

# RETRU Recovery of Rail Vehicles

Issue date: 23/06/10  
Review date: 15/06/13

<b>SWMS number:</b>  SMS-06-SW-0930	<b>SWMS Name:</b> RETRU – Recovery of Rail Vehicles			<b>SWMS Team:</b> Rita Krista (Safety Facilitator) Ross Seghers (Incident Manager) Patrick Donoghue (Fitter Machinist) Angelo Gouramanis (Fitter Machinist) Mark McGavin (Engineering Operator)
<b>Custodian (Position):</b> Manager Services and Support Rollingstock Division (RSD)	<b>Assumptions:</b> A team of competent RailCorp Emergency Train Recovery Unit (RETRU) personnel, supervised by an experienced RailCorp RETRU supervisor The use of a site specific risk assessment, a qualified protection officer and site protection plan Sufficient team members are available to assist in manual handling and provide sufficient communication during the task			<b>Content reviewed by Technical expert (SME) and RailCorp safety professional</b> (position including Div/Group) <b>Initial assessment by:</b> Rita Krista (Safety Facilitator) Rob Jackson (Corporate Safety Advisor) Gaye Cameron (RSD Contract Safety Advisor) Phil McColl (Maintenance Operations Manager) Ross Seghers (Incident Manager)
<b>Approving Authority (Position):</b> GM RSD	<b>Plant/Equipment/Tools:</b> <ul style="list-style-type: none"> <li>Appropriate trade tools</li> <li>Vehicle loading crane</li> <li>Trolleys and other equipment manual handling aids</li> <li>RETRU Hydraulic jacks</li> <li>Height safety equipment</li> <li>Train chocks</li> <li>Load packing materials</li> </ul>	<b>Records/Reporting:</b> <ul style="list-style-type: none"> <li>Ellipse - work order</li> <li>Scheduling Tool</li> <li>Plant inspection certificates</li> <li>Pre-work check records</li> </ul>	<b>Permits/licences required:</b> <ul style="list-style-type: none"> <li>Medium rigid licence</li> <li>Heavy combination licence</li> <li>Electrical permit as required</li> </ul>	<b>Reviewed</b> Suresh Singh (Safety Manager) Darren Stuart (Safety Project Officer) Terry O'toole (Safety Facilitator) Matthew Branscombe (Safety Facilitator)
<b>Applicable Standards, Codes of Practice and guidance:</b> <ul style="list-style-type: none"> <li>OHS ACT 2000</li> <li>OHS Regulations 2001 Chapter 4 &amp; 5</li> <li>Rail Safety Act 2008</li> <li>ASCC – National Standard for manual tasks 2007</li> <li>National Code of Practice for the prevention of musculoskeletal disorders caused from performing manual tasks</li> <li>Train operators manual</li> <li>NWT 300 Planning work on the Rail corridor</li> </ul>	<b>Inspection requirements</b> <ul style="list-style-type: none"> <li>Power leads inspected, tested and tagged monthly</li> <li>Visual inspection of power leads, hydraulic</li> </ul>	<b>Service schedule:</b> <ul style="list-style-type: none"> <li>Ellipse - servicing of RETRU hydraulic jacks</li> </ul>	<b>Training/Qualifications required:</b> <ul style="list-style-type: none"> <li>Pre-work brief</li> <li>Site risk assessment</li> <li>Manual handling training</li> <li>Pre-work brief covering the</li> </ul>	<b>PPE required:</b> <ul style="list-style-type: none"> <li>High visibility orange vest or clothing</li> <li>Lace up safety footwear</li> <li>Safety eyewear as required</li> <li>Protective gloves, as required</li> <li>Hearing protection as required</li> </ul>

