NATIONAL ELECTRICAL and COMMUNICATIONS ASSOCIATION

# Dark Knight Engineering
# ELECTRICAL SAFE WORK METHOD STATEMENTS

## TABLE OF CONTENTS – ELECTRICAL WORK



- The above table lists the contents of this document. The policy, procedures and processes of these documents are the subject of induction training and an ongoing schedule of toolbox talks. A universal training and acceptance sign-off is provided on the last page.
- These SWMSs meet or exceed the requirements of the model WHS Act and Regulations for Construction and Electrical Work.

Refer revisions, comments and suggestions for improvements regarding the SWMSs to Rod Griebe at Dark Knight Engineering rod.griebe@dkegroup.com.au

## NO LIVE WORK POLICY

**Dark Knight Engineering** is committed to the health, safety and welfare of our workers and others that may be affected by our work. Inadvertent contact of the body or conductive components with energised conductors or components can cause electrical shock and arcing and could result in serious injury or death. Our objective is to eliminate the probability of any such occurrence.

It is incumbent on all electrical workers to know the status of electrical conductors for the purpose of faultfinding, commissioning and testing and to ensure that contact with energised conductors does not occur. For the vast majority of other circumstances there is a prohibition on working on energised electrical equipment. Specific activities that can be justified under legislation are:

(a) it is necessary in the interests of health and safety that the electrical work is carried out on the equipment while the equipment is energised, (e.g. hospitals) or
(b) it is necessary that the electrical equipment to be worked on is energised in order for the work to be carried out properly, (e.g. faultfinding and commissioning) or
(c) it is necessary for the purposes of testing to determine the status of energisation, or
(d) there is no reasonable alternative means of carrying out the work.

This policy is explained to every electrical worker under our control. It is a requirement of this organisation that all electrical work is carried out using a safe system of work. The safe system of work must meet legislative requirements listed in a safe work procedure and checklist for energised work.

In undertaking normal electrical work, precautions must include:

- **ONLY SUITABLY QUALIFIED**
  Low voltage installation work may only be undertaken by a licensed electrician, an apprentice or trainee under the supervision of a licensed electrician, or trades assistant under the direct supervision of a licensed electrician, AND
- **FOLLOW ISOLATION PROCEDURES**
  The circuits and apparatus of that part of the installation being worked on must not be energised, wherever practical, AND
- **ISOLATE WHERE PRACTICAL AND SHIELD EXPOSED CONDUCTORS IN THE SURROUNDING AREA**
  Measures to eliminate or control the risk of persons carrying out the work inadvertently contacting any part of the installation that remains energised. Any exposed conductor in the work area should be confirmed by each worker as isolated and/or securely shielded from possible contact, AND
- **TEST EVERY TIME BEFORE YOU TOUCH**
  Checks to ensure that the circuits and apparatus of the part of the installation that is being worked on are not energised before work commences and remain that way until the work is completed.
- **EACH HIGH VOLTAGE EXPOSED PART IS EARTHED**
  Bond each phase and the neutral to earth.

The exception to these requirements is work carried out by or on behalf of an electricity supply authority, which must be undertaken under the rule governing that authority.

***Note that apprentices and trainees are not permitted under any circumstances to work on live equipment, other than faultfinding, commissioning and testing.***

**All workers are authorised and expected to stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**

***Never assume an exposed conductor is dead - test every time before you touch.***

All workers must adhere to this policy to ensure their safety in the workplace. Any breach in adhering to this policy may result in immediate dismissal.

## PRE-START INSPECTION AND RISK ASSESSMENT AND SAFE WORK METHOD STATEMENTS
## JOB PREPARATION INSTRUCTION

- ✓ The site specific Pre-Start Inspection and the Hazard Identification and Risk Assessment form (HRA) is designed to be completed prior to commencing work on both small and large jobs.
- ✓ The HRA will be revised whenever work safety environment/conditions change or from learning following an incident and other improvements.
- ✓ The HRA forms part of the SWMSs and the HRA identifies all site-specific issues. Temporary changes or amendments to the SWMSs can become obscure. Site specific Control Measures are more readily identified in the HRA and can be communicated to workers in a more efficient and effective manner.
- ✓ The objective is zero harm.

