

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

SWMS number: SMS-06-SW-1148	SWMS Name: Install Low Voltage Equipment.			SWMS Team: Renewals Electrical – Distribution Review Team
Custodian (Position): Electrical Services Manager, Commercial Renewal	Assumptions: Site specific risks are addressed and assessed in pre- work briefing			
Approving Authority (Position): Safety and Quality Manager Commercial Renewals	Equipment/Plant/Tools: <ul style="list-style-type: none">Plant / Vehicle Loading CraneBarriers, Witches hats and fencingLV rescue kitWarning / Caution Signs / Danger Tags	Records/Reporting: <ul style="list-style-type: none">Worksite Protection PlanPre-work BriefElectrical Test TagsHot Work Permit (During Total Fire Ban)Fire BrigadeServices searches, diagramsElectric PermitSite layout documentEnvironmental PlanDaily Plant ChecklistManufacturer testing proceduresMSDS	Permits/licences required: <ul style="list-style-type: none">Confined Spaces CertificateTraffic Controller CertificateElectrical Permit Holder	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) Electrical Services Manager & SEQ Coordinator Asset Management Group Commercial Renewals
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none">OH&S Act 2000OH&S Regulation 2001SMS and Network RulesRail Safety Regulation 2003RailCorp Safety PolicyRailCorp Network Rules & ProceduresRailCorp Safety Management System.MSDS for all chemicals and hazardous Substances used on siteElectrical Safety InstructionsSAA Wiring Rules				Inspection requirements: Nil
		MIMS or METRE Ref: Nil	Qualification required: <ul style="list-style-type: none">Construction Industry InductionTrack Safety Awareness or RISI (Rail Industry Safety Induction) And as specified below. <ul style="list-style-type: none">Authorised Electrical Person	

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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	Evaluate the environment	Uneven ground	C-	Level up ground. Clear pathways	D	Team Leader / Work Group Leader	Environmental Plan. Workplace Risk Management SMS-06-PR-0104
		Undergrowth	C-	Clear only excess undergrowth as required	D		PPE- SMS-06-GD-0323
		Water obstacle/ drain	C-	Redivert water, pump away or install drain	D	Team Leader / Work Group Leader / All Staff	Working Outdoors SMS-06-PR-0104
		Dust	C-	Water down area, keep vehicular traffic down	D		Irritation from Dust SMS-06-SW-0535
		Ultra violet injuries	B-	PPE Sunscreen, hat sunglasses	D		
		Venomous bite & stings	C-	Remove undergrowth. Take care opening, lifting items.	D		
		Needles	C-	Inspect work area. Remove undergrowth. Take care opening, lifting items.	D		Needle Sticks SMS-06-FM-0163
		Trains	B+	Relevant Work Site Protection and Protection officer for site	D	Protection Officer.	Network rules and Procedures, Safety Management SMS-01-PO-0126
		Roadways	C-	Relevant Work Site Protection and Protection officer for site	D	Traffic Controller, Team Leader / Work Group Leader	Traffic Plan, Work-on/near Roads SMS-06-GD-0372

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6	Locate services	Damage to services	B+	Services searches, diagrams on site	D	Team Leader / Work Group Leader	Services Search Checklist SMS-06-FM-0384
				Approved water exposure of services			
				Hand dig to expose services			
7	Clear the work area / site	Electric Shock Unauthorised work	B+	Site layout documented	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577
			A	Permits and authorised work	D		
8	Site set up	Manual Handling	C+	Correct technique / site specific PPE	D	All Staff	Manual Handling SMS-06-GD-0001
		Plant moving	C+	Site specific PPE	D	Team Leader / Work Group Leader / All Staff	PPE- SMS-06-GD-0323
				Lookouts			Plant & Equipment Safety SMS-11-GD-0243
				Pre Work Brief			Pre work Briefing SMS-06-FM-0163
		Adjacent equipment	C-	Permits and authorised work	D		Work near Mob. Plant SMS-06-GD-0225
				Lookouts			Electrical Equipment SMS-06-GD-0268
		Dangerous goods	C+	Quarantine area	D		Hazardous Substances SMS-06-GD-0199
		Temporary power	C-	See Low Voltage SWMS	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268
9	Isolate supplies	Electric shock	C+	LV rescue kit at site	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577 PPE- SMS-06-GD-0323 ESI,S
				PPE as pre work brief			
				Competent persons			
				Correct isolator points identified			
				Test dead / danger tag / permits			
		Fall from heights	C+	PPE as pre work brief	D	Team Leader /	Working at Heights