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<ul style="list-style-type: none"><li>• NWT 308 control signal blocking</li><li>• NWT 310 No authority required</li><li>• NGE 200 Walking in the danger zone</li><li>• AS 3760 In-service inspection and testing of electrical equipment</li><li>• Competent person for testing electrical equipment</li><li>• AS 61010.1 Safety of electrical equipment for measurement control and laboratory use</li></ul>	<ul style="list-style-type: none"><li>and pneumatic hoses for damage before use</li><li>• Visual inspection of power, pneumatic and hydraulic tools and equipment for damage and operability before use</li><li>• Vehicles regularly inspected and serviced</li></ul>	<b>MIMS or METRE Ref:</b> N/A	<ul style="list-style-type: none"><li>recovery process and the site protection plan</li><li>• Rail Industry Safety Induction (RISI)</li><li>• Working at heights</li><li>• Height safety training</li><li>• Relevant trade related competence</li></ul>	<ul style="list-style-type: none"><li>• Appropriate respirator, as required</li><li>• Face shield, as required</li><li>• Long sleeve shirt</li><li>• Long pants or overalls</li><li>• Sunscreen, as required</li><li>• Sun hat, as required</li><li>• Hard hat, as required</li><li>• Disposable orange overalls, as required</li></ul>
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	<u>General Hazards</u> These Hazards and Controls apply throughout this SWMS	Struck by or contact with moving trains	C4, F3 = B -	<ul style="list-style-type: none"> <li>• Rail Industry Safety Induction (RISI)</li> <li>• Shunters</li> <li>• Red flag</li> <li>• Protection officer</li> <li>• NWT 308</li> <li>• NWT 310</li> <li>• Traffic management plan</li> <li>• Pre-work briefing</li> <li>• Supervision</li> <li>• Site Induction</li> <li>• High Visibility Vest</li> <li>• Trained drivers</li> <li>• Sounding Horns</li> <li>• Medical Standards and Health Assessments</li> <li>• Site speed restrictions</li> <li>• Protection plan briefing</li> <li>• Route knowledge</li> <li>• Chocks</li> <li>• Communication within team</li> <li>• Trained drivers</li> <li>• Qualified protection Officer</li> <li>• Points clipping/locking</li> <li>• Use of warning detonators</li> </ul>	C4, F1 = C-	Supervisor, authorised employee and Protection Officer	<a href="#">SMS-20-SR-0169</a> <a href="#">Health Management</a>

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		Slip, trip, fall on rail, ballast or other uneven walking surfaces and on entry/exit to carriage	C3,F3 C +	<ul style="list-style-type: none"> <li>• Use of referenced entering / climbing out of trains SWIs</li> <li>• Entry and exit using the platform, wherever possible</li> <li>• Use of ladder (non-conductive), as required</li> <li>• Lace up safety footwear</li> <li>• Towels for drying off footwear before entry, as required</li> <li>• Pit lighting</li> <li>• Pre-entry inspection, in accordance with reference SWI</li> <li>• Portable lighting, as required</li> <li>• Hard hat (construction site)</li> <li>• Two person task</li> <li>• Communication</li> <li>• Experienced users working in accordance with SWI requirement</li> <li>• Pre-work brief</li> <li>• Portable stairs in maintenance centres</li> </ul>	C2,F3 C -	Supervisor and authorised employee	<a href="#">SMS-06-SW-0487 Entering Trains from Ballast</a> <a href="#">SMS-06-SW-0488 Climbing out of Trains onto Ballast</a>
		Needle Stick Injuries		<ul style="list-style-type: none"> <li>• Inspecting area before touching</li> <li>• Lighting, as required</li> <li>• Full length clothing</li> <li>• Safety footwear</li> <li>• Protective gloves</li> <li>• Handling sharps SWI</li> <li>• Sharps tongs and sharps container</li> <li>• Pre -work briefing</li> </ul>			<a href="#">SMS-06-SW-0405 – Handling Sharps</a> <a href="#">SMS-06-SW-0386 Personal Protective Equipment</a>

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		Bites (snake or spider)	C3,F3  C +	<ul style="list-style-type: none"> <li>• Inspecting area before touching</li> <li>• Lighting, as required</li> <li>• Full length clothing</li> <li>• Lace up safety footwear</li> <li>• Protective gloves</li> <li>• First Aiders</li> <li>• Pre-work briefing</li> </ul>	C2, F3  C -		<a href="#">SMS-06-FM-0386 PPE Register</a>
		Fall from height	C4,F3  B -	<ul style="list-style-type: none"> <li>• Lighting, as required</li> <li>• Height Awareness Training</li> <li>• Rescue plan</li> <li>• Harness training</li> <li>• Fall arrest equipment</li> <li>• Access via high roads</li> <li>• Guarded edges</li> <li>• Pre -work assessment</li> <li>• Pre - work briefing</li> <li>• Use of train as additional fall protection, in accordance with referenced SWI</li> <li>• Lace up safety footwear</li> <li>• Height safety equipment in use</li> <li>• Use ladders and scaffolding (where practical)</li> </ul>	C2, F3  C -	Supervisor and authorised employee	<a href="#">SMS-06-SW-0487 Entering Trains from Ballast</a> <a href="#">SMS-06-SW-0488 Climbing out of Trains onto Ballast</a>