**WORK ACTIVITY PLANNING:**

- Review the SWMS templates at an organisational level and with the relevant workers by way of consultation, training and participation.
  Ensure that selected Control Measures are as high as possible within the hierarchy of control – eliminate risk where possible or otherwise minimise to a tolerable level.
- Approve changes to SWMS at senior management level and ensures that all workers sign prior to use.
- Carry a copy of all SWMS in each vehicle so they are available for use at every job. Have multiple copies of the HRA for use on each job.

**PRE-START INSPECTION AND RISK ASSESSMENT:**

- Carry out a Pre-start inspection and HRA on the job site. The HRA may take other forms and might be revised through the various stages of the project.
- Identify and review the appropriate Safe Work Method Statements (SWMSs) for the job and ensure that all hazards relevant to this job (or job stage) are addressed.
- Mark up any changes to the Job Steps, Potential Hazards, Risk Class and Control Measures appropriate to the job.

**WORKER CONSULTATION AND INVOLVEMENT:**

- Review the HRA and SWMSs with workers and all sign (HRA Sheet2/Toolbox Talk) to confirm understanding and commitment to implement the Control Measures required to carry out the work safely. Typically there is a sign-off of both the HRA and SWMSs (Sheet 3) but this can take other forms.

**ELECTRICAL SITE SUPERVISOR APPROVAL:**

- Any changes resulting from the Toolbox Talk (or otherwise) should be approved by the Electrical Site Supervisor and communicated with the workers and any other trades before the work commences (or continues).
- Ensure that the Safe Work documentation is available for use as required on the worksite.
- Obtain Principle Contractor representative sign-off, where required.

**RISK MATRIX for Pre-Start Inspection and HRA/JSA:**

*Note: The full risk assessment is provided on the following 2 pages.*

**Risk Matrix**

| LIKELIHOOD | | | CONSEQUENCE A – Critical: **Fatality / permanent disability,** off-site pollutant release causing severe environmental damage, huge financial and reputation loss | B – Major: **Major injury (lost time injury or illness likely),** significant property damage, loss of production capability, off-site pollutant release causing major environmental damage, major financial and reputation loss | C – Moderate: **Medical treatment,** major property damage, off-site pollutant release causing moderate environmental damage, moderate financial and reputation loss | D – Minor: **First aid treatment,** minor property damage, on-site release of pollutant is immediately contained, minor financial and reputation loss | E – Insignificant: **Discomfort,** no injuries, no environmental damage, no financial or reputation loss |
|---|---|---|---|---|---|---|---|
| Expected to occur in most circumstance *(occurs at least once a week)* | 1 | Almost Certain | 1 | 1 | 1 | 2 | 2 |
| Will probably occur in most circumstances *(occurs once or twice every month)* | 2 | Likely | 1 | 1 | 2 | 2 | 3 |
| Should occur at some time *(occurs 1 to 10 times a year)* | 3 | Possible | 1 | 2 | 2 | 3 | 3 |
| Could occur at some time *(occurs once every 2 to 10 yrs, 10% chance of occurring every year)* | 4 | Unlikely | 2 | 2 | 3 | 3 | 3 |
| May occur only in exceptional circumstances *(occurs once every 11 to 100 yrs, 1% chance of occurring every year)* | 5 | Rare | 2 | 3 | 3 | 3 | 4 |

| | |
|---|---|
| LEVEL 1, HIGH RISK | Unacceptable level of risk, controls must be immediately implemented to reduce risk or the risk eliminated (i.e. cease activity). |
| LEVEL 2, MEDIUM RISK | Undesirable level of risk, additional controls must be developed and implemented in short to medium terms |
| LEVEL 3, LOW RISK | Tolerable region, further controls to be considered and existing controls monitored. |
| LEVEL 4, MINIMAL RISK | Acceptable region, but current controls to be monitored (minimal risk does not mean no risk). |

