

# Manufacture of Signalling Airline and Interlocking Components – Under Workshop Conditions

Issue date: 11/04/08

Review date: 18/02/11

<b>SWMS number:</b> SMS-06-SW-1000	<b>SWMS Name:</b> Manufacture of Signalling Airline and Interlocking Components – Under Workshop Conditions			<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>Forklift / Lifting Device</li><li>Handtools</li><li>Drills / Grinders / Power Saws / Lathe</li><li>Oxy/Acetylene/LPG gas equipment</li><li>Warning Devices</li><li>Cleaning Apparatus</li></ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>Service Record or Log Book</li><li>Pre-work Brief</li><li>Electrical Test Tags</li><li>MSDS for Chemicals</li></ul>	<b>Permits/Licences required:</b> <ul style="list-style-type: none"><li>Forklift Operators Certificate</li><li>Rough Cutters Ticket</li><li>Trade Certificate</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>RailCorp Safety Management System.</li><li>MSDS for all chemicals and hazardous Substances used on site</li><li>National Code of Practice for Manual Handling [NOHSC:2005</li><li>WorkCover NSW Plant Guide</li><li>EC14 – Guide to Electrical Workers' Safety Equipment</li><li>AS 4839 portable oxy-fuel gas systems</li><li>AS 1674.1 – Safety in welding processes</li></ul>	<b>Inspection requirements</b> Nil	<b>Service schedule:</b> Nil	<b>Training/Qualifications 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> And as specified below. <ul style="list-style-type: none"><li>Interlocking Fitter</li><li>Airline Fitters</li></ul>	
		<b>MIMS or METRE Ref:</b> Nil		
<b>Personal Protective Equipment required:</b> <ul style="list-style-type: none"><li>Safety Boots</li><li>High Visibility Vests</li><li>Hardhats</li><li>Protective Clothing</li><li>Safety Glasses</li></ul> And as specified below. <ul style="list-style-type: none"><li>Ear Plugs / Ear Muffs</li><li>During all Site Works a FIRST AIDER MUST be Present</li></ul>				

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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	Preparation for Task, moving heavy items around depot / workshop	Back injury, Hand and Foot crush injuries, Moving heavy items of material & equipment around depot/ workshop	B+	Move heavy items with Forklift or other approved lifting device Ensure item being lifted is secure, fastened as required Instruct Staff to be careful when near Forklift / Lifting Devices or to keep clear. Use guide ropes if required	D	Competent Forklift Operator All Staff	Lifting Equipment Inspection SMS-16-FM-0089
6	Prepare material and work area for task	Cuts to Staff from sharp edges or corners	C+	Remove or protect sharp edges on materials To prevent injury	D	All Staff	PPE SMS-06-GD-0323
		Trip hazards from untidy work areas	B -	Ensure work shop area regularly cleaned up and bins used for rubbish and scrap	D	All Staff	Workplace Inspection SMS-16-FM-0069
7	Cutting, Drilling, Grinding Shaping with power tools hand held or bench mounted	Eye injuries or cuts from flying metal pieces and cutting blades	B+	Ensure all equipment fitted with correct guards and that protective face shields are worn by operator and people nearby	D	All Staff	PPE SMS-06-GD-0323
		Electric shock from powered equipment / tools	B+	Ensure all powered equipment is regularly checked, serviced and tagged fit for use	D	All Staff	Plant SMS-06-GD-0225 Equipment Operating Manual

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		From Grinding Hazard to other workers	B -	Provide a designated area outside to do grinding, not just on common workbench, general house cleaning clean up dust and debris created in process immediately. Use of PPE – Masks, Gloves  MSDS on chemicals. Instruct workers on safety precautions for use	C -	All Staff	PPE SMS-06-GD-0323 Operating Manual
8	Oxy and Acetylene / LPG, welding heating, cutting, brazing	General Welding Hazards					
		Burns from Hot objects / Flashes	B -	Use of PPE – Welding Helmet, Gloves, Spats, Use tongs when handling hot objects	C -	Rough Cutters Ticket	PPE SMS-06-GD-0323
		Fire	C -	Ensure fire protection measures based on risk assessment	D	Rough Cutters Ticket	Site Incident Response Procedures SMS-15-PR-0245
		Oxy Acetylene Welding cutting and Brazing					
		Explosions from leaking hoses and damaged equipment	B -	Visually check equipment MSDS on chemicals Flint igniters Flash back arrestors on equipment	D	Rough Cutters Ticket	AS-4839 (Safe use of Oxy-fuel Gas Sys) Storage/Handling of Gases SMS-06-SW-0196
		Breathing difficulties from fumes	C -	Ensure well ventilated area MSDS on chemicals	D	All Staff	PPE SMS-06-GD-0323
8	Oxy and Acetylene / LPG, welding heating, cutting, brazing (Cont.....)	Oxy Acetylene Welding cutting and Brazing					
		Smoke Fumes from Burning Rubber / Heat Shrink Tube	C -	Use Heating Gas Torch in well ventilated area's	D	All Staff	PPE SMS-06-GD-0323
9	Electric Welding	Electric (Arc, Tig, Mig) Welders					
		Fumes from Chemicals during Arc Welding	C -	Ventilation Extinguishers	D	Electric / Arc Welders Ticket	AS-1674.2 , AS/NZS-3195
		UV Radiation from Electric Arc	C+	Use of PPE - Shields and signage	D	All Staff	AS-1674.2 , AS/NZS-3195

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10	Surface treatment of finished product such as – Painting, Cold Galvanising, Rust-proofing, Hot dipped Galvanising	Application of Protective Coatings					
		Injury from sanding dust and fumes	B -	Use of PPE – Masks, Gloves MSDS on chemicals. Instruct workers on safety precautions for use	C -	All Staff	PPE SMS-06-GD-0323
		Hot Dipped Galvanising				All Staff	PPE SMS-06-GD-0323
		Bundle up, weigh and label items for transport to Galvanising Plant (external contractor)	C -	Done by contractor Operating Manual Instructions	D	Contractor	Contractor Management SMS-13-PR-0161

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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

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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
			F1	F2	F3	F4	F5	F6		
Consequence			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> <p>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).</p> <p>2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)</p> <p>3. Score the risk using the combination of likelihood and consequence ranking.</p> <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-		