

Install 1500 volt equipment.

Issue date: 08/04/08

Review date: 21/02/11

SWMS number: SMS-06-SW-1099	SWMS Name: Install 1500-volt equipment.			SWMS Team: Electrical Distribution Review Team
Custodian (Position): Electrical Services Manager, Commercial Renewals	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">• Specific Plant for Task• Appropriate handtools,• Cable Puller• Transmission Oil• Insulating Gases• Barriers, Witches hats and fencing	Records/Reporting: <ul style="list-style-type: none">• Worksite Protection Plan• Pre-work Brief• Electrical Test Tags• Site layout documented• Services searches• Traffic Control Plan• Electrical Permits• Electrical Safety Instructions	Permits/licences required: <ul style="list-style-type: none">• Traffic Controller Certificate• Electrical 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 2000• OH&S Regulation 2001• Rail Safety Regulation 2003• RailCorp Network Rules & Procedures• RailCorp Safety Management System.• MSDS for all chemicals and hazardous Substances used on site• Electrical Safety Instructions• SAA Wiring Rules• EC14 – Guide to Electrical Workers' Safety Equipment• WorkCover NSW Plant Guide• National Code of Practice for Manual Handling [NOHSC:2005]• AS/NZS 1891.4 – 2000 “Industrial fall arrest systems and devices – Selection, use and maintenance”• AS 4839 portable oxy-fuel gas systems• AS 1674.1 – Safety in welding processes				
	Inspection requirements Nil	Service schedule: Nil	Training/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	Personal Protective Equipment required: <ul style="list-style-type: none">• Safety Boots• High Visibility Vests• Hardhats• Protective Clothing• Safety Glasses And as specified below. <ul style="list-style-type: none">• Fall Arrest Devices• Gloves• During all Site Works a FIRST AIDER MUST be Present

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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 / All Staff	Environmental Plan. Uneven Surfaces SMS-06-FM-0163
		Undergrowth	C-	Clear only excess undergrowth as required	D		PPE- SMS-06-GD-0323 Working Outdoors SMS-06-PR-0104 Irritation from Dust SMS-06-SW-0535
		Water obstacle/ drain	C-	Redivert water, pump away or install drain	D		
		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	Protection Officer.	Needle Sticks SMS-06-FM-0163
		Trains	B+	Relevant Work Site Protection and Protection officer for site	D		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			
6	Locate services (Cont.....)	Damage to services (Cont.....)	B+	Hand dig to expose services	D	Team Leader / Work Group Leader	Services Search Checklist SMS-06-FM-0384
7	Clear the work area / site	Electric Shock Unauthorised work	C+	Site layout documented	D	Authorised Person,	Electrical Permits SMS-06-EN-0577
			A	Permits and authorised work	D	Team Leader / Work Group Leader	House Keeping SMS-16-FM-0069 ESI,S
8	Site set up	Manual Handling	C+	Correct technique / site specific PPE	D	All Staff	Manual Handling SMS-06GD-0001 PPE- SMS-06-GD-0323 Backsafe Training Manual
		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	Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268
		Other Work Groups	C+	Warn other work groups to stay clear of Worksite	D		Safety Management SMS-01-PO-0126
		Moving plant	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

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9	Position equipment			Pre Work Brief			Pre work Briefing SMS-06-FM-0163 Work near Mob. Plant SMS-06-GD-0225
		Manual operated plant, skates, pipes	C-	Communication within group on task happenings	D		Plant & Equipment Safety SMS-11-GD-0243
		Electric shock	C+	Permits and authorised work	D	Authorised Person, Team Leader / Work Group Leader / All Staff	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577
				Touch potential's identified			
				Design distances met			
		Suspended loads	B+	Identify danger area, moving radius of loads	D	Hiab Operator, Team Leader / Work Group Leader / All Staff	Lifting Equipment SMS-16-FM-0089
		Injury from plant / tools	B+	Tagged tools and inspected plant	D	Team Leader / Work Group Leader	Plant & Equipment Safety SMS-11-GD-0243
		Work aloft	B+	Pre work brief and PPE	D	Competent Person	Working at Heights SMS-06-GD-0240
		Manual handling	C+	Correct technique / site specific PPE	D	Team Leader / Work Group Leader / All Staff	Manual Handling SMS-06-GD-0001
		Cuts and abrasions	B+	PPE as pre work brief	D		PPE- SMS-06-GD-0323
10	Demolition / removal	Oil type used (PCB)	B-	PPE and identification	D		PPE- SMS-06-GD-0323 Hazardous Substances SMS-06-GD-0199
		Oil contamination / spill Gases - Insulating	B-	Response kit for size of the work.	D		
			A	Environmental paperwork and notices	D		
				MSDS and manufacturer instructions			
		Electrical contact	A	Permits, authorised work	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577 ESI,S

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10	Demolition / removal	Asbestos materials	A	Identification, MSDS, relevant permits	D	Team Leader / Work Group Leader / All Staff	Hazardous Substances SMS-06-GD-0199
		Oxy equipment -explosion	A	MSDS for gases, plant inspections	D	Oxy-Acetylene Operator, Team Leader / Work Group Leader / All Staff	AS-4839 (Safe use of Oxy-fuel Gas Sys) Storage/Handling of Gases SMS-06-SW-0196
		Oxy equipment -fire	B+	Extinguishers or water supply ,hot work permit	D	Team Leader / Work Group Leader	Fire Procedures SMS-06-PR-0329
				Hot work permit	D		
		Oxy equipment - burns	B+	PPE as pre work brief	D	Team Leader / Work Group Leader	House Keeping SMS-16-FM-0069
		Leaving tools behind	C-	Visual inspections	D		
		Materials remaining	C-	Visual inspections	D		
		Manual handling	C+	Correct techniques, site specific measures as Pre Work Brief	D	Team Leader / Work Group Leader / All Staff	Manual Handling SMS-06-GD-0001
				Sequential order for removal, manufacturer instructions			
		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			
		Falling objects/ debris	B+	PPE as pre work brief Clear area of non essential personnel	D	Team Leader / Work Group Leader / All Staff	PPE- SMS-06-GD-0323
		Dust	C-	Wet down areas where possible, vacuum area	D		Irritation from Dust SMS-06-SW-0535
		Confined spaces	A	Authorised work	D	Confined Spaces Authorised Person.	Confined Spaces SMS-06-GD-0035

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<input type="checkbox"/>	Additional Site specific hazards						

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
 PCB's - Polychlorinated Biphenyls

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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							<u>Definition for Use - Regional & Local level (Workplace)</u> 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.
			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-		