checklist	D	All Staff	Plant SMS-06-GD-0225
5	Access , Egress and Working on site	Hit by Train	A	Pre-work Brief including Worksite Protection Plan, Site Induction and Inspection Ensure adequate communication in place prior to commencement to work	C+	Worksite Protection Officer	Network Rules & Procedures, Safety Knowledge Management SMS-18-SR-0098
		Slips, trips and falls	B-	Pre-work Brief to identify potential hazards	D	Worksite Protection Officer	Workplace Risk Management SMS-06-PR-0104
		Injury from vehicles and plant equipment	B+	Provide a Site Plan detailing safe access paths, parking and location of facilities	C-	Worksite Protection Officer	Plant SMS-06-GD-0225
6	Accessing, Working and Using Plant/Machinery in Tunnels	Personnel injury from Fumes/contamination of atmosphere	B -	Continuos air containing appropriate levels of oxygen is available with an air velocity of no less than 10 m/Min. Atmospheric monitoring while working	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels

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6		Injury from debris or dust	C +	Exclusions zone for workers not involved in tasks Wear Type 1 Respirators Water down materials Use of PPE – Dust Masks	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels PPE SMS-06-GD-0323
		Striking Overhead Wiring	B -	Maintain clearance at all times. Isolate power	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels
		Lack of Communication	B -	GRN Radios to be used.	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels
	Accessing, Working and Using Plant/Machinery in Tunnels (Cont....)	Use and Placement of equipment	C +	Operators to be aware of extent safe-working area Plant and Machinery fitted with Catalytic Converters. No Petrol driven engines to be used in tunnels. LPG Bottles to be changed outside restricted space. All mobile plant shall have a flashing/rotating light visible from the front and rear.	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels
		Hearing Damage	C +	Use of PPE – Hearing protection Use Hydraulic equipment. Have silencers fitted	D	All Staff	City Region Hazard Summary - Part 2 City Tunnels PPE SMS-06-GD-0323
	7 Inspection, minor repairs and certification of signalling airlines.	General Process Hazards					
		Personal injury from points machine	C +	Remind workers of hazards in Pre work briefing.	D	Work Group Leader & Qualified Signal Airline Staff	Plant SMS-06-GD-0225
		Personal injuries from use of non-power tools	C -	Use correct tools for job and correct techniques. Use PPE – Gloves	D	All Staff	PPE SMS-06-GD-0323

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		Touch potential between airline structures, pipes etc	B +	Warn personnel Use of PPE – Gloves and Long Sleeve shirts Bond out section using suitable bonding leads	D	All staff	Safety Issues for Signalling Personnel TMG J042
		Falling from Elevated platforms or Working at Heights	C +	Use of Fall Arrest Device. Safety checked and inspected device.	D	Working at heights Training Card -ASTS01-	Working at Heights SMS-06-GD-0240 PPE SMS-06-GD-0323
		Strain from lifting	B +	Backsafe Training Techniques	D		Manual Handling Guide SMS-06-GD-0001
		Confined spaces hazards from Gases when pumping out pits.	B +	Use of monitoring equipment and retrieval equipment and stand-by persons	D	Workcover confined space training	Confined Spaces SMS-06-GD-0035
		Breathing, skin and eye irritation from use of chemicals (lubricants)	C -	MSDS on chemicals. Instruct workers on safety precautions for use Use of identified PPE	D	All staff	Hazardous Substances SMS-06-GD-0199
		Risks caused by overgrown vegetation (Slips, Trips, Sharps, Snakes )	B +	Clear vegetation as required Pick-up sharps Use of PPE – Gloves,	D	All staff	PPE SMS-06-GD-0323
7	Inspection, minor repairs and certification of signalling airlines. (Cont....)	Eye, Hand, Hearing injury caused by Airline blow out under pressure	B +	Ensure that air supply is isolated before commencing any work. Use of PPE – Hearing protection, Eye protection	D	Qualified Signal Airline Fitter	PPE SMS-06-GD-0323 Safety Issues for Signalling Personnel TMG J042
		Application of Protective Coatings					
		Injury from grinders during surface preparation	B -	Use of PPE – Eye protection and Hand protection MSDS on chemicals. Instruct workers on safety precautions for use	D	All Staff	PPE SMS-06-GD-0323
		Injury from sanding dust and fumes	B -	Use of PPE – Masks, Gloves MSDS on chemicals. Instruct workers on safety precautions for use	D	All Staff	PPE SMS-06-GD-0323
8	Certify, Document and Report air line	Possible injury from poorly or non maintained equipment	B+	Certification / Documentation of airlines as per TMP	D	Work Group Leader	Records Management SMS-05-SR-0027

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**NOTE: Each work group or team member must sign off on the SWMS to acknowledge they have been briefed about or instructed in the SWMS**

Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date	Team member name (Please print)	Team Member signature	Instructor/ Briefer name	Date

RailCorp Level 2 Risk Matrix - Regional & Local (Workplace)			Likelihood/Frequency						Definition for Use - Regional & Local level (Workplace)	
			Event Frequency	Less than once every 1000 years	Once every 100 to 1,000 years	Once every 10 to 100 years	Once every 1 to 10 years	More than once per year up to and including 10 times per year		More than 10 times per year
			Historical (Likelihood)	Unheard of in the rail industry	Has occurred once or twice in the rail industry	Has occurred many times in the rail industry, but not in NSW	Has occurred once or twice in NSW	Has occurred frequently in NSW		Has occurred frequently at specific locations
			Workplace Predictive (Likelihood)	Not expected to occur	May occur only in exceptional circumstances	Could occur at some time but not likely	You would expect it to occur at least once in the next 10 years performing similar activities	You would expect it to occur at least once this year performing similar activities		You would expect it to occur at least once this month performing similar activities
Consequence			F1	F2	F3	F4	F5	F6		
			Incredible	Improbable	Remote	Occasional	Probable	Frequent		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A	<p>Used for workplace hazards and safety risks that do not consider the whole of the network. Indicatively this matrix is appropriate for use where the hazards under consideration are up to 10% of the total network exposure. This includes regional and local workplace risk assessments.</p> <p>As an example, the Level 2 scale would be used when examining the risk of slips, trips and falls on specific RailCorp platforms within a region or at a particular station, or the risk of fire within a depot.</p> <p>There are 3 options for descriptors which can be used to determine the frequency category. One set of descriptors is provided for frequency, one for historical likelihood, and one for predictive likelihood in the workplace. Choose the most appropriate.</p> <p>To score the risk, follow the steps:</p> <ol style="list-style-type: none"><li>1. Identify the magnitude of the credible consequence if the risk were to occur. If applicable, risks should be considered in terms of the safety (this matrix), commercial and environmental impact (using other matrices).</li><li>2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)</li><li>3. Score the risk using the combination of likelihood and consequence ranking.</li></ol> <p>Note: Where there are a range of credible consequences which may lead to a different level or risks and/or where the controls may be different. It may be useful to score the risk more than once.</p>	
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	A		
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A		
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A		
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+		
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-		