

# Metalwork Alterations to Locations, Bungalows, Doors and Handrails

Issue date: 11/04/08  
Review date: 19/02/11

<b>SWMS number:</b> SMS-06-SW-1010	<b>SWMS Name:</b> Metalwork Alterations to Locations, Bungalows, Doors and Handrails	<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>Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group)</b> Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals	
<b>Approving Authority (Position):</b> Safety and Quality Manager Commercial / Renewals	<b>Equipment/Plant/Tools:</b> Vehicles and plant equipment <ul style="list-style-type: none"> <li>• Protective Shields</li> <li>• Signage</li> <li>• Oxy cylinders/torches, Flint Gun</li> <li>• Fire extinguisher</li> <li>• Generator, RCD Unit, leads</li> <li>• Power Tools</li> <li>• Jigsaw, drill</li> <li>• Pop rivet gun, Tongs</li> <li>• Tarp or non conductive cover</li> <li>• Marker pen, tape measure, straight edge</li> </ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"> <li>• Worksite Protection Plan</li> <li>• Pre-work Brief</li> <li>• Equipment Operating Manual</li> <li>• Electrical Test Tags</li> <li>• Hot Work Permit (During Total Fire Ban)</li> <li>• Fire Brigade</li> <li>• Backsafe Training Manual</li> </ul> <b>Permits/Licences required:</b> <ul style="list-style-type: none"> <li>• Fitter</li> <li>• Rough Cutters Ticket</li> <li>• Vehicle Loading Crane Certificate</li> </ul>	
<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> </ul>	<b>Inspection requirements:</b> Nil	<b>Service schedule:</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> <p>And as specified below.</p> <ul style="list-style-type: none"> <li>• Welding Helmet</li> </ul>

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<ul style="list-style-type: none"><li>MSDS for all chemicals and Hazardous substance used on site</li><li>Safety in welding &amp; allied processes (Part 2 – Electrical) AS-1674.2</li><li>Approval &amp; Test Specifications for electric arc machines AS/NZS-3195</li><li>Safe use of Oxy-fuel Gas Sys- AS-4839</li><li>WorkCover NSW Plant Guide</li><li>AS/NZS 1892.5:2000 Portable ladders – Selection, safe use and care</li><li>AS/NZS 1891.4 – 2000 “Industrial fall arrest systems and devices – Selection, use and maintenance</li><li>AS 1674.1 – Safety in welding processes</li><li>National Code of Practice for Manual Handling [NOHSC:2005]</li><li>EC14 – Guide to Electrical Workers’ Safety Equipment</li></ul>	MIMS or METRE Ref: Nil	<ul style="list-style-type: none"><li>Track Safety Awareness or RISI (Rail Industry Safety Induction)</li></ul>	<ul style="list-style-type: none"><li>Gloves</li><li>Spats</li><li>During all Site Works a FIRST AIDER MUST be Present</li></ul>
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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 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	C+	Pre-work Brief including Worksite Protection Plan, Site Induction and Inspection	D	Worksite Protection Officer	Network Rules & Procedures, Safety Knowledge Management 18-SR-0098
		Slips, trips and falls	C+	Pre-work Brief to identify potential hazards	D	Worksite Protection Officer	Workplace Risk Management 06-PR-0104
		Injury from vehicles and plant equipment	C+	Provide a Site Plan detailing safe access paths, parking and location of facilities	D	Worksite Protection Officer	Plant SMS-06-GD-0225
6	Measure & mark out Surface to be cut.	Falling from ladder	C-	Ensure surface is level & ladder is steady. Also wear safety harness for work above 1.5 metres.	D	Work Group Leader, All Staff	Working at Heights SMS-06-GD-0240
		Filings may fall on sig/elect equipment.	C-	Cover signal/electrical equipment. Erect a tarp or a non-conductive cover over Signal/ Elect equipment.	D	Work Group Leader, All Staff	Work Around Elect. Equip. SMS-06-GD-0268

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	 WARNING	<i>The Following Precautions are to be undertaken for when using Hot Works as in Activities 7 during Total Fire Bans:</i>		<ul style="list-style-type: none"> <li>• An Hot Works Permit must be Issued before Work tasks are to be Performed</li> <li>• The Welder or other person in control of the Worksite must take reasonable care to inspect the workplace to identify Potential Fire Hazards</li> <li>• All Fire Hazards are to be removed Prior to commencing Welding Tasks</li> <li>• Fire Fighting Equipment must be on Hand at the Worksite e.g. Watercart, Knapsacks, Fire Extinguishers</li> <li>• (Hot Works in Progress) Warning Signs are to be placed at Appropriate locations</li> </ul>			Hot Work SMS-06-PR-0329
7	Drill or Cut metal work	General Process Hazards					
	Cable damage.	C+	Inspect area to be cut. ensure jigsaw blades & drill bit are correct length	D	Work Group Leader, Rough Cutters Certificate, Fitters Accreditation, Hot Work Permit (if Fire Ban)	Signal Construction Standards	Equipment Operating Manual, Work Around Elect. Equip. SMS-06-GD-0268
	Injury from Electric Shock from Generators/Power tools	C+	Inspect and check equipment parts, electrical cables(Valid Test and Tag Label), RCD Units fitted (Honda Inverter Type Excluded)	D	Certified persons to operate	PPE SMS-06-GD-0323	Hot Work SMS-06-PR-0329
	General Welding Hazards						Site Incident Response Procedures SMS-15-PR-0245
	Burns from Hot objects Flashes & spatter	C+	Use of PPE – Welding Helmet, Gloves, Spats Use tongs when handling hot objects	D			
	Fire	C-	Ensure fire protection measures based on risk assessment Hot Work Permit (if Fire Ban)	D			
	Oxy Acetylene Welders						
	Explosions from leaking hoses and damaged equipment	C+	Visually check equipment MSDS on chemicals Flint igniters	D	Work Group Leader, Rough Cutters Certificate, Fitters Accreditation, Hot Work	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		PPE SMS-06-GD-0323	
	Arc Welders						

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		Fumes from Chemicals during Arc Welding	C+	Ventilation Extinguishers Hot Work Permit (if Fire Ban)	D	Permit (if Fire Ban) Certified persons to operate	AS-1674.2 , AS/NZS-3195 Hot Work SMS-06-PR-0329
		UV Radiation from Electric Arc	C-	Use of PPE – Gloves, Shields and signage	D		AS-1674.2 , AS/NZS-3195
8	Remove old sections as required	Strain injuries, Heavy Loads	C-	Backsafe training Team lift for heavy or awkward items	D	Work Group Leader, All Staff	Manual Handling Guide SMS-06-GD-0001
9	Install doors, handrail	Heavy Loads	C+	Backsafe training Team lift for heavy or awkward items	D	Work Group Leader, All Staff	
		Cuts from Sharp Edges	C+	Wear PPE – Gloves	D	All Staff	PPE SMS-06-GD-0323
10	Remove tarp, clean filings from loc floor.	eye injuries Strain injuries	C+	Use of PPE – Eye protection Backsafe techniques	D	All Staff	PPE SMS-06-GD-0323 Backsafe Training Manual
		cuts from sharp edges injuries	C+	Use of PPE - Gloves	D	All Staff	

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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**

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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	
Consequence	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	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.	
	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		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.
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	A	
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	To score the risk, follow the steps:
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A	
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+	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).
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-	