# Installation of cables into Signal Locations

Issue date: 08/04/08
Review date: 20/02/11

**SWMS number:**
SMS-06-SW-1030

**SWMS Name:**
Installation of cables into Signal Locations

**SWMS Team:**
Signal Review Team

**Custodian (Position):**
Signal Services & External Resources Manager

**Assumptions:**
Site specific risks are addressed and assessed in pre- work briefing

**Approving Authority (Position):**
Safety and Quality Manager Commercial / Renewals

**Content reviewed by Technical expert (SME) and RailCorp safety professional** (position including Div/Group)
Signal Services & External Resources Manager & SEQ Coordinator Asset Management Group Commercial / Renewals

**Applicable Standards, Codes of Practice and guidance:**

- 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
- SC11 20 00 00 SP.
- National Code of Practice for Manual Handling [NOHSC:2005 (1990)]
- AS/NZS 2865:2001 Safe working in a confined space
- EC14 – Guide to Electrical Workers' Safety Equipment

**Equipment/Plant/Tools:**

- Truck, Lifting Equipment
- Appropriate handtools, Cable Cutters, Hacksaws
- Motorized Cable Puller with Rollers
- Cable Drums Mounted on Truck
- Gas detector and confined space equipment

**Records/Reporting:**

- Worksite Protection Plan
- Pre-work Brief
- Site Specific Management Plan
- Electrical Permits

**Permits/licences required:**

- Confined Spaces Certificate
- Electrical Permit Holder
- CV Vehicle Loading Crane Operator Certificate

**Inspection requirements**
Nil

**Service schedule:**
Nil

**MIMS or METRE Ref:**
Nil

**Training/Qualification required:**

- Construction Industry Induction
- Track Safety Awareness

or
RISI (Rail Industry Safety Induction)

And as specified below.

- Authorised Electrical Person
- Electrical Awareness

**Personal Protective Equipment required:**

- Safety Boots
- High Visibility Vests
- Hardhats
- Protective Clothing
- Safety Glasses

And as specified below.

- Gloves
- During all Site Works a FIRST AIDER MUST be Present

# Installation of cables into Signal Locations



| 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 | Load/Unload truck | Muscle Injury | B- | Clear area before lifting.<br>Warm up stretch.<br>Don't over strain.<br>Use manual handling techniques. | D | All Staff | SC11 20 00 00 SP.<br>Manual Handling Guide SMS-06-GD-0001<br>PPE SMS-06-GD-0323 |
| | | Overhead wires | A | De-energise over head cable.<br>Maintain safe working clearances (3mts < 132kv; 6mts; 330kv; 8mts > 330 kv). | D | Team Leader / Work Group Leader / All Staff | Work Around Elect. Equip. SMS-06-GD-0268<br>Electrical Permits SMS-06-EN-0577 |
| 6 | Prepare Route | Falls and Trips | B+ | Clear area of any trip hazards | D | All Staff | Workplace Risk Management SMS-06-PR-0104 |
| | | Cut injury. | B- | Correct P.P.E to be worn | D | | SC11 20 00 00 SP.<br>Manual Handling Guide SMS-06-GD-0001<br>PPE SMS-06-GD-0323 |
| | | Muscle Injury | B- | Clear area before lifting.<br>Warm up stretch.<br>Don't over strain.<br>Use manual handling techniques. | D | | |
| 7 | Haul and Install cable | Muscle Injury | A | Clear area before lifting<br>Methods of cable hauling can include:<br>From drums mounted on truck<br>Use motorised cable puller with rollers etc. | C+ | ICTTC064B<br>All Staff | SC11 20 00 00 SP.<br>Manual Handling Guide SMS-06-GD-0001<br>PPE SMS-06-GD-0323<br>Plant SMS-06-GD-0225 |

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|---|---|---|---|---|---|---|---|
| 8 | Haul and Install cable (Cont…….) | Muscle Injury (Cont…….) | A | Manually (if a team greater than 4 is required then the process should be re –assessment to ensure minimum risk to workers). The team effort must coordinate. May have to be done in bites:- area to be walked over whilst pulling cable to be cleared and levelled (least preferred)<br>Warm up stretch & briefed in manual handling.<br>Leave sufficient cable loop / slack to reduce weight when feeding into trench. Minimum two person lift. | C+ | ICTTO64B.<br>All Staff<br>All Staff | SC11 20 00 00 SP.<br>Manual Handling Guide<br>SMS-06-GD-0001<br>PPE SMS-06-GD-0323<br>Plant SMS-06-GD-0225 |
| 9 | Confined Space | Asphyxiation / Explosion / Leaking Gases | A | Only staff with “Confined Spaces” training to be used and all rules to be adhered to. | D | Team Leader / Work Group Leader / Confined Spaces Entry Person | Confined Spaces<br>SMS-06-GD-0035 |
| 10 | Access to cable termination point | Contact with working LV Signalling circuits | C- | Cable installation to be directly supervised when entering termination point (Bunglows, Locations, Cupboards ETC) | D | Signal Locations Entry Qualified Personnel only | SC11 20 00 00 SP.<br>Work Around Elect. Equip.<br>SMS-06-GD-0268 |
| ☐ | Site specific hazards | | | | | | |
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# Installation of cables into Signal Locations

**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 |
|---|---|---|---|---|---|---|---|
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| 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.