

# Top Ballasting by Ballast train

Issue date: 11/06/09

Review date: 6/04/12

<b>SWMS number:</b> SMS-06-SW-1040	<b>SWMS Name:</b> Top Ballasting by Ballast train			<b>SWMS Team:</b> Track Review Team
<b>Custodian (Position):</b> Track Works Manager Commercial / Renewals	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> Approved 2 way radios	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>• Worksite Protection Plan</li><li>• Pre-Work Brief</li><li>• Electrical Power Out Permit and Registers</li><li>• Production Report Form: #0905F1 – Ballast Cleaning</li><li>• TS04 Daily Site Record</li><li>• Records as required by listed Standards</li><li>• Daily Plant Checklist</li><li>• Fuel and Hydraulic Material Safety Data Sheets</li></ul>	<b>Permits/licences required:</b> <ul style="list-style-type: none"><li>• Relevant Safe Working Certifications</li><li>• Minimum WGL NDFF Familiarisation</li><li>• Plough Van Operator’s brief</li></ul>	<b>Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group):</b> 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 Regulations2001</li><li>• OH&amp;S Safety Act 2000</li><li>• Rail safety Act 2008</li><li>• Rail safety regulation 2008</li><li>• RailCorp Network Rules &amp; Procedures</li><li>• RailCorp Safety Management System</li><li>• MSDS for all chemicals and hazardous substances</li></ul>				
		<b>MIMS or METRE Ref:</b> Nil	<b>Training/Qualifications required::</b> <ul style="list-style-type: none"><li>• Construction Industry Induction</li><li>• RISI (Rail Industry Safety Induction</li><li>• Protection Officer</li><li>• MTG00188 Track Certification</li><li>• Communication Protocol</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	Check track for entry of Ballast Train into worksite	Track Misalignment	A	Visual Check: Ramp Rates, Twists, Reverse Super, Fastenings, Joints For new turnout installations, Points need to be clipped and locked prior to entry of the Ballast Train	C+	Team Leader / Work Group Leader	MTG00188 Track Certification
2	Establish communications for running of Ballast Train	Worker struck by Train  Train not controlled due to lack of contact with train driver	B+  B+	Minimum of 3 radios required (discrete frequency) for worksite supervisor, plough operator and train driver. Radios to be charged and tested prior to ballasting operations. In the event of a communication failure, ballasting operations to cease until communication re-established.	C-  C+	Team Leader/ Work Group Leader  Train Crew	NPR 721
3	Placement of top ballast	Wagon derailment due to excessive ballast  Wagon derailment and collision with a Train or Track Machine on the adjacent line  Fall from wagon Climbing on and off ballast wagons	B+  B+  B+	Worksite Supervisor ensures that ballasting is carried out in a safe manner, ensuring that the number of doors open does not lead to derailment of the Ballast Train. Unload one wagon at a time Train to unload at walking pace (<5km/hr)  Cease Ballasting operations when a Train or Track machine on adjacent line is passing the worksite.  Stop train to change over to next wagon	C-  C+	Team Leader / Work Group Leader  Qualified Protection Officer (for adjacent line)	MGT00188 Track Certification  NWT 300 NPR 712  ITSRR Notice 02346-1

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4	Plough off ballast using Plough Van	Ploughvan Derailment and/or collision with a Train or Track machine on the adjacent line.	B+	Plough operator to have required training and qualification Ensure that all unloaded ballast is ploughed off prior to propelling the train	C+	Team Leader / Work Group Leader Plough Operator  Protection Officer	MTG00188  Ploughvan Operator Brief NWT 300 NPR 712
5	Placing top ballast in the vicinity of fixed points	Ballast accumulates too high near fixed point and interferes with infrastructure after plough passes.	B+	Ensure that all ballast dropped near fixed points can be ploughed off by plough clear of fixed point.	C-	Team Leader/Work Group Leader	MTG00188
6	Check wagons and Plough Vans are closed and locked prior to departure	Open doors cause Wagon Derailment Damage to track equipment and falling of ballast on exit path of Train.	B+	Worksite Supervisor ensures that all the doors are securely closed and any loose ballast material is removed from the ballast wagon. Ploughvan Operator ensures that the Plough is secured and locked.	C-	Team Leader/Work Group Leader  Ploughvan Operator  Train Crew	NTR 402  Train Operating Conditions Manual Section 6

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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)	
			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	<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-		