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		Crush by falling train, train component or freight	C5,F3 B+	<ul style="list-style-type: none"> <li>Pre-work briefing</li> <li>Preparing train, in accordance with referenced SWI</li> <li>Clear communication between the team while operating hydraulic powered equipment</li> <li>Inspection prior to work</li> <li>Lighting, as required</li> <li>Site risk assessments</li> </ul>	C4,F2 C+		<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>
		Exposure to weather extremes	C3,F3 C+	<ul style="list-style-type: none"> <li>Wet weather clothing</li> <li>Thermal Clothing</li> <li>Long sleeves and long pants</li> <li>Sunscreen, as required</li> <li>Hat, as required</li> <li>Hot &amp; cold drinks</li> <li>Sunglasses, as required</li> </ul>	C1,F3 D		<a href="#">SMS-06-GD-0323 Personal Protective Equipment</a> <a href="#">SMS-06-FM-0386 PPE Register</a>
		Exposure to electricity	C5,F3 B+	<ul style="list-style-type: none"> <li>Pre-work briefing</li> <li>No access to incident when overhead power lines are down until they are isolated and permit to work issued</li> <li>Isolating overhead power where necessary, before jacking, in accordance with referenced SWI</li> <li>Worksite protection plan</li> <li>Qualified protection Officer</li> </ul>	C3,F3 C+		<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>

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		Exposure to hazardous substances / dangerous goods spills	C3,F3 C +	<ul style="list-style-type: none"> <li>• Hazmat Response Team</li> <li>• Pre-work briefing</li> <li>• Appropriate respirator</li> <li>• Lace up safety footwear</li> <li>• Appropriate protective gloves</li> <li>• Overalls / long sleeved shirts and pants</li> <li>• Disposable overalls</li> <li>• Working in accordance with referenced SWI</li> <li>• Worksite protection plan</li> </ul>	C1,F3 D	Supervisor and authorised employee	<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>  <a href="#">SMS-06-GD-0323 Personal Protective Equipment</a> <a href="#">SMS-06-FM-0386 PPE Register</a>

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		Sprains and strains from manual handling	C2, F4 = C+	<ul style="list-style-type: none"> <li>Carry out team lifts for heavy items</li> <li>Working in accordance with referenced SWI</li> <li>Use a firm grip, keep back straight, bend knees and avoid twisting, bending or overreaching</li> <li>Use manual handling aids such as trolleys</li> <li>Work in accordance with manual handling training</li> <li>Pre-work assessment and briefing</li> <li>Entry and exit using the platform, wherever possible</li> <li>Entry and exit using referenced SWIs when platform not available</li> <li>Use of ladder (non-conductive), as required</li> <li>Lace up safety footwear</li> <li>Portable lighting, as required</li> <li>Portable stairs in maintenance centres</li> <li>Protection plan</li> </ul>	C2, F3 = C-		<a href="#">SMS-06-GD-0001 - Manual Handling</a> <a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a> <a href="#">SMS-06-SW-0487 Entering Trains from Ballast</a> <a href="#">SMS-06-SW-0488 Climbing out of Trains onto Ballast</a>
		Exposure to train radio radiation		<ul style="list-style-type: none"> <li>Isolating the train radio, in accordance with referenced SWI</li> <li>Pre-work brief</li> </ul>			<a href="#">SMS-06-SW-0891 Train Radio Isolation</a>

