

SWMS – Civil inspections and maintenance using Hi-Rail inspection vehicle on track.

Issue date: 04/10/07

Review date: 04/10/10

SWMS number: SMS-06-SW-0763	SWMS Name: Using Hi-Rail vehicle on track.			SWMS Team: John Jobson Livio Radman Trevor Hicks Dragan Sukara Wal Bailey Michael Holt
Custodian (Position): Business Systems Officer, Illawarra Region. Peter Sharpe.	Assumptions: Fine weather, daylight hours, rail tracks operational with OHW power live. Using a form of worksite protection (TOA or LPA), or block working arrangement. Staff have been briefed in SWMS: Civil inspections and maintenance in the danger zone of the railway track. Staff have had Regional Induction.			Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) <ul style="list-style-type: none"> Safety Officer - Asset Management, Metropolitan Infrastructure, Illawarra. Civil Engineer - Asset Management, Metropolitan Infrastructure, Illawarra.
Approving Authority (Position): General Manager, Infrastructure Maintenance.	Plant/Equipment/Tools: <ul style="list-style-type: none"> Track shorting clips. Flags and detonators. Hi-Rail vehicle. 	Records/Reporting: Nil	Permits/licences required: Where required:- <ul style="list-style-type: none"> Appropriate driver's license, eg RTA. 	
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> TOC Manual 	Inspection requirements <ul style="list-style-type: none"> Electrical equipment has current test tag. Daily plant check. 	Service schedule: SSC 002 – Hi Rail patrol. SSC 031 – Ultrasonic rail examination (Hi Rail). MIMS or METRE Ref: P00030 – Track patrol Hi Rail.	Training/Qualifications required: <ul style="list-style-type: none"> Track Vehicle Operator accreditation. Electrical permit holder QEL as required. 	PPE required: <ul style="list-style-type: none"> Steel Cap Boots Safety Glasses High visibility Safety Vest Hard Hat as required. Gloves as required. Ear protection as required.

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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	Travel by road.	Hi-rail gear descending while travelling.	B+	Check safety chain before travelling.	C-	Vehicle operator	
2	Putting on and taking off track.	Manual handling injury manually operating hi rail equipment.	C-	Gloves. Correct manual handling techniques.	C-		SMS-06-SW-0530. Protective gloves.
		Damage to eyes from hydraulic oil from burst hose.	C+	Pre work plant check list. Eye protection PPE.	C-	Vehicle operator Team member	SMS-06-SW-0529. Eye protection.
		Electric shock from OHW from climbing on to back of vehicle.	B+	Do not climb on to back of truck under live OHW. Electrical Hazard Warning signs on back of truck. Obtain Electrical Isolation permit prior to commencing work if required.	C+	Team member. Team Manager	SMS-06-GD-0268. Working around electrical infrastructure.
		Roll over of vehicle.	B-	Use level area to put on or take off. Seat belt.	C-	Vehicle operator	
		Struck by train/fouling adjacent line.	A	Worksite Protection including adjacent line.	C+	Protection officer	Network rules and procedures.
		Struck by moving vehicle.	B-	Keep safe distance from working vehicle. Do not approach vehicle without gaining operator's attention. Do not walk directly behind moving vehicle.	B-	Team member	
3	Getting into and out of Hi-Rail vehicle while on track.	Struck by train.	A	Exit and enter from safe side of vehicle, or Worksite Protection including adjacent line as required.	C+	Team member	Network rules and procedures.
		Fall from heights.	B-	Identify areas of potential fall and move vehicle to safe location. Do not access platforms from track level. Use end ramps or steps.	C+	Team member	
		Fall from vehicle to ballast or ground.	B-	Correct use of hand holds and steps on vehicle.	C+	Team member	

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		Back injury climbing on to platform from track level.	B-	Do not access platforms from track level. Use end ramps or steps.	C-	Team member	
4	Driving Hi-Rail on Track.	Derail.	B-	Check Hi Rail equipment is locked in place. Check ballast sweepers are in place and functional. Drive at correct speed. Do not attempt to steer. Check points before traversing. Stop before turnouts if train approaching on adjacent track. Wait till train passes. Obey all signals.	C+	Vehicle operator	Network rules and procedures.
		Hearing damage from noise from other trains, wheel squeal of Hi Rail	C-	Wear Hearing PPE as required.	D	Team member	SMS-06-GD-0531. Hearing protection.
		Striking objects on track.	B-	Drive at correct speed. Be observant of track ahead.	C+	Vehicle operator	
		Collision with train or track vehicle.	B-	Obey all signals. Follow train operation and network rules.	C+	Vehicle operator	Network rules and procedures.
		Collision at pedestrian and road level crossing	A	Follow train operation and network rules	C+	Vehicle operator	Network rules and procedures.
		Injuries from other work activity in the vicinity.	B+	Contact other worksite supervisor before entering worksite and obtain induction before entering.	B-	Worksite supervisor.	
5.	Using Vehicle mounted crane whilst on track.	Roll over of vehicle	A	Follow SWI for vehicle cranes Use Vehicle Rail Clamps Instruction in the use of vehicle crane.	C+	Vehicle crane operator	SWI: Vehicle cranes

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		Electric shock from OHW from climbing on to back of vehicle.	B+	Do not climb on to back of truck under live OHW. Electrical Hazard Warning signs on back of truck. Obtain Electrical Isolation permit prior to commencing work if required.	C+	Team member. Team Manager Worksite Supervisor.	SMS-06-GD-0268. Working around electrical infrastructure.
6.	Stopping Hi-Rail on track to work or for vehicle breakdown.	Struck by train	A	Exit and enter from safe side of vehicle, or Worksite Protection including adjacent line as required	C+	Team member	Network rules and procedures.
		Electric shock from OHW from climbing on to back of vehicle.	B+	Do not climb on to back of truck under live OHW. Electrical Hazard Warning signs on back of truck. Obtain Electrical Isolation permit prior to commencing work if required.	C+	Team member. Team Manager	SMS-06-GD-0268. Working around electrical infrastructure.
		Collision with train or track vehicle	A	Install Track shorting clips Safeworking protection as required	C+	Vehicle operator Team member	Network rules and procedures.
		Runaway of vehicle	A	Handbrake and chocks if required	C+	Vehicle operator.	
		Manual handling injury manually operating Hi-Rail equipment	C-	Gloves Correct manual handling techniques	C-	Vehicle operator	SMS-06-SW-0530. Protective gloves.
7.	Using a Hi-Rail in a tunnel.	Damage to lungs or airways from chemical fumes from diesel powered plant.	B+	Air monitoring to be in place when diesel powered equipment is used in tunnels. Turn off engine when stationary. All diesel powered on and off track plant used in the City Underground and ESR Networks to be fitted with Catalytic converters. Use respiratory PPE as required.	C+	Vehicle operator Team member	SWI: Working in the Underground and ESR Networks. SMS-06-SW-0535. Respiratory protection.

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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

WMS TEMPLATE DEFINITIONS (Delete this page once you have completed the SWMS)

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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		
Consequence		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	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.	
>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	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.	
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-	Note: Where there are a range of credible consequences which may lead to a different level of risks and/or where the controls may be different. It may be useful to score the risk more than once.	
Extreme High Medium Low										