

Testing and commissioning

Issue date: 08/04/08
Review date: 21/02/11

SWMS number: SMS-06-SW-0997	SWMS Name: Testing And Commissioning			SWMS Team: 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"> Appropriate Plant as required. Services Search Detectors Barriers, Witches hats and fencing Hand Tools Test equipment, Jumper leads 	Records/Reporting: <ul style="list-style-type: none"> Worksite Protection Plan Pre-work Brief Electrical Test Tags Environmental Plan. Safety Manuals Traffic Plan Electrical Safety Instructions Test Sheets. As built Daily Plant Inspection 	Permits/licences required: <ul style="list-style-type: none"> Traffic Controller Certificate Electrical Permit Holder 	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
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" 	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) Electrical Awareness 	
		MIMS or METRE Ref: Nil		

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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		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

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		Roadways	C-	Relevant Work Site Protection and Protection officer for site	D	Traffic Controller	Traffic Plan, Work-on/near Roads SMS-06-GD-0372
6	Locate services	Damage to services	B+	Services searches, diagrams on site Approved water exposure of services 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+ A	Site layout documented Permits and authorised work	D D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577
8	Site set up	Manual Handling Plant moving Adjacent equipment	C+ C+ C-	Correct technique / site specific PPE Site specific PPE Lookouts Pre Work Brief Permits and authorised work Lookouts	D D D	All Staff Team Leader / Work Group Leader / All Staff D	Manual Handling SMS-06-GD-0001 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 Electrical Equipment SMS-06-GD-0268

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		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
9	Low voltage testing. ØContinuity. ØInsulation Resistance. ØDuctor. ØPhase Rotation. ØFault loop impedance	Contact with electricity	C+	Personnel clear during tests Certified instruments used Communication of test relayed to work group Authorised work Barriers & Pre work brief Low voltage rescue kit on site	D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268 ESI,S,
		Work aloft, fall from height	B+	Pre work brief and PPE Hard hats and items secured	D	Team Leader / Work Group Leader / All Staff	Working at Heights SMS-06-GD-0240 PPE- SMS-06-GD-0323
10	High Voltage testing. / 1500 volt testing. ØHi pot. ØContinuity. ØMegger. ØDuctor. ØPhase checks.	Contact with electricity Electric shock due to capacitance.	C+ B+	Personnel clear during tests Discharge cable to earth Certified instruments used Communication of test relayed to work group Authorised work	D D	Authorised Person, Team Leader / Work Group Leader	Electrical Equipment SMS-06-GD-0268
		Work aloft, fall from height	B+	Barriers & Pre work brief Pre work brief and PPE Hard hats and items secured	D	Team Leader / Work Group Leader / All Staff	Pre work Briefing SMS-06-FM-0163 PPE- SMS-06-GD-0323

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12	Earth testing Ø Resistivity test Ø Continuity test	Contact with electricity	C+	Personnel clear during tests Certified instruments used Communication of test relayed to work group	D	Authorised Person, Team Leader / Work Group Leader / All Staff	ESI,S, Electrical Equipment SMS-06-GD-0268
<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

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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	
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	A	To score the risk, follow the steps:
2-10 Fatalities	C5	Catastrophic	C+	B-	B+	A	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	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+	A	3. Score the risk using the combination of likelihood and consequence ranking.
1 or more Minor Injuries	C2	Minor	D	D	C-	C+	B-	B+	Note: Where there are a range of credible consequences which may lead to a different level of risk 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+	B-	