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	<u>Tool &amp; Equipment Hazards</u> These Hazards and Controls apply to the use of tools and equipment	Electric shock from power leads	C3, F 4 = B-	<ul style="list-style-type: none"> <li>Testing and Tagging</li> <li>Pre-use inspection and remove damaged leads</li> <li>Residual Current Device (RCD) or Earth Leakage Device (ELD)</li> <li>Use battery drills, when possible</li> <li>Electric shock protocol</li> </ul>	C2, F 2 = D		<a href="#">SMS-06-SW-0274 Electrical Equipment – Selection, Inspection and Testing</a>
		Noise	C2, F 4 = C+	<ul style="list-style-type: none"> <li>Hearing protection</li> <li>Pre-work brief</li> <li>Supervision</li> <li>Work in accordance with relevant tool SWIs</li> <li>Refer to tool and equipment hazards</li> </ul>	C2, F2 = D		<a href="#">SMS-06-SW-0531 Hearing Protection</a>
	1. Powered Cutting Tools	Electric shock from electric power leads		<ul style="list-style-type: none"> <li>See “Tool &amp; Equipment Hazards”</li> </ul>			
		Noise		<ul style="list-style-type: none"> <li>See “Tool &amp; Equipment Hazards”</li> </ul>			
		“Kick Back” – Sudden movement of tool	C3, F 4 = C +	<ul style="list-style-type: none"> <li>Competent operator working in accordance with referenced SWI</li> <li>Pre-work assessment and briefing</li> <li>Pre-use inspection</li> <li>Keep clear of path of moving tool</li> <li>Check that guard returns correctly</li> <li>Workable guard and continuous inspection</li> <li>Supervision</li> </ul>	C2, F 2 = D		<a href="#">SMS-06-SW-0402 Chainsaws</a> <a href="#">SMS-06-SW-0474 Angle Grinders</a>

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		Dust	C2, F 3 = C -	<ul style="list-style-type: none"> <li>• Appropriate eyewear and PPE</li> <li>• Appropriate Respirator/filter</li> <li>• Training in the use of PPE</li> <li>• Supervision</li> <li>• Pre-work brief</li> <li>• Hygiene practice</li> </ul>	C2, F 2 = D		<a href="#">SMS-06-SW-0402 Chainsaws</a> <a href="#">SMS-06-GD-0323 Personal Protective Equipment</a>
		Projectiles	C3, F 4 = C +	<ul style="list-style-type: none"> <li>• Safety Eyewear (including face shield, as appropriate)</li> <li>• Pre-use checks, as per relevant SWI (see "kick back")</li> <li>• Competent operator working in accordance with relevant SWI (see "kick back")</li> <li>• Protective gloves</li> <li>• Relevant training in the operation of tools and equipment being used</li> <li>• Equipment guard</li> <li>• Pre-work assessment and briefing</li> <li>• Keep clear of path of moving tool</li> <li>• Check that guard returns correctly</li> <li>• Workable guard and continuous inspection</li> <li>• Supervision</li> </ul>	C2, F 2 = D		<a href="#">SMS-06-SW-0402 Chainsaws</a> <a href="#">SMS-06-SW-0474 Angle Grinders</a>

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		Cuts and abrasions from contact with moving tool	C2, F 3 = C -	<ul style="list-style-type: none"> <li>Competent operator working in accordance with relevant tool SWI</li> <li>Appropriate gloves</li> <li>Keep clear of cutting tools</li> <li>Supervision</li> <li>Pre-work brief</li> <li>Keep hands clear</li> <li>Relevant training in the operation of tools and equipment being used</li> <li>Equipment guard</li> </ul>	C2, F 2 = D		<a href="#">SMS-06-SW-0402 Chainsaws</a> <a href="#">SMS-06-SW-0474 Angle Grinders</a>
2	Hot Work Tools	Sparks and hot metal generated by tool use. Fire hazard	C2, F 3 = C -	<ul style="list-style-type: none"> <li>Competent operator working in accordance with relevant SWI (see "kick back")</li> <li>Long sleeved shirts or overalls</li> <li>Additional controls as dictated by outcome of hot work risk assessment</li> <li>Appropriate protective gloves</li> <li>Appropriate eye protection</li> <li>Use correct cutting wheels (soft wheels for hard metal, hard wheels for soft metal)</li> <li>Remove flammable materials within the vicinity of the work being undertaken</li> <li>Pre-work brief</li> <li>Supervision</li> <li>Extinguishers readily available</li> </ul>	C2, F 1 = D	Supervisor and authorised employee	<a href="#">SMS-06-PR-0329 Hot Work</a> <a href="#">SMS-06-SW-0948 Arc Welders – Safe Operation</a>  <a href="#">SMS-06-SW-0951 Oxy-Acetylene Welding Equipment – Safe Operation</a>
		Noise		<ul style="list-style-type: none"> <li>See Tool &amp; Equipment Hazards "Noise"</li> </ul>			<a href="#">SMS-06-SW-0531 Hearing Protection</a>