| HIERARCHY OF RISK CONTROLS *(the hierarchy of risk controls is described in Section3.2 of the NECA Red Book)* | | |
|---|---|---|
| | First | **ELIMINATE** the hazard |
| | Second | **SUBSTITUE** the hazard with something of a lesser risk |
| | Third | **SEPARATE** the hazard (often referred to as ISOLATE) |
| | Fourth | **ENGINEERING** controls |
| | Fifth | **ADMINISTRATIVE** controls |
| | Sixth | **PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT** |

| DKE GROUP DARK KNIGHT ENGINEERING | ABN: 77626194992 | HRA Sheet 1 |
|---|---|---|
| 9 Wenban Place, Wetherill Park, 2164 | **Site Supervisor/WHS Rep:** Rod Griebe 0407 696 885 | |

| Client | Project | Section | Issue Date | Prepared By |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

## PRE-START INSPECTION AND RISK ASSESSMENT – HRA

Risk Level (likelihood and severity): 1 = High, 2 = Medium, 3 = Low, 4 = Minimal

Job stage description: | Start date: _____/_____/_____

Refer to inspection checklist below, NECA Red Book, applicable SWMSs and relevant legislation, codes, standards and procedures.

| | Job tasks | Identify hazards and risks | Risk Level | Control Measures / SWMS |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |

| | |
|---|---|
| ✓ | The applicable SWMSs accompanying this HRA have been reviewed and confirmed as appropriate for these activities on this worksite. |
| ✓ | Site conditions and rules have been assessed and communicated to relevant workers. Consult with other trades / workers in the work area. |
| ✓ | The customer understands that, whilst live work is restricted, it is generally necessary to test the installation and equipment whilst energised. |
| ✓ | Safety observer for testing not required. Appropriate energised testing is critical to ensure that electrical workers are aware of the status of energisation. |

- **Test for de-energised every time before you touch any exposed conductors**
- **The identified Control Measure/s are designed to eliminate the risk (wherever possible) or otherwise minimise to an acceptable level.**
- **The persons responsible for ensuring the risk Control Measures are in place are the electrical supervisor / worker doing the job.**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **This HRA is supported by the relevant SWMS, SDS, Codes, NECA Red Book and other information.**

**Pre-Start Preparation and Site Inspection check** *(Below are some areas to consider – not required to be marked)*

| | | | | | |
|---|---|---|---|---|---|
| Authority has been given to proceed with works | ✓ | Location of nearest first aid kit is known | ✓ | Safety equipment check | ✓ |
| Others in the area are aware of the works | ✓ | Location of fire extinguishers known | ✓ | Test equipment check | ✓ |
| Hot Work Permit completed | ✓ | Emergency exit routes known, clear and well lit | ✓ | Hand tools (and power tools) check | ✓ |
| Confined spaces certification required | ✓ | Barricades and signage are in-place | ✓ | Ladders check | ✓ |
| Precautions for working near water are in place | ✓ | Alarm and/or detection isolations completed | ✓ | Electrical leads and tools tagged, connected to RCD | ✓ |
| Necessary Material Safety Data Sheets (SDS) are on site and chemicals labeled and stored correctly | ✓ | Scaffolding or platforms secure and clear, edge protection in place. | ✓ | Weather, wet, sun, wind, temp., dust, noise Excessive hot or cold | ✓ |
| Lockout kit and Danger Tags | ✓ | Work area adequately ventilated and well lit | ✓ | Relevant legislation, codes, standards and client spec | ✓ |
| Documentation and information available | ✓ | Work area and access clear, tidy and dry | ✓ | PCBs or Asbestos, SMFs, etc materials | ✓ |
| Work near live exposed conductors, cabling or equipment | ✓ | Those doing the work are inducted | ✓ | Clean-up and rubbish disposal plan | ✓ |
| Manual Handling | ✓ | | | | |

| DKE GROUP DARK KNIGHT ENGINEERING | ABN: 77626194992 | HRA Sheet 2 |
|---|---|---|
| 9 Wenban Place, Wetherill Park, 2164 | **Site Supervisor/WHS Rep:** Rod Griebe 0407 696 885 | |

| Client | Project | Section | Issue