

# Spot Ballasting using Off Track Plant

Issue date: 11/04/08  
Review date: 20/02/11

<b>SWMS number:</b> SMS-06-SW-1070	<b>SWMS Name:</b> Spot Ballasting using Off Track Plant			<b>SWMS Team:</b> Track Review Team
<b>Custodian (Position):</b> Track Works Manager Commercial / Renewals	<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>Plant/Equipment/Tools:</b> <ul style="list-style-type: none"><li>• Communication Equipment</li><li>• Dumpy</li><li>• Bobcat</li><li>• Watercart</li></ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>▪ Worksite Protection Plan</li><li>▪ Pre-Work Brief</li><li>▪ Material Safety Data Sheets</li></ul>	<b>Permits/licences required:</b> <ul style="list-style-type: none"><li>• Electrical Power out Permit (dependent on local work method adopted)</li></ul>	<b>Content reviewed by Technical expert (SME) and RailCorp safety professional</b> (position including Div/Group) Track Works 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>• RailCorp Safety Management System.</li><li>• MSDS for all chemicals and hazardous Substances used on site</li><li>• WorkCover NSW Plant Guide</li><li>• AS 2958.0 2000 Earth Moving Machinery</li><li>• EC14 – Guide to Electrical Workers Safety Equipment</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</li><li>• RISI (Rail Industry Safety Induction)</li><li>• Applicable plant and safeworking competencies</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 orange vest</li><li>• Hard hats</li><li>• Safety Glasses</li><li>• Protective Clothing</li><li>• Hearing protection (as required)</li><li>• Gloves (as required)</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 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	Arrive at machine location	<ul style="list-style-type: none"> <li>Struck by train</li> <li>Slips, trips and falls</li> <li>Insufficient lighting</li> </ul>	B-	<ul style="list-style-type: none"> <li>Staff to be vigilant</li> <li>Must be briefed prior to entry to danger zone</li> <li>PPE (Safety boots, hard hats, HV vests, eye protection)</li> <li>Hand lamps supplied for night work</li> </ul>	C-	All Staff involved in Spot Ballasting	RailCorp Network Rules and Procedures

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6	Site review and induction briefing	<ul style="list-style-type: none"> <li>Struck by train</li> <li>Slips, trips and falls</li> <li>Insufficient lighting</li> </ul>	B-	<ul style="list-style-type: none"> <li>Staff to be vigilant</li> <li>Must be briefed prior to entry to danger zone</li> <li>PPE (Safety boots, hard hats, HV vests, eye protection)</li> <li>Hand lamps supplied for night work</li> </ul>	C-	Protection Officer	RailCorp Network Rules and Procedures
7	Obtain track possession and implement protection, transfer machines, plant and staff to work site	<ul style="list-style-type: none"> <li>Struck by train</li> <li>Collision with other plant</li> <li>Slips, trips and falls</li> <li>Insufficient lighting</li> <li>Access and egress to machines</li> <li>Insufficient seating</li> </ul>	B-	<ul style="list-style-type: none"> <li>Staff to be vigilant</li> <li>PPE (Safety boots, hard hats, HV vests, eye protection)</li> <li>Hand lamps to be used for night work</li> <li>TVO accreditation and safeworking procedures</li> <li>Pework briefing</li> <li>Entry and exit to machines and plant by ladders only. Machine MUST be stationary.</li> <li>Seating with functional seatbelts only to be used</li> </ul>	C -	Protection Officer	<ul style="list-style-type: none"> <li>Lessons Learnt Fact Sheet AMG 02/ 06 dated 21/8/2006</li> <li>RailCorp Network Rules and Procedures</li> </ul>
8	Machine movement with in worksite	<ul style="list-style-type: none"> <li>Collision with other plant / train</li> <li>Damage to infrastructure</li> <li>Striking track worker</li> <li>Staff in the way sustaining injuries</li> </ul>	B-	<ul style="list-style-type: none"> <li>6m exclusion zone when operating</li> <li>Look out with communication to control movement of plant</li> <li>Staff to be vigilant</li> <li>Plant to always be moved under direction</li> </ul>	C-	<ul style="list-style-type: none"> <li>Traffic Officer</li> <li>Protection Officer</li> <li>Track Machine Operator</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate Plant Operating Manual</li> <li>RailCorp Network Rules and Procedures</li> </ul>

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9	Delivering ballast	<ul style="list-style-type: none"> <li>Dusty ballast</li> <li>Damage to infrastructure</li> <li>Machine access point</li> <li>Leaving ballast in points</li> <li>Staff in the way sustaining injuries</li> </ul>	B -	<ul style="list-style-type: none"> <li>6m exclusion zone when operating</li> <li>Hose down ballast if required</li> <li>Plant to always be moved under direction</li> <li>Visual check at completion of works</li> </ul>	C-	All Staff	<ul style="list-style-type: none"> <li>Appropriate Plant Operating Manual</li> <li>RailCorp Network Rules and Procedures</li> </ul>
10	Remove worksite protection	<ul style="list-style-type: none"> <li>Struck by train</li> <li>Slips, trips and falls</li> <li>Insufficient lighting</li> </ul>	B-	<ul style="list-style-type: none"> <li>Staff to be vigilant</li> <li>PPE (Safety boots, hard hats, HV vests, eye protection)</li> <li>Hand lamps to be used for night work</li> </ul>	C-	Protection Officer	<ul style="list-style-type: none"> <li>Detonator MSDS</li> </ul>

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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						
			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><b>Definition for Use - Regional &amp; Local level (Workplace)</b></p> <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-	