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		Radiation from equipment such as train radios	C3,F4 B-	<ul style="list-style-type: none"> <li>Competent operator working in accordance with relevant SWI</li> <li>Welders protective clothing</li> <li>Welders face shield</li> <li>Leather gloves</li> <li>Safety eyewear</li> </ul>	C2,F3 C-		<a href="#">SMS-06-SW-0948 Arc Welders – Safe Operation</a> <a href="#">SMS-06-SW-0951 Oxy-Acetylene Welding Equipment – Safe Operation</a> <a href="#">SMS-06-SW-0196 stowage and handling of gases in cylinders</a> <a href="#">SMS-06-SW-0474 Angle Grinders</a>
		Fire & Explosion	C5,F B+	<ul style="list-style-type: none"> <li>Competent operator working in accordance with relevant SWI</li> <li>Hot Work permit</li> <li>Pre-work briefing</li> <li>Pre Use Inspection</li> <li>Fire extinguisher</li> </ul>	C3,F2 C-		
		Fumes & Hazardous Gases	C4,F3 B-	<ul style="list-style-type: none"> <li>Pre-work briefing</li> <li>Appropriate respirator</li> <li>Supervision</li> </ul>	C3,F3 C+		
	3 Pneumatic Tools	Pneumatic discharge	C3,F2 C-	<ul style="list-style-type: none"> <li>Pre-use checks, as per referenced SWI</li> <li>Competent operator working in accordance with referenced SWI</li> </ul>	C2,F2 D	Supervisor and authorised employee	<a href="#">SMS-06-SW-0809 Pneumatic Tools</a>
		Struck by pneumatic hose	C3,F3 C +	<ul style="list-style-type: none"> <li>Pre-use checks, as per referenced SWI</li> <li>Competent operator working in accordance with referenced SWI</li> <li>Isolation and release of air pressure before removing hoses</li> </ul>	C2,F3) C-		<a href="#">SMS-06-SW-0809 Pneumatic Tools</a> <a href="#">SMS-06-SW-0839 Compressed Air – Safe Use</a>
		Noise		<ul style="list-style-type: none"> <li>See Tool &amp; Equipment Hazards “Noise”</li> </ul>			<a href="#">SMS-06-GD-0273 Noise Management</a>

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		Dust		<ul style="list-style-type: none"> <li>See "Powered Cutting Tools"</li> </ul>			<a href="#">SMS-06-GD-0323 Personal Protective Equipment</a>
		Cuts and abrasions from contact with moving tool		<ul style="list-style-type: none"> <li>See "Powered Cutting Tools"</li> </ul>			<a href="#">SMS-06-SW-0809 Pneumatic Tools</a>
	4 Vehicle Loading Crane	Struck by falling load	C4,F3 B-	<ul style="list-style-type: none"> <li>Pre-work brief</li> <li>Protective gloves</li> <li>Safety footwear</li> <li>Competent operator working in accordance with referenced SWI</li> </ul>	C3,F2 C-		<a href="#">SMS-06-SW-0944 Vehicle Loading Crane – Safe Operation</a>
		Struck by loaded hoist jib	C4,F3 B-	<ul style="list-style-type: none"> <li>Pre-work brief</li> <li>Protective gloves</li> <li>Competent operator working in accordance with referenced SWI</li> </ul>	C3,F2 C-		
		Hands caught in between rail and hoist	C3,F3 C+	<ul style="list-style-type: none"> <li>Pre-work brief</li> <li>Protective gloves</li> <li>Warning signs</li> <li>Competent operator working in accordance with referenced SWI</li> <li>Appropriate gloves</li> </ul>	C3,F2 C-		
		Hand entangled in hoist pulley	C3,F3 C+	<ul style="list-style-type: none"> <li>Pre-work brief</li> <li>Protective gloves</li> <li>Competent operator working in accordance with referenced SWI</li> </ul>	C3,F2 C-		
		Vehicle Loading Crane rolls back and strikes operator (when parked on incline)	C3,F3 C+	<ul style="list-style-type: none"> <li>Competent operator working in accordance with referenced SWI</li> <li>2 man operation of vehicle Loading crane as required</li> </ul>	C3,F2 C-		

