

Turnout Construction

Issue date: 19/10/10
Review date: 14/09/13

SWMS number: SMS-06-SW-0956	SWMS Name: Turnout Construction			SWMS Team: Civil Construction Review Team
Custodian (Position): Services Manager Civil	Assumptions: Site specific risks are addressed and assessed in pre-work briefing			
Approver (Position): Civil Electrical Works Manager Infrastructure Renewals	Plant/Equipment/Tools: <ul style="list-style-type: none">Crane, Lifting EquipmentBarricades, Construction Equipment, Demarcation Fencing, SignsBearers, Rails, Track Plates, Rail Fasteners, Track JacksPetrol Powered Drill, Pigs Foot, Sledge Hammer, Clip Pullers, Pelican Pick, ShovelOxy – Acetylene Welding / Cutting EquipmentFront end loaderBobcat	Records/Reporting: <ul style="list-style-type: none">Worksite Protection PlanPre-work BriefSite Specific Management PlanDaily Plant ChecklistHot Work Permit (During Total Fire Ban)Fire BrigadeHazardous Substance Register, MSDSTurnout Construction Plans	Permits/licences required: <ul style="list-style-type: none">Oxy-Acetylene Welders CertificateWorkcover Certificate	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) Services Manager Civil and Safety facilitator, Safety Support Services Division.
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none">OH&S Act 2000OH&S Regulation 2001Rail Safety Regulation 2003RailCorp Network Rules & ProceduresRailCorp Safety Management System.MSDS for all chemicals and hazardous Substances used on siteMoving Plant on Construction Sites- WorkCover 2004Working near Overhead Power LinesNational Code of Practice for Manual Handling [NOHSC:2005]AS 2550.5-2002 Cranes, hoists and winches - Safe use - Mobile cranesAS 4839 portable oxy-fuel gas systems				Inspection requirements 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	Survey Marks	Manual Handling Injuries	B-	Use correct manual handling techniques from back safe training. Rotate staff on repetitive tasks. Use gloves if required. Use lifting equipment where possible.	C+	Team Leader Work Group Leader All Staff	SSMP, SMS-06-FM-0163 Pre-Work Briefing, SMS-06-GD-0323 Personal Protective Equipment
2	Lay Down Bearers	Personnel Struck By Machinery	B+	Implement exclusion zones. Use ticketed operators. Plan work to avoid site congestion use plant spotter if necessary	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Plant SMS-06-PR-0225
		Manual Handling Injuries	B-	Use correct manual handling techniques from back safe training. Rotate staff on repetitive tasks. Use gloves if required. Use lifting equipment where possible.	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Manual Handling SMS-06-GD-0001
3	Placement Of Rails	Personnel Struck By Machinery	B+	Implement exclusion zones, use ticketed operators.	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Plant SMS-06-PR-0225
		Failure Of Lifting Equipment From Overloading	B+	Competent operators to assess loads carefully prior to lifting equipment to be properly maintained and marked	C+	Team Leader Work Group Leader Workcover Ticketed Operator And Dogman SMS-11-GD-0243	SSMP, Pre-Work Briefing SMS-06-FM-0163 Lifting Equipment SMS-16-FM-0089 Plant SMS-06-PR-0225
4	Placement Of Track Plates	Manual Handling Injuries	B-	Correct manual handling techniques. Rotate staff on repetitive tasks. Use gloves if required	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Manual Handling SMS-06-GD-0001
5	Drilling Of Timbers	Trouser Getting Tangled With Drill	B-	No loose clothing or hair. Use hair nets, leggings or spats if required	D	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163
		Manual Handling Injuries	B-	Use correct manual handling techniques from back safe training. Rotate staff on repetitive tasks. Use gloves if required. Use lifting equipment where possible.	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Manual Handling SMS-06-GD-0001
6	Fastening Of Rails	Struck By Rail Fastener	C+	Follow correct procedure for removing rail fasteners. Wear helmet and safety glasses	D	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163

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7	Using Jacks To Lift Rail / Loader With Jib and Rail Clamp	Struck by moving plant	B+	Make sure minimum personnel are around plant and remain in clear view of operators	C+	Team Leader Work Group Leader All Staff	SSMP, Pre work Briefing SMS-06-FM-0163 Plant SMS-06-PR-0225
		Trap Fingers Or Feet Under Rail When Jacking	B-	Person operating drop lever on jack to ensure all staff are clear of rail before proceeding	C-	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323
<div><div></div><div><p>Warning</p><p><i>The Following Precautions Are To Be Undertaken For When Using Hot Works As In Activity 7 During Total Fire Bans:</i></p><ul style="list-style-type: none">• A Hot Works Permit Must Be Issued Before Work Tasks Are To Be Performed• The Welder Or Other Person In Control Of The Worksite Must Take Reasonable Care To Inspect The Workplace To Identify Potential Fire Hazards• All Fire Hazards Are To Be Removed Prior To Commencing Welding Tasks• Fire Fighting Equipment Must Be On Hand At The Worksite E.G. Watercart, Knapsacks, Fire Extinguishers• (Hot Works In Progress) Warning Signs Are To Be Placed At Appropriate Locations<p>Hot Work Sms-06-Pr-0329</p></div></div>							
8	Cutting/Pulling Of Rail	Burns From Cutting Equipment And Hot Work	C+	Wear gloves ,long sleeve shirts, long pants, spats, goggles or face shield as appropriate	D	Team Leader Work Group Leader Ticketed Cutter/ Welder	SSMP, Pre-Work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323 Hot Work SMS-06-PR-0329
		Manual Handling Injuries	B-	Use correct manual handling techniques from back safe training. Rotate staff on repetitive tasks. Use gloves if required. Use lifting equipment where possible.	C+	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163 Manual Handling SMS-06-GD-0001
		Struck By Rail Fastener	C+	Follow correct procedure for removing rail fasteners. Wear helmet and safety glasses	D	Team Leader Work Group Leader All Staff	SSMP, Pre-Work Briefing SMS-06-FM-0163

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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) 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. 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. 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. To score the risk, follow the steps: 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. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place) 3. Score the risk using the combination of likelihood and consequence ranking. 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.
			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		
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-		