Securing and Terminating Leaky Co-axial Cable

SWMS number:
SMS-06-SW-0686

SWMS Name:
Securing and Terminating Leaky Co-axial Cable

SWMS Team:
- Fred Devadoss – Safety Facilitator
- Steven Grant – Wireless & Systems Operations Manager
- Andrew Outerbridge, Wireless & Systems Operations Centre Supervisor
- Graham Payne – Technical Specialist
- Bryan Germain – Technical Specialist
- Mark Cruchley – Maintenance Engineer

Custodian (Position):
Wireless & Systems Operations Manager

Assumptions:
N/A

Approving Authority (Position):
Asset Management & Maintenance Manager

Applicable Standards, Codes of Practice and guidance:
- OHS Regulation 2001
- AS 1418 Cranes (including hoists and winches) all parts
- WorkCover NSW Plant Guide
- National Code of Practice for Manual Handling [NOHSC: 2005 (1990)]
- Manual Handling Resource WorkCover NSW 2004
- WorkCover NSW Code of Practice "Safety Line Systems" 1995
- AS/NZS 1891 "Industrial fall arrest systems and devices"
- ESAA Guide to Electrical Safety Systems
- Network Rules and Network Procedures

Plant/Equipment/Tools:
1. HiRail with Elevating Work Platform (EWP)
2. Hand tools
3. Fall Arrest System / Harness

Records/Reporting:
- Securing and Terminating Leaky Co-axial Cable Risk Assessment

Permits/licences required:
- Electrical Permit

Inspection requirements
- Harnesses & Lanyards – Inspected every 6 months
- EWP - 3 monthly minimum.
- Conduct maintenance as per the Manufacture's Specifications.
- 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
- Elevated Work Platform Operator (Certified)
- Heights Safety Course

Content reviewed by Technical expert (SME) and RailCorp safety professional (position including Div/Group)
- Safety Facilitator, Safety Support Services Division
- Technical Specialist, Communications & Control Systems Division

PPE required:
- Safety Boots
- High Visibility Vest
- Safety Glasses
- Protective Gloves (Cut Resistant or Leather)
- Harnesses & Lanyards
- Protective Helmet
- Protective Clothing

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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	Apply appropriate worksite protection					Protection Officer	
2	Access worksite	Struck by train	A	Adhere to worksite protection. PPE: High Visibility Vest	C-	Protection Officer Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Slips, trips and falls	B-	Awareness of terrain. PPE: Safety Boots	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Plant (Elevated Work Platform)	C+	Follow Operators instructions Operator to have relevant qualifications. Apply appropriate WSPP	D	Team Member	SMS-06-PR-0225 Plant SMS-06-SW-0310 Elevating Work Platforms
		Poor lighting	C-	Use appropriate lighting (Flood lights). Awareness of terrain.	D	Team Member	
		Exposure to fumes	C+	Make sure there is adequate ventilation PPE: Face Mask	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
3	Secure leaky co-axial cable to catenary wire.	1500V OHW Exposure to Electrical Shock	A	Take Power Out Permit for 1500V feed in area if working within 3m of traction voltages. EWP must not be used within 3 metres of live electrical apparatus. Power Out Permit to be held by appropriately qualified person (PO4) prior to elevation of EWP Permit to be handed back only after all work completed, platform lowered and staff out of bucket	C-	Team Leader	SMS-06-EN-0577 Electrical Permits SMS-06-EN-0598 Electrical Permits to Work SMS-06-SW-0272 Working in Accordance with Electrical Permit
		Exposure to RF Radiation	C-	Make sure all transmitters are turned off.	D	Team Member	

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)
3	Secure leaky co-axial cable to catenary wire. (cont.)	Fall from heights	B+	Cable accessed via Elevated Work Platform. All persons are certified for working at heights. Use Fall Arrest System (Harness, Lanyards) Use of appropriate anchorage point (not handrail or midrails) A Stand-by Person is required to remain within close proximity.	C-	Team Member	SMS-06-GD-0240 Working At Heights SMS-06-GD-0241 Fall Arrest Systems SMS-06-SW-0310 Elevating Work Platforms SMS-06-SW-0255 Fall Arrest Systems (Fall Arrest Devices) SMS-06-SW-0260 Fall Arrest Systems (Harnesses, Lanyards and Attachment Hardware) SMS-06-SW-0258 Fall Arrest Systems (Inspection and Maintenance)
		Hit by falling objects	B+	Secure all tools and equipment. PPE: Hard Hat	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Restricted room for movement	C+	Reduce exposure by introducing frequent breaks and rotate jobs. Use assistance if required	D	Team Member	
		Muscular strain	B-	Perform all movements smoothly, in a controlled, balanced, comfortable position. Avoid reaching and stretching	C-	Team Member	SMS-06-GD-0001 Guide to Manual Handling

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)
3	Secure leaky co-axial cable to catenary wire. (cont.)	Cuts and abrasions	C+	Be aware of sharp edges. Use appropriate tools when applying stainless steel cable ties to the catenary wire. PPE: Protective Gloves (Cut Resistant or Leather)	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Hand injury	B-	Secure handling Use correct tools for the task.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
4	Terminate co-axial cable	Cuts and abrasions	C+	Cut away from body & limbs. Use appropriate tools. PPE: Protective Gloves (Cut Resistant or Leather)	D	Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Hand injury	B-	Secure handling Use correct tools for the task.	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment
5	Vacate worksite and remove worksite protection	Struck by train	A	Adhere to worksite protection. PPE: High Visibility Vest	C-	Protection Officer Team Member	SMS-06-GD-0323 Personal Protection Equipment
		Slips, trips and falls	B-	Awareness of terrain. PPE: Safety Boots	C-	Team Member	SMS-06-GD-0323 Personal Protection Equipment

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.