

OHW - Remove OHW (Minimum)

Issue date: 08/04/08

Review date: 18/03/11

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| SWMS number: SMS-06-SW-1135 | SWMS Name: OHW - Remove OHW (Minimum) | | | 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 | | | |
| Approving Authority (Position): Safety and Quality Manager Renewals | Equipment/Plant/Tools: <ul style="list-style-type: none">Rail Mount Vehicle (OHW Consist)RFW (HiRail Truck)Truck/Hiab, Cherry PickerHand ToolsFittings, cantilevers, droppers, back anchors, contact & Catenary drumsLever Blocks, Rigging Chains, Fibre and Rope stropsPantograph Gauge, Heel Height Stick, String Line & Level, Non-conducting Measuring TapesVoltmeter Live Line(VLL Tester), Rail Connections, LR TesterSplit pins, bolts, swing restrictors are installed | Records/Reporting: <ul style="list-style-type: none">Worksite Protection PlanPre-work BriefElectrical Test TagsElectrical Safety Rules & ProceduresSTN or Safeworking telegramElectrical PermitTest tags on rigging gearDesign/Handover Documentation & Standard Drawings Dictated in DesignCCON Installation BookDaily Plant Checklist | Permits/licences required: <ul style="list-style-type: none">Electrical Permit HolderAccredited Rail Corp LinespersonVehicle Loading Crane / Cherry Picker Accreditation | 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 2000OH&S Regulation 2001Rail Safety Regulation 2003RailCorp Network Rules & ProceduresRailCorp Safety Management System.MSDS for all chemicals and hazardous Substances used on siteEP 08 00 00 01 ST - OHW standards for the electrification of new routes, section 1.9 / section 4.1/ section 4.2 / section 4.6EC14 – Guide to Electrical Workers' Safety EquipmentWorkCover NSW Plant GuideNational Code of Practice for Manual Handling [NOHSC:2005] | | | | Inspection requirements: Nil |

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| <ul style="list-style-type: none">• AS/NZS 1891.3 – 1997 “Industrial fall arrest systems and devices - Fall arrest devices”• AS 2550.11-2004 Cranes, hoists and winches - Safe use - Vehicle-loading cranes | | MIMS or METRE Ref: Nil | or RISI (Rail Industry Safety Induction) And as specified below. <ul style="list-style-type: none">• Authorised Electrical Person• Accredited Rail Corp Linesperson• Track Vehicle Operator | |
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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 |
| | Generic Hazards to be read with all steps of this SWMS. | Muscle strains and Damages to due incorrect or heavy lifting. | B+ | Correct lifting practices to be used. If to heavy gang lifts or mechanical assistants to be used | D | All site inducted persons | Back & Muscle Injury SMS-17-PR-0313 Manual Handling SMS-06-GD-0001 Lifting Equipment SMS-16-FM-0089 |
| | | Struck by falling or moving objects during the loading unloading process | C+ | All staff to be clear of drop zones and swing arcs during this task. | D | All site inducted persons | |

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| | | Fall from heights | B- | All staff working aloft to comply with the following Be Competent to work aloft Machinery with gates or fencing eg MVE fall arresters not required. | C | Accredited Rail Corp Linesperson and persons under training. | Plant & Equipment Safety SMS-11-GD-0243 Elev. Work Platform's SMS-06-SW-0310 Working at Heights SMS-06-GD-0240 Full Body Harness SMS-06-GD-0241 |
| | | | B+ | If gates or fences lowered for any reason fall arresters are to be attached in the approved manner. | C- | | |
| | | | B+ | All other vehicles approved fall arresters to be worn in the approved manner | D | Competent persons Accredited Rail Corp Linesperson and persons under training. | |
| | | Struck by falling objects | B+ | All ground staff to stay clear of drop zones. If required to enter drop zones Work to cease until clear of drop zone ensure work ceases | D | All site inducted persons | PPE- SMS-06-GD-0323 |
| | Generic Hazards for this task to be read in all steps | Struck by train or track vehicles. | A | Correct Safe Working to be employed prior to any staff commencing any work. Hi-visibility vest to be worn at all times. Staff to remain within protected areas at all times. If staff required to work out side protected area additional safe working to be implemented | D | All site inducted persons | Network Rules & Procedures, Plant & Equipment Safety SMS-11-GD-0243 |

