

Bridge Expansion Switches - Re-rail - Guardrails

Issue date: 10/04/08

Review date: 17/02/11

SWMS number: SMS-06-SW-1045	SWMS Name: Bridge Expansion Switches - Re-rail - Guardrails	SWMS Team: Track Review Team	
Custodian (Position): Track Works Manager Commercial / Renewals	Assumptions: Site Specific risks are addressed and assessed in pre-work briefing	Content reviewed by Technical expert (SME) and RailCorp safety professional: (position including Div/Group) Track Works Manager & SEQ Coordinator Asset Management Group Commercial / Renewals	
Approving Authority (Position): Safety and Quality Manager, Commercial / Renewals	Plant/Equipment/Tools: <ul style="list-style-type: none"> • Markers • Oxy-Acetylene Torch • Firefighting Equipment/Extinguishers • Power Drill • AC/DC Generator • Hand tools, bars/spikes • Thermit Welding Equipment • Pettibones 	Records/Reporting: <ul style="list-style-type: none"> • Worksite Protection Plan • Pre-Work Brief • Daily Plant Checklist • Material Safety Data Sheets • Possession Notice Permits/licences required: <ul style="list-style-type: none"> • Relevant Safeworking Cert. • Electrical Permit • Electrical Permit Holder • Possession Notice • Possession Officer • Pettibone Operator's Cert. • Giesmar Operator's Cert. • Safe Working Over Water Instructions 	
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> • OH&S Regulations 2001 • OH&S Safety Act 2002 • Rail Safety Act 2002 • Rail safety regulation 2003 • RailCorp Network Rules & Procedures • RailCorp Safety Management System • MSDS for all chemicals and hazardous substances • PCPTO907 for resurfacing of plain tracks • TMC211 Track Geometry & Stability • TMC211 Rail Installation & Repair • TMC222 Rail Welding • TMC223 Rail Adjustment • TMC231 Sleepers • AS839 (Safe use of Oxy-Fuel System) • Refer to TS3061/RTS3602/TS3602/TS3603/TS3604 	Inspection requirements Nil	Service schedule: Nil	PPE as issued by RailCorp: <ul style="list-style-type: none"> • Steel Capped Lace-Up Safety Boots • High Visibility Orange Vest • Hard Hats • Safety Glasses, medium impact protection • Protective Clothing, as issued by RailCorp Training/Qualifications required: <ul style="list-style-type: none"> • WorkCover Construction Industry Induction • Track Safety Awareness or • Rail Industry Safety Induction (RISI) • Applicable Plant and Safeworking competencies • Track Vehicle Operator Competency Training

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| <ul style="list-style-type: none">• Lateral movement of the rail for de-stressing as per RTS3642 & TS3642• WorkCover NSW Plant Guide• AS 2550.5-2002 Cranes, hoists and winches - Safe use - Mobile cranes• AS/NZS 1891.4 – 2000 “Industrial fall arrest systems and devices – Selection, use and maintenance” | <p>MIMS or METRE Ref:
Nil</p> | |
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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	Responsibility	Job step to be completed in accordance with (name associated documentation)
1.	Set up Channel Closure Markers/Boat	Drop Markers into River Work at Heights	B+	Keep firm hold of Markers Appropriate Fall Protection, Harness & Lanyard protection	C-	Team Leader Work Group Leader All Staff	Working at heights SMS-06-GD-0240 Fall arrest systems SMS-06-GD-0241 Fall arrest safety Lines SMS-06-GD-0259 Working over water SMS-06-GD-0251
2	Load Hi-rail Vehicles and Plant	Back Strain Struck by Machinery	B+	Use correct lifting technique, with chains & approved /tagged method Eye contact with Operator Remain clear of swing area	C-	Team Leader Work Group Leader All Staff	Manual Handling SMS-06-GD-0001 Use of cranes/forklift/bobcat/loader/Hiab
3	Remove Fastenings	Flying Clips Slips, Trips, Falls Dropped Clips into River	C-	Keep foot on Clip Be vigilant with footing Extra care required	C-	Team Leader Work Group Leader All Staff	Working at heights SMS-06-GD-0251
4	Cut Transom Bolt (Oxy)	Hot Work – Burns Burning Transoms	C-	PPE Fire Fighting Equipment	C-	Team Leader Work Group Leader All Staff	Working with Oxy fuel/gas SMS-06-SW-0196 Storage & handling Oxy AS4332-2004 AS1596-2002 Cutting/Oxy SMS-06-SW-0321
5	Cut Rail / Old Switches out	Hot Work – Burns Burning Transoms	C-	PPE Fire Fighting Equipment	C-	Team Leader Work Group	Working with Oxy/fuel/gas