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5	Hydraulic Jacks	Jack creeps resulting in person being pinned	C3,F2 C-	<ul style="list-style-type: none"> <li>• Carry out site risk assessment</li> <li>• Pre-work brief</li> <li>• Packaging under load, as required</li> <li>• Mechanical safety device in jack</li> <li>• Valve in jack</li> <li>• Jacks maintained</li> <li>• Hose valves maintained</li> <li>• Working in accordance with referenced SWI</li> <li>• Safety briefings</li> <li>• Operators manual</li> <li>• Periodic inspections and testing</li> <li>• Pre use inspections</li> <li>• Equipment and hose inspections</li> <li>• Inspection and testing</li> </ul>	C3,F1 D	Supervisor and authorised employee	<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>
		Burst hydraulic hose		<ul style="list-style-type: none"> <li>• Pre-use hose inspection</li> <li>• Hose valves maintained</li> <li>• PPE</li> <li>• Inspection &amp; testing</li> </ul>			
		Hit by moving (dislodged) jack		<ul style="list-style-type: none"> <li>• Competent operator working in accordance with referenced SWI</li> <li>• Jacks placed on firm and level ground</li> <li>• Clearing area of persons before jacking</li> <li>• Ongoing monitoring of jacks by team</li> </ul>	C3,F2 C-		

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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	Risk ranking after controls	Responsibility	Job step to be completed in accordance with (name associated documentation)	
1.	Receive notification and assemble at Flemington site	Driving vehicle to depot while impaired	C3,F5 B +	<ul style="list-style-type: none"> <li>Drug &amp; alcohol testing program</li> <li>Compliance with on call requirements</li> <li>Fatigue management</li> <li>Relevant driver's licence</li> <li>Road rules &amp; enforcement</li> <li>Vehicle registration</li> <li>Regular vehicle maintenance</li> </ul>	C3,F3 C +	Supervisor and authorised employee	
		Driving vehicle to depot at night / in poor weather	C3,F5 B +	<ul style="list-style-type: none"> <li>Drug &amp; alcohol testing program</li> <li>Driver's licence</li> <li>Road rules &amp; enforcement</li> <li>Vehicle registration</li> <li>Fatigue management</li> </ul>	C3,F3 C +		
2.	Prepare for work (PPE, load tools & equipment briefing)	Sprains and strains from manual handling (tools and equipment)		<ul style="list-style-type: none"> <li>See "General Hazards"</li> </ul>			
		Various hazards associated with Vehicle Loading Monorail Crane		<ul style="list-style-type: none"> <li>See "Vehicle Loading Monorail Crane"</li> </ul>			
3.	Travel to nearest access location	Driving RETRU truck to incident site while fatigued	C3,F5 B +	<ul style="list-style-type: none"> <li>Fatigue management policy</li> <li>Compliance with on call requirements</li> <li>Relevant driver's licence</li> <li>Road rules &amp; enforcement</li> <li>Vehicle registration</li> <li>Vehicle regular maintenance</li> <li>Working in accordance with referenced SWI</li> </ul>	C3,F3 C +		<a href="#">SMS-06-SW-1109 Driving to remote sites</a>

