

# Asbestos Removal City Underground

Issue date: 10/04/08

Review date: 17/02/11

<b>SWMS number:</b> SMS-06-SW-1050	<b>SWMS Name:</b> Asbestos Removal City Underground			<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>Flags/lights with Supervisor information</li><li>Detonators</li><li>S.E.A. Breathing Apparatus or P2 Mask</li><li>Dust Mask</li><li>Disposable overalls</li><li>Monitors</li><li>Electrical Tester</li><li>Hi-Rail Truck and lights</li><li>Storage tanks</li><li>Track Shorting clips x 2</li><li>Generator and leads</li><li>Water tank, hoses and pump (tagged)</li><li>Impact gun</li><li>Leadstands</li><li>Hooks</li><li>Asbestos bags and tape</li><li>200 um visqueen plastic</li><li>Torches</li><li>Wet &amp; Dry Vacuum with Asbestos Hepa Filter</li><li>PVA Glue</li><li>Spray Can</li><li>Transportable contaminated water tank</li><li>Permanent Holding Tanks</li></ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"><li>Worksite Protection Plan</li><li>Pre-Work Brief</li><li>Site Diary</li><li>CUG Tunnel Register</li><li>Possession Notes</li><li>Electrical Tester Log Book and Register</li><li>Asbestos Register</li><li>Daily Plant Checklist</li><li>Supervisor and Asbestos Construction Shift Log</li><li>Representative's Airborne Asbestos Monitoring and Clearance Reports</li><li>Material Safety Data Sheets</li><li>Tank water release register book</li></ul>	<b>Permits/licences required:</b> <ul style="list-style-type: none"><li>Relevant Safeworking Certifications</li><li>Asbestos Removal</li><li>Approved Electrical Tester</li><li>Manual Handling Skills</li><li>Approved representative from NATA certified company</li><li>Ticketed Hi-Rail Driver</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>Guidelines for Licensed Asbestos Removal Contractors</li><li>Code of Practice for safe removal of Asbestos {NOHSC:2002 (1998)}</li><li>EC14 – Guide to Electrical Workers Safety Equipment</li><li>WorkCover NSW Plant Guide</li><li>National Code of Practice for Manual Handling [NOHSC:2005]</li></ul>			<b>Training/Qualifications required:</b> <ul style="list-style-type: none"><li>OH&amp;S General Induction for Construction Work in NSW</li><li>Track Safety Awareness and Electrical Awareness or</li><li>Rail Industry Safety Induction (RISI)</li><li>WorkCover certified Asbestos Removal Operators Course</li><li>Tunnel Induction</li><li>Applicable Plant and Safeworking competencies</li><li>Track Vehicle Operator Competency Training</li></ul>	

SWMS Custodian: Track Works Manager Commercial Renewals

SWMS Approver: Safety Environment and Quality Manager Commercial Renewals

Number SMS-06-SW-1050

Prepared using SMS-06-TP-0026 v1.1; Custodian: Principal OHS Adviser; Approver: GM Safety Risk; Issue date: 18/06/06; Review date 18/06/09

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Version: 1.0

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<b>Inspection requirements:</b>  For Plant and Equipment inspections refer to Daily Plant Checklists accompanying the machine.		<b>Service schedule:</b> Team Leader		
		<b>MIMS or METRE Ref:</b> Nil		