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						Leader All Staff	SMS-06-SW-0196 Cutting with Oxy/fuel/gas SMS-06-SW-0321
6	Lift / Remove old Rail / Switch	Struck by Plant/Load Unsecured Load	B+	Eye Contact with Operator Remain clear of swing area, exclusion zone Ensure load securely chained before lifting, using approved lifting chains (tagged)	C-	Team Leader Work Group Leader All Staff	Manual handling SMS-06-GD-0001 Lifting Equipment SMS-06-GD-
7	Remove Old Transoms	Struck by Plant/Load Unsecured Load	B+	Eye Contact with Operator Remain clear of swing area Ensure load securely chained before lifting, using approved /tagged lifting chains	C-	Team Leader Work Group Leader All Staff	a/b
8	Cleaning / Painting of Stringers	Falls from Stringers Dust from Wire Brush Paint Hazards	B+	Area decked out under switch PPE – Dust Mask P2 As per MSDS	C-	TM LDR WG Ldr All Staff	Use of solvents SMS-06-SW-0193 PPE SMS-06-fm-0323
9	Placing new Transoms	Struck by Plant/Load Unsecured Load Jammed fingers, etc Falls from Stringers	B+	Eye Contact with Operator Remain clear of swing area Ensure load securely chained before lifting, using approved/tagged lifting chains Keep Fingers clear of Placement Area decked out under switch	C-	TM Ldr WG LDR, All Staff	Manual handling guide SMS-06-GD-0001
10	Bolting down new Transoms	Jammed fingers, etc Minor Plant Noise	C-	Keep fingers clear when moving Transom PPE, Ear Muffs	C-	TM Ldr WGL All Staff	Manual Handling guide SMS-06-GD-0001
11	Placing new Switches	Struck by Plant / Load Jammed fingers, etc Unsecured load	B+	Keep clear of moving rail and swing area Keep fingers clear when placing	C-	TM Ldr, WGL All Staff	A/B

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				switches Ensure secure load			
12	Dragging new Rail on and Old Guardrail off Bridge	Struck by Plant / Rail Break Signal Bonds	B+	Keep clear of moving rail and swing area Use timbers to protect cables	C-	TM Ldr WGL All Staff	Use of suitable machine/Hiab Manual Handling guide SMS-06-GD-0001
13	Placing new Rail	Struck by Plant / Rail	B+	Keep clear of moving rail and swing area	C-	TM Ldr, WGL, All staff	A/B
14	Fastening new Rail and Guardrails	Flying Clips / Dogs Slips, Trips, Falls Noise from Plant	B+	Keep foot on clip when hitting Vigilance / Self Care on Transoms Appropriate Ear Protection	C-	TM Ldr WGL All staff	Manual Handling guide SMS-06-GD-0001 PPE Ear Muffs SMS-006-GD-0323
15	Fastening new Switch	Noise Slips, Trips, Falls Concentrated work area	C-	Appropriate Ear Protection Vigilance / Self Care on Transoms Be vigilant working in group	C-	TM Ldr WGL All staff	A/B
16	Alumino thermic Rail Welding	As per SWMS: SMS-06-SW-1044 – Rail Adjustment – Track Welding					
17	Clean up of Bridge	Noise Dust Slips, Trips, Falls	C-	Appropriate Ear Protection PPE – Dust Mask P2 Vigilance / Self Care on Transoms	D	TM Ldr, WGL All staff	A/B
18	Cut up old Guardrail off Bridge	Hot Work – Burns Fire	B+	PPE Fire Fighting Equipment	C-	Tm Ldr WGL All staff	A/B Use of oxy cutter Loading onto truck
19	Remove Channel Markers	Work at Heights	B+	Appropriate Fall Protection where required, using approved harness & lanyard Use of a suitable boat	C-	Tm Ldr WGL All staff	Working over water SMS-06-GD-0251 Work at heights SMS-06-GD-0240 Fall arrest Systems SMS-06-GD-0241 Fall arrest Safety

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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	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.		
		F1	F2	F3	F4	F5	F6	To score the risk, follow the steps:		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A	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).		
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A	2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)		
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	3. Score the risk using the combination of likelihood and consequence ranking.		
1 Major Injury	C3	Major	D	C-	C+	B-	B+	Note: Where there are a range of credible consequences which may lead to a different level of risks and/or where the controls may be different. It may be useful to score the risk more than once.		
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-			
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+			