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Issue date: 23/06/10

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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	Risk ranking after controls	Responsibility	Job step to be completed In accordance with (name associated documentation)	
		Driving RETRU truck to incident at night / in poor weather	C3,F5 B +	<ul style="list-style-type: none"> <li>Driver's heavy combination &amp;/or medium rigid licence</li> <li>Road rules &amp; enforcement</li> <li>Vehicle registration</li> <li>Vehicle maintenance</li> <li>Working in accordance with referenced SWI</li> </ul>	C3,F3 C +		
4.	Arrive at incident site and organise protection	RETRU Team member hit by road vehicle	C4,F4 B +	<ul style="list-style-type: none"> <li>High visibility clothing or vest</li> <li>Witches hats deployed</li> <li>Truck flashing beacon light</li> <li>Truck lights (e.g. head lights/hazard lights)</li> <li>Highly visible truck</li> <li>Pre-work brief</li> </ul>	C4,F2 C +	Supervisor and authorised employee	
		RETRU Truck hit by road vehicle	C4,F4 B +	<ul style="list-style-type: none"> <li>Witches hats deployed</li> <li>Flashing beacon light</li> <li>Truck lights (e.g. head lights/hazard lights)</li> <li>Highly visible truck</li> <li>Working in accordance with referenced SWI</li> <li>Pre-work brief</li> <li>Observer as required</li> </ul>	C4,F2 C +		
5.	Prepare for Inspection	See above "General Hazards"		<ul style="list-style-type: none"> <li>See above "General Hazards"</li> </ul>			<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>
6.	Travel to Inspection Point	See above "General Hazards"		<ul style="list-style-type: none"> <li>See above "General Hazards"</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	Risk ranking after controls	Responsibility	Job step to be completed In accordance with (name associated documentation)	
7.	Inspect the incident site to identify hazards	See above "General Hazards"		• See above "General Hazards"			
8.	Review findings and conduct pre work brief	See above "General Hazards"		• See above "General Hazards"			
9.	Access the Incident Site						
	9.1 Access the Incident Site by truck	RETRU Truck hit by train	C5,F3 B+	<ul style="list-style-type: none"> <li>• Pre-work Briefing</li> <li>• Worksite protection plan</li> <li>• Qualified protection Officer</li> <li>• Inspection prior to work</li> <li>• Train Protection</li> <li>• Rail Industry Safety Induction (RISI)</li> <li>• Trained drivers</li> <li>• Medical standards and health assessments</li> <li>• Truck's flashing beacon light</li> <li>• Truck lights (e.g. head lights/hazard lights)</li> <li>• Highly visible truck</li> <li>• Train lights</li> <li>• Working in accordance with referenced SWI</li> <li>• Points clipping/locking</li> <li>• Use of warning detonators</li> <li>• Defined safety zone for emergencies</li> </ul>	C4,F2 C+	Supervisor, authorised employee and Protection Officer	<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>

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Issue date: 23/06/10

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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	Risk ranking after controls	Responsibility	Job step to be completed In accordance with (name associated documentation)	
		Roll the RETRU truck on uneven terrain	C4,F2 C +	<ul style="list-style-type: none"> <li>• Pre-work briefing</li> <li>• Inspection prior to work</li> <li>• Seatbelts</li> <li>• Driver's heavy combination &amp;/or medium rigid licence</li> <li>• Spotter, as required</li> <li>• Truck lights (head lights)</li> <li>• Working in accordance with referenced SWI</li> </ul>	C3,F2 C -	Supervisor and authorised employee	<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>
		Sprains and strains from manual handling (getting truck un-bogged, as required)		<ul style="list-style-type: none"> <li>• See "General Hazards"</li> </ul>		Supervisor and authorised employee	<a href="#">SMS-06-GD-0001 Guide to Manual Handling</a>
		Person struck by RETRU truck	C3,F3 C +	<ul style="list-style-type: none"> <li>• Drug &amp; alcohol policy</li> <li>• Truck's flashing beacon light</li> <li>• Truck lights (e.g. head lights)</li> <li>• Highly visible truck</li> <li>• Driver's heavy combination &amp;/or medium rigid licence</li> <li>• Observer, as required</li> <li>• Access restricted to area</li> </ul>	C3,F2 C -		<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>