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		Switchboard materials	B+	Use plant for access Competent persons		Work Group Leader / All Staff	SMS-06-GD-0240 Elev. Work Platform's SMS-06-SW-0310 Hazardous Substances SMS-06-GD-0199 PPE- SMS-06-GD-0323
				PPE as pre work brief	D		
				MSDS used			
		Explosion	A	Identify materials		Team Leader / Work Group Leader / All Staff	Hazardous Substances SMS-06-GD-0199 PPE- SMS-06-GD-0323 Electrical Equipment SMS-06-GD-0268
				Care to be used around batteries and live equipment	D		
		Burns	B+	Appropriate tools used		First Aid Officer	
				PPE as pre work brief	D		
	10 Carry out work. Dead or alive	Surrounding live parts	A		D	Team Leader / Work Group Leader / All Staff	Electrical Equipment SMS-06-GD-0268 ESI,S, PPE- SMS-06-GD-0323
				Demarcation or barriers			
				Pre work brief and PPE			
				Authorised work			
				Appropriate tools			
		Fall from height	C+	LV rescue kit			Elev. Work Platform's SMS-06-SW-0310 Fall Arrest Systems SMS-06-GD-0241
				PPE as pre work brief	D		
				Use plant for access			
		Manual handling	C+	Competent persons			Manual Handling SMS-06-GD-0001 PPE- SMS-06-GD-0323
				Correct techniques	D		
		Public	C+	Specific PPE to task and pre work brief		Team Leader / Work Group Leader	Work-on/near Roads SMS-06-GD-0372
				Demarcation or barrier	D		
				Security personnel			
		Moving plant	C+	Traffic controllers		Team Leader / Work Group	PPE- SMS-06-GD-0323 Plant & Equipment Safety
				Site specific PPE	D		
				Lookouts			

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		Struck by equipment		Pre work brief		Leader / All Staff	SMS-11-GD-0243 Work near Mob. Plant SMS-06-GD-0225 Pre work Briefing SMS-06-FM-0163
				Signage			
			B+	Site specific PPE	D		
				Lookouts			
				Pre work brief			
				Signage			
11	Test work and clean up site	Electric shock	A	LV rescue kit at site	D	Authorised Person, All Staff	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577 PPE- SMS-06-GD-0323 House Keeping SMS-16-FM-0069 ESI,S
				PPE as pre work brief			
11	Test work and clean up site (Cont.....)	Electric shock	A	Competent persons	D	Authorised Person, All Staff	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577 PPE- SMS-06-GD-0323 House Keeping SMS-16-FM-0069 ESI,S
				Correct isolator points identified			
				Test dead / danger tag / permits			
				Communication – equipment clear for testing			
				Certified tools			
				Manufacturer testing procedures			
		Explosion / burns	A	Care to be used around batteries and live equipment	D	All Staff	Electrical Equipment SMS-06-GD-0268 Plant & Equipment Safety SMS-11-GD-0243

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				Appropriate tools used			
				Check testing carried out prior to loading up			
		Fall from heights	C+	PPE as pre work brief	D	All Staff	Working at Heights SMS-06-GD-0240 Full Body Harness SMS-06-FM-0253
				Use plant for access			
				Competent persons			
		Manual handling, Cuts / abrasions	C+	Correct techniques	D	All Staff	Manual Handling SMS-06-GD-0001 PPE- SMS-06-GD-0323 Pre work Briefing SMS-06-FM-0163
				Specific PPE to task and pre work brief			
				Correct techniques			
				Staff to take care and time			
11	Test work and clean up site. Cont.	Hazardous materials	C+	Identification of material	D	Team Leader / Work Group Leader / All Staff	MSDS Hazardous Substances SMS-06-GD-0199
				MSDS			
		Struck by plant	C+	Site specific PPE	D	Team Leader / Work Group Leader / All Staff	Work near Mob. Plant SMS-06-GD-0225 Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323
				Lookouts			
				Pre work brief			
				Signage			

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Legend

PWB – Pre Work Brief
ESI's – Electrical Safety Instructions
MSDS – Material Safety Data Sheet
PPE – Personal Protective Equipment
RDELE – Renewals Distribution Electrical
SWMS – Safe Work Method Statement
IR – Insulation Resistance
LV – Low Voltage

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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	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	A	
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A	A	A	
1 Major Injury	C3	Major	D	C-	C+	B-	B+	A	A	
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+	B+	
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+	B-	B-	