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|--------|--|---|------------------------------|---|-----------------------------|--|---|
| | Generic Hazards for this task to be read in all steps (Cont.....) | Electric shock or contact with electrical apparatus | B+ | Ensure Electrical Permit is in force and it covers all aspects of tasks in hand. Electrical Safeworking Clearances to be maintained at all times Electrical Permit to Work Limits of Work Signage to be installed at all extremities of the Electrical Permit to Work. These signs shall be installed either in the 6 foot or the 4 foot, which ever is applicable | C- | Accredited Rail Corp Linesperson and persons under training. | Electrical Equipment SMS-06-GD-0268 Electrical Permits SMS-06-EN-0577 |
| | | Exposure to elements eg sunburn, sunstroke and inclement weather | C+ | Correct PPE to be worn long sleeve shirts, long trousers with correct UV rating Sun screen to be available | D | All site inducted persons | Working Outdoors SMS-06-PR-0104 PPE- SMS-06-GD-0323 |
| | | | C- | Adequate fresh drinking water to be available at all times through site office. All personal to ensure availability of person issue of approved wet weather gear. All work to cease when lightning activity in near vicinity, work not to recommence to lightning has passed. | D | Accredited Rail Corp Linesperson and persons under training. | |
| | | Bites & Stings Sharps | C- | Insect repellent to be available Visual inspection of area and clean up | D | All persons | Needle Sticks SMS-06-FM-0163 |
| | Generic Hazards to be read with all steps of this SWMS. | Muscle strains and Damages to due incorrect or heavy lifting. | B+ | Correct lifting practices to be used. If to heavy gang lifts or mechanical assistants to be used | D | All site inducted persons | Back & Muscle Injury SMS-17-PR-0313 Manual Handling SMS-06-GD-0001 Lifting Equipment SMS-16-FM-0089 |

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|--------|---|---|------------------------------|--|-----------------------------|--|---|
| | Set up Worksite Protection Obtain Authority & Permit to Work | Struck by train or track vehicles. | A | Correct Safe Working to be employed prior to any staff commencing any work. Hi-visibility vest to be worn at all times | C+ | Qualified Safeworking officer | Network rules & Procedures |
| | | Electric shock or contact with electrical apparatus | B+ | Ensure Electrical Permit is in force and it covers all aspects of tasks in hand. Ensure relevant Safe working Distances maintained at all times | C- | Accredited Rail Corp Linesperson and persons under training. | Electrical Permits SMS-06-EN-0577 |
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| | | | | | | | |
| 5 | Set up Worksite Protection Obtain Authority & Permit to Work | Struck by train or track vehicles. | A | Correct Safe Working to be employed prior to any staff commencing any work. Hi-visibility vest to be worn at all times | C+ | Qualified Safeworking officer | Network rules & Procedures |
| | | Electric shock or contact with electrical apparatus | B+ | Ensure Electrical Permit is in force and it covers all aspects of tasks in hand. Ensure relevant Safe working Distances maintained at all times | C- | Accredited Rail Corp Linesperson and persons under training. | Electrical Permits SMS-06-EN-0577 |
| 6 | Transfer OHW Train or Plant to Site | Damage to infrastructure and plant | B- | Only competent personal to operate OHW train and plant | C- | TVO Traffic Officer Relevant Safeworking Officers | STN or Safeworking telegram Incident |
| | | Struck by Hi-Rail during the tasks of on-railing and off-railing hi-rails | C+ | Only competent staff involved in this task to be in the near vicinity of hi-rails | D | Accredited Rail Corp Linesperson and persons under training. | Reporting / Notification SMS-17-SR-0099 Plant & Equipment Safety SMS-11-GD-0243 |
| | | Struck by train or plant on site | C+ | Correct Safe Working to be employed prior to any staff commencing any work. Hi-visibility vest to be worn at all times | C+ | Accredited Rail Corp Linesperson and persons under training. | |