# RETRU Recovery of Rail Vehicles

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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)
	9.2 Access the Incident Site by Road Rail Vehicle	Road Rail Vehicle strikes a person	C4,F2 C +	<ul style="list-style-type: none"> <li>• Drug &amp; alcohol policy</li> <li>• Pre-work briefing</li> <li>• Vehicle's flashing beacon light turned on</li> <li>• Seatbelts worn at all times</li> <li>• Network operations supervisor</li> <li>• Qualified protection officer</li> <li>• Vehicle head lights turned on</li> <li>• Working in accordance with referenced SWI</li> <li>• Train protection</li> </ul>	C3,F2 C-	Supervisor, authorised employee and Protection Officer	<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>
		Road Rail Vehicle strikes a construction site vehicle	C4,F2 C +	<ul style="list-style-type: none"> <li>• Drug &amp; Alcohol policy</li> <li>• Working in accordance with referenced SWIs</li> <li>• Driver is a network operations Supervisor or a train driver</li> <li>• Site traffic management plan</li> <li>• Restricted access to the construction site</li> <li>• Construction workers Rail Industry Safety Induction (RISI) qualified</li> <li>• Qualified protection officer</li> <li>• Train protection</li> </ul>	C3,F2 C-		<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>
		Road Rail Vehicle strikes a train	C4,F2 C +	<ul style="list-style-type: none"> <li>• Pre work briefing</li> <li>• Vehicle's flashing beacon light</li> <li>• Vehicle's head lights turned on</li> <li>• Driver is a network operations Supervisor or a train driver</li> <li>• Sounding horn, as required</li> <li>• Qualified protection officer</li> <li>• Access restricted to the area</li> </ul>	C3,F2 C -		<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>

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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)
10.	Unload tools & equipment and take to site of incident	Sprains and strains from manual handling (tools and equipment)		<ul style="list-style-type: none"> <li>See above "General Hazards"</li> </ul>		Supervisor and authorised employee	<a href="#">SMS-06-SW-0944 Vehicle loading crane – Safe Operation</a>
		Various hazards associated with vehicle loading crane		<ul style="list-style-type: none"> <li>See above "Vehicle Loading Crane"</li> </ul>			
		Slip, trip, fall on rail, ballast or other uneven walking surfaces		<ul style="list-style-type: none"> <li>See above "General Hazards"</li> </ul>			
11.	Set up equipment	Sprains and strains from manual handling (tools and equipment)		<ul style="list-style-type: none"> <li>See above "General Hazards"</li> </ul>			

	Undertake work required to resolve incident, potentially including...	Fall from height		• See above "General Hazards"			<a href="#">SMS-06-SW-0931 Removing and Rerailing Vehicles from Tracks</a>
	• Removing and Rerailing Vehicles from tracks	Crush by falling train, train component or freight		• See above "General Hazards"			<a href="#">SMS-06-SW-0932 Pony Bogie-Safe Fitting</a>
	• Pony Bogie – Safe Fitting	Exposure to weather extremes		• See above "General Hazards"			<a href="#">SMS-06-SW-1138 Road-Rail Vehicle - Safe Operation</a>
	• Replacing kingpins and re-aligning bogies	Exposure to electricity	C5,F3 B+	• See above "General Hazards"	C3,F3 C+		<a href="#">SMS-06-SW-0891 Train Radio Isolation</a>
12.	• Separating seized traction motor from spur gear	Exposure to train radio radiation		• See above "General Hazards"			
	• Removing Train Radio Antenna	Sprains and strains from manual handling (tools and equipment)		• See above "General Hazards"			
	• Handling Damaged Wheel Sets	Various hazards associated with Hot Work tool use		• See above "Hot Work Tools"			
		Various hazards associated with powered cutting tool use		• See above "Powered Cutting Tools"			
		Various hazards associated with Pneumatic tool use		• See above "Pneumatic Tools"			
		Various hazards associated with Hydraulic Jacks		• See above "Hydraulic Jacks"			
13.	Pack up and Load Truck	Sprains and strains from manual handling (tools and equipment)		• See above "General Hazards"		Supervisor and authorised employee	<a href="#">SMS-06-SW-0944 Vehicle loading crane</a>
		Various hazards associated with the Vehicle loading crane		• See above "Vehicle loading crane" and "Equipment hazards"			
14.	Notify network operations that work is complete						
15.	Return to depot	Driving RETRU truck to the Depot while fatigued		• See above "General Hazards"			

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	Driving RETRU truck to the Depot at night / in poor weather		<ul style="list-style-type: none"><li>• See above "General Hazards"</li></ul>			
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# RETRU Recovery of Rail Vehicles

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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**

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			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.
	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		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.
Consequence		Incredible	Improbable	Remote	Occasional	Probable	Frequent		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A		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.
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A		
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A		To score the risk, follow the steps:
1 Major Injury	C3	Major	D	C-	C+	B-	B+		
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+	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).
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-	