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1	Complete safety plans for works	Staff not qualified Not knowing risks Staff not briefed Hit by train  Working in tunnels	A	WorkCover approved certified Asbestos Removal Qualification Staff to be briefed Notification from Possession Officer of track possession Tunnel induction Trained in manual handling	C-	Supervisor or Authorised Qualified Person	Worksite Protection Plan Pre-Work Briefing SMS-06-FM-0163 Network Rules and Procedures CUG Induction
2	Tools and equipment	Not familiar with function of equipment  Equipment not working Electrical equipment not tested Tools not loaded on hi-rail	B+	Safety Equipment Australia Representative to instruct usage on equipment Certified person to test % Tag equipment Minimum breathing apparatus requirements P2 mask	D	S.E.A Representative Supervisor Authorised person	Pre-Work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
3	Travelling in Hi-Rail vehicles	Fall from truck Derail vehicle Contaminating area	A	Seated down in designated area Travelling 10km hr Line the storage area of the refuge truck with 200 um visqueen plastic	C+	Supervisor Plant Operator All staff	Pre-Work Briefing SMS-06-FM-0163 Plant SMS-06-GD-0225
4	Preparing worksite	Unauthorised person entering worksite Fibres becoming airborne  Tripping over Electrocution	B+ A  A A	Demarcate 50 metres from worksite and display asbestos removal in progress sign Wet work area down before removing plates Install adequate lighting. Electric tools tagged and inspected monthly. All leads to be off the ground.	C- C+  C- C+	Supervisor Electrician All Staff	City Underground Asbestos Guideline Version 3.1 WorkCover guide Code of Practice Pre-Work Briefing SMS-06-FM-0163

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5	Set up monitoring stations : 3 at worksite location 1 in each cab of the vehicles on site 1 in the Decontamination Unit	Unqualified representative  Hi readings Asbestos Dust >0.05 fibre / ml	A  A	Qualified monitor representative  Bays to be wet down Jackhammers to be used with dust suppression devices	C+  C+	Approved representative from NATA certified company Site Supervisor	NATA STANDARDS WorkCover guide Code of Practice CUG RailCorp Asbestos guideline Version 3.1
6	Installing water tight dam	Leaking contaminated water  Contaminated water over flowing storage area	A  A	Authorised person/s to construct and monitor dam. Always installed down hill of worksite  Frequently turn pump on to pump contaminated water to holding tank on the back of the Hi-Rail truck.	C+  C+	Authorised person	CUG RailCorp Asbestos guideline Version 3.1
7	High lighting Asbestos affected sleepers for removal	Affect track geometry	A	Supervisor may only remove sleepers not less than: 1 in 4 on a straight 1 in 6 on a curb Longitudinal sleepers 1 in 4 May not be removed consecutively	C+	Supervisor or Authorised Qualified Person	Complete upgrade of track is to be checked with the Track Recording Car and comply with the standards detailed in TMC211

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8	Removing asbestos sleepers and rubble	Fibres becoming airborne  Asbestos bags damaged  Fibres left in sleeper bays  Strained back Slipping  Contaminating truck	A  A  A  A  A	Correct breathing apparatus and PPE to be worn  Water to suppress dust  Asbestos bags to be nominal gauge 200 micron  Asbestos to be placed in double bags with a 1½ twist and taped to seal bag  Staff trained in manual lifting  Asbestos bags rinsed in containing area prior to transporting  Transporting vehicle to lined With 200 um visqueen plastic	C+  C+  C+  C+  C+	Asbestos ticketed staff	CUG RailCorp Asbestos guideline Version 3.1 Work Safe Code of Practice (NOHSC:2002)
9	Job inspection	Asbestos left on ground  Asbestos left in sleeper bay  Drains not running	A  A  A	Sleeper bays to be hosed out starting from the furthest bay from dam continuing down hill  Sleeper bay to be vacuumed to remove contaminated water and for visual inspection of bay to be carried out  Supervisor to do visual inspection of sleeper bays, train stops and entire work site	C+  C+  C+	Qualified Staff & Supervisor	CUG RailCorp Asbestos guideline Version 3.1 Work Safe Code of Practice (NOHSC:2002)
10	Clean Worksite	Asbestos left on ground Asbestos left in sleeper bay  Drains not running Water left in centre drain	A A  A A	All tools and boots to be hosed down and cleaned in centre drain  All water to be pumped to holding tank for transportation  Vacuum to remove all contaminated water from centre drain & sleeper bays.	C+ C+  C+ C-	Qualified Staff & Supervisor	CUG RailCorp Asbestos guideline Version 3.1 Work Safe Code of Practice (NOHSC:2002)

