Installation of cables on walls (internal & external)

SWMS number:
SMS-06-SW-0876

SWMS Name:
Installation of cables on walls (internal & external)

SWMS Team:
- Fred Devadoss - Safety Facilitator
- John Araco – Supervisor Metro Field South West
- Michael Sargent – Technical Operations Officer
- John Roberts – Technical Operations Officer

Custodian (Position):
Manager Communication Field Resources

Assumptions:
N/A

Approving Authority (Position):
Asset Management and Maintenance Manager

Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group)
- Supervisor Metro Field – South West – C&CS, Asset Management
- Safety Facilitator – Safety Support Services Division

Plant/Equipment/Tools:
- Drill
- Hand tools
- Ladder

Records/Reporting:
- Cable Installations Risk Assessment

Permits/licences required:
N/A

Applicable Standards, Codes of Practice and guidance:
- OHS Act 2000
- OHS Regulation 2001
- Rail Safety Act 2002
- AS/ACIF S008 Requirements for Authorised Cabling Products
- AS/ACIF S009 Installation Requirements for Customer Cabling (Wiring Rules)
- AS 3084 Telecommunications installations – Telecommunications pathway and spaces for commercial buildings
- Manual Handling Resource WorkCover NSW 2004
- WorkCover Code of Practice - Electrical practices for construction work
- AS/NZS 3000 Electrical Installations (known as the Australian/New Zealand wiring rules)
- AS/NZS 1892.5: 2000 Portable ladders - Selection, safe use and care

Inspection requirements
- Electrical inspecting & tagging – monthly
- Ladder – Inspected every 6 months.
- Maintain inspection and test records in accordance with SMS-16-SR-0057 Inspection and Testing and SMS-05-SR-0027 Records Management

Service schedule:
N/A

MIMS or METRE Ref:
N/A

Training/Qualifications required:
- Rail Industry Safety Induction (RISI)
- OHS Construction Induction Training Card

PPE required:
- Safety Boots
- High Visibility Vest
- Hard Hat
- Safety Glasses
- Hearing Protection (Ear muffs or Earplugs)
- Protective Gloves (PVC or Rubber)
- Protective Gloves (Cut resistant or Leather)

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	Check location	Exposure to Hazardous Materials (eg. Asbestos)	A	Check Hazardous Materials Register	C-	Team Member	SMS-06-GD-0228 Hazardous Materials SMS-06-GD-0223 Hazardous Rail Corridor Locations
		Contact with hidden services/cables (eg. electrical cables, gas pipes, water pipes & water sprinkler systems)	A	Conduct cable/service search and mark out path. Contact local electrician/plumber to gain understanding of service locations. Use insulated tools. If not sure do not start job.	D	Team Member	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol
		Exposure to gases (if fire sensors are disturbed).	B+	De-activate fire alarm system	D	Team Leader	SMS-06-GD-0199 Dangerous Goods and Hazardous Substances
2	Drill access hole to wall or wall cavity	Slips, trips & falls	B-	Make sure work area is clear of obstacles. Work area isolated by means of barricade from other employees / public. PPE: Safety Boots	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Fall from heights (access from ceiling)	B+	Use appropriate ladder and maintain 3 points of contact. Don't over reach – move the ladder as you work. Position ladder to make sure it is stable.	C-	Team Member	SMS-06-GD-0240 Working At Heights SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms

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2	Drill access hole to wall or wall cavity (cont.)	Injury from power tools (Drill)	B-	Individual competent with use of tool Make sure drill is in good condition Use tool only for purpose it was designed for. Secure handling. Keep hands out of the path of drill bits. Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. Don't overreach. Keep proper footing and balance at all times. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Safety Glasses	C-	Team Member	SMS-06-PR-0225 Plant SMS-06-SW-0479 Power Drills SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE : Hearing Protection (Ear muffs or Earplugs)	D	Team Member	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance if required	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling

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2	Drill access hole to wall or wall cavity (cont.)	Contact with electricity	A	Electrical leads & equipment tested and tagged. Use insulated tools. Observe safe work clearances when working in the proximity of electrical cables and outlets.	C-	Team Member	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol SMS-06-SW-0479 Power Drills
		Hit by projectiles	B-	PPE: Safety Glasses Clear worksite in a 3 metre radius from the drill. If necessary barricade work area.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
3	Run cable Note: Only applies to cables run in wall cavities. Cables run in conduit proceed to step 4.	Muscular strain	B-	Avoid reaching and stretching. Use a relay system – passing cable from one person to the next.	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut resistant or Leather).	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment

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4	Install conduit and saddles Note: Only applies to cable run in conduit. Cables run in wall cavities proceed to step 6.	Injury from power tools (Drill)	B-	Individual competent with use of tool Make sure drill is in good condition Use tool only for purpose it was designed for. Secure handling. Keep hands out of the path of drill bits. Avoid awkward hand positions where a sudden slip could cause your hand to move into the drill bit. Don't overreach. Keep proper footing and balance at all time. Wear proper apparel; loose clothing or jewellery can become caught in moving parts. PPE: Safety Glasses	C-	Team Member	SMS-06-PR-0225 Plant SMS-06-SW-0479 Power Drills SMS-06-GD-0323 Personal Protection Equipment
		Exposure to noise	B-	PPE: Hearing Protection (Ear muffs or Earplugs)	D	Team Member	SMS-06-GD-0273 Noise Management SMS-06-GD-0323 Personal Protection Equipment
		Muscular strain	B-	Follow the correct bending and lifting techniques: keep back straight, elbows in and bend at the knees. Avoid reaching and stretching Use assistance if required	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling

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4	Install conduit and saddles (cont.) Note: Only applies to cable run in conduit. Cables run in wall cavities proceed to step 6.	Contact with electricity	A	Electrical leads & equipment tested and tagged. Use insulated tools. Observe safe work clearances when working in the proximity of electrical cables and outlets.	C-	Team Member	SMS-06-GD-0268 Working Around Electrical Equipment SMS-06-SW-0269 Electrical Shock Protocol SMS-06-SW-0479 Power Drills
		Contact with chemicals (PVC Jointing Cement for the joints)	B+	Avoid contact with eyes, skin & clothing. PPE: Safety Glasses, Protective Gloves (PVC or Rubber). Make sure there is access to water and soap. Wash hands thoroughly after working with chemicals.	C+	Team Member	SMS-06-GD-0199 Dangerous Goods and Hazardous Substances SMS-06-GD-0323 Personal Protection Equipment
5	Run cable through conduit	Muscular strain	B-	Avoid reaching and stretching. Use a relay system – passing cable from one person to the next.	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling
		Cuts and abrasions	C+	Be aware of sharp edges. PPE: Protective Gloves (Cut resistant or Leather).	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment
6	Cut any excess cable	Hand injuries	C+	Use appropriate tool in the correct manner.	D	Team Member	

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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					
	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-

Extreme
High
Medium
Low

Definition for Use - Regional & Local level (Workplace)

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 liklihood 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 matricies).

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.