

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	Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group) Electrical Services Manager & SEQ Coordinator Asset Management Group Commercial Renewals
Approving Authority (Position): Safety and Quality Manager Commercial Renewals	Equipment/Plant/Tools: <ul style="list-style-type: none"> Plant / Vehicle Loading Crane Barriers, Witches hats and fencing LV rescue kit Warning / Caution Signs / Danger Tags 	Records/Reporting: <ul style="list-style-type: none"> Worksite Protection Plan Pre-work Brief Electrical Test Tags Hot Work Permit (During Total Fire Ban) Fire Brigade Services searches, diagrams Electric Permit Site layout document Environmental Plan Daily Plant Checklist Manufacturer testing procedures MSDS Permits/licences required: <ul style="list-style-type: none"> Confined Spaces Certificate Traffic Controller Certificate Electrical Permit Holder
Applicable Standards, Codes of Practice and guidance: <ul style="list-style-type: none"> OH&S Act 2000 OH&S Regulation 2001 SMS and Network Rules Rail Safety Regulation 2003 RailCorp Safety Policy RailCorp Network Rules & Procedures RailCorp Safety Management System. MSDS for all chemicals and hazardous Substances used on site Electrical Safety Instructions SAA Wiring Rules 	Inspection requirements: Nil	Service schedule: Nil MIMS or METRE Ref: Nil Qualification required: <ul style="list-style-type: none"> Construction Industry Induction Track Safety Awareness or RISI (Rail Industry Safety Induction) And as specified below. <ul style="list-style-type: none"> Authorised Electrical Person

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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	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 Working Outdoors
		Water obstacle/ drain	C-	Redivert water, pump away or install drain	D	Team Leader / Work Group Leader / All Staff	SMS-06-PR-0104 Irritation from Dust SMS-06-SW-0535
		Dust	C-	Water down area, keep vehicular traffic down	D		
		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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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)
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 Plant & Equipment Safety SMS-11-GD-0243 Pre work Briefing SMS-06-FM-0163 Work near Mob. Plant SMS-06-GD-0225
				Lookouts			
				Pre Work Brief			
		Adjacent equipment	C-	Permits and authorised work	D		Electrical Equipment SMS-06-GD-0268
				Lookouts			
		Dangerous goods	C+	Quarantine area	D		Hazardous Substances SMS-06-GD-0199
9	Isolate supplies	Electric shock	C-	See Low Voltage SWMS	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268
				LV rescue kit at site			
				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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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)
				Pre work brief		Leader / All Staff	SMS-11-GD-0243
				Signage			Work near Mob. Plant SMS-06-GD-0225
		Struck by equipment	B+	Site specific PPE	D		Pre work Briefing SMS-06-FM-0163
				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
11	Test work and clean up site (Cont.....)	Electric shock	A	PPE as pre work brief		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
				Competent persons	D		
				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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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)
11	Test work and clean up site. Cont.			Appropriate tools used		All Staff	Working at Heights SMS-06-GD-0240 Full Body Harness SMS-06-FM-0253
				Check testing carried out prior to loading up			
		Fall from heights	C+	PPE as pre work brief	D		
				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			
		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			

Install Low Voltage Equipment.

Issue date: 10/04/08
Review date: 08/04/11

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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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

Install Low Voltage Equipment.

Issue date: 10/04/08

Review date: 08/04/11

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	
Consequence	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	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.	
	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		
>10 Fatalities	C6	Disastrous	B-	B+	A	A	A		To score the risk, follow the steps:
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	A		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).
1 Fatality (2-10 Major Injuries)	C4	Critical	C-	C+	B-	B+	A		2. Identify the likelihood of this level of consequence occurring. (This is done after considering the effectiveness of the current controls in place)
1 Major Injury	C3	Major	D	C-	C+	B-	B+		3. Score the risk using the combination of likelihood and consequence ranking.
1 or more Minor Injuries	C2	Minor	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.
First aid treatment, or illness/injury not requiring treatment	C1	Negligible	D	D	D	C-	C+		