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11	Asbestos monitor representative	Not doing visual inspection Monitors not being picked up  Asbestos left in bay	A  A	Asbestos monitor representative to do final visual inspection  Any asbestos left in sleeper bay to be Emerclad sealed for removal the following day  Monitors to be tuned off, mileage and track recorded	C+  C+	Approved representative from NATA certified company	CUG RailCorp Asbestos guideline Version 3.1
12	Worksite clearance	Dust generated Leaving worksite contaminated       Demarcation and warning signs left out Result: Trains not running	A      A	Suppress dust by mixing PVA Glue: 3 part water to 1 part glue. To be sprayed 2.4 metres up side wall across track bed and up adjacent wall Start 10 metres before the job, spraying the full length of the job and finishing 10 metres past the end of the job Staff to dry decontaminate coveralls and boots prior to leaving work site Supervisor to do visual inspection  Worksite protection and warning signs to be picked up both ends when leaving worksite	C+     C+	Qualified Staff & Supervisor     Protection Officer	CUG RailCorp Asbestos guideline Version 3.1     Network Rules and Procedures

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13	Taking Asbestos waste out for unloading	Falling off Hi-Rail Hi-Rail going to fast	A	Staff to be seated on back of Hi-Rail Appropriate hand rail minimum 1100 ml high installed securely and enclosed on Hi-Rail	C-	Ticketed Hi-Rail driver	CUG RailCorp Asbestos guideline Version 3.1
		Asbestos rubble bags exposed in transit	A	Asbestos rubble bags on the Hi-Rail to be covered using 200 um visqueen plastic	C+	Qualified Staff & Supervisor	
		Asbestos water leaking	A	Contaminated water tank to be sealed using rubber sealed lid air tight while in transit	C+		

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14	Unload Asbestos waste & contaminated water	<p>Asbestos bin not lined</p> <p>Back strains</p> <p>Bags split open</p> <p>Asbestos Contaminated water leaking</p> <p>Fibres contaminating vehicle cabins</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p>	<p>Asbestos waste container bin to be double lined with 200 um visqueen plastic</p> <p>Bags will be placed in bin using manual handling techniques</p> <p>Bags to be visually inspected to ensure none are broken or open prior to sealing bin and locking lid</p> <p>Water hoses to be secured properly prior to releasing contaminated water into holding tank no 1 for 24 hour settling &amp; then pumped through Hepa filters to holding tank no.2 for 24 hr settling then drain no 2 tank into storm water</p> <p>Litres to be recorded</p> <p>Vehicles cabins to be vacuumed cleaned at the completion of each shift</p>	<p>C+</p> <p>C-</p> <p>C+</p> <p>C+</p> <p>C+</p>	<p>Qualified Staff &amp; Supervisor</p> <p>Ticketed Hi-Rail driver</p> <p>Qualified staff</p>	<p>CUG Rail Corp Asbestos guideline Version 3.1 Recording book</p>

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15	Staff decontaminating	<p>Breathing apparatus Contaminated</p> <p>Breathing asbestos fibres Contaminate clean end of decontamination unit</p> <p>Not having monitor in clean end of decontamination unit</p>	<p>A</p> <p>A</p> <p>A</p>	<p>Staff enter, first shower fully suited removing overalls placing overalls in provided bin.</p> <p>Staff wash breathing apparatus while still wearing face mask</p> <p>Staff then progress to the next shower room. Enter the cubicle and remove the face mask whilst under the shower.</p> <p>Staff dry off and enter 'clean end of decontamination unit'</p> <p>Monitor to be installed prior use of decontamination unit</p>	<p>C+</p> <p>C+</p> <p>C+</p>	<p>Qualified Staff &amp; Supervisor</p> <p>Approved representative from NATA certified company</p>	<p>CUG RailCorp Asbestos guideline Version3.1</p> <p>Work Safe Code of Practice (NOHSC:2002)</p>

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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*

<i>Team member name (Please print)</i>	<i>Team Member signature</i>	<i>Instructor/ Briefer name</i>	<i>Date</i>	<i>Team member name (Please print)</i>	<i>Team Member signature</i>	<i>Instructor/ Briefer name</i>	<i>Date</i>

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	
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-	

**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.