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|--------|--|---|------------------------------|--|-----------------------------|--|---|
| 7 | For Regulated OHW. Erect a Platform for under the weight stacks. | Caught between objects | C+ | | C- | | |
| 8 | Rig up around terminations/anchors | Conductors freeing from rigging | A | Check equipment and certification before use Use Chain and Shackle or 3 tone sling to restrain the contact wire | D | Accredited Rail Corp Linesperson and persons under training. | Plant & Equipment Safety SMS-11-GD-0243 |
| 9 | Temporarily Register the Contact wire vertically from the Catenary. Spacing rope or strops not greater than 20 meters | Unsecured Conductor | B+ | Only competent staff involved in this task to rig using rope strops and arm hooks | C+ | Accredited Rail Corp Linesperson and persons under training. Competent person | |
| 10 | If Curved Track: Temporarily Register the Contact wire horizontally due to high radial loads. Restrain contact at suitable anchor points | Unsecured Conductor | A | Do not stand on silly side of wire | D | Accredited Rail Corp Linesperson and persons under training. Competent person | |
| 11 | Catenary in Suspension Loosen the U-bolt securing the Catenary to the envelope. | Undulated tension in conductor Uncontrolled movement | A | Loosen the U-bolt securing the Catenary to the envelope or use a Ginny wheel | C- | Accredited Rail Corp Linesperson and persons under training. Competent person | |
| 12 | Type 6 SI (Section Insulator) Secure SI at both ends to ensure contact does not slip off SI when tension is released | Contact freed from SI whilst in tension | A | Check rigging, equipment and certification before use | D | Accredited Rail Corp Linesperson and persons under training. Competent person | Plant & Equipment Safety SMS-11-GD-0243 |

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|--------|--|---|------------------------------|---|-----------------------------|--|---|
| 13 | Strip OHW by removing the Droppers, Inspan Feeders, etc. This task is completed concurrently with Tasks 9,10 and 11 | Conductor jammed when lowering | B- | All hardware clamp to conductors to be removed | D | Accredited Rail Corp Linesperson and persons under training. Competent person | |
| 14 | Release Tension in Contact wire. Moving from consecutive registration points, release and lower Contact wire to ground. Following the same process with the Catenary | Conductors strike employees underneath | B+ | 6 metre exclusion zone Establish a NO GO ZONE with PPO | C- | Accredited Rail Corp Linesperson and persons under training. Competent person | Plant & Equipment Safety SMS-11-GD-0243 |
| 15 | Cutting of OHW whilst on the ground | Recoil of conductor when cut | B+ | Level; Cable Cutter; Ratchet or hydraulic cutters Secure either side of cut/place foot down on top of conductor to restraint movement when cut | C- | All site inducted persons | Plant & Equipment Safety SMS-11-GD-0243 |
| | When tension is released, disconnect back guys or weight guide and remove weights where applicable. | Muscle strains and Damages to due incorrect or heavy lifting. | B- | Correct lifting practices to be used. If to heavy gang lifts or mechanical assistants to be used | D | Accredited Rail Corp Linesperson and persons under training. Competent person | Back & Muscle Injury SMS-17-PR-0313 Manual Handling SMS-06-GD-0001 |
| 17 | Remove Redundant Wires & Hardware from the Site | Muscle strains and Damages to due incorrect or heavy lifting. | C- | Truck/Hiab, Bin Conductors cut to manageable lengths Hardware disconnected to manageable weight | D | All site inducted persons | Back & Muscle Injury SMS-17-PR-0313 Manual Handling SMS-06-GD-0001 Lifting Equipment SMS-16-FM-0089 |

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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 |
|------------------------------------|--------------------------|-----------------------------|------|------------------------------------|--------------------------|-----------------------------|------|
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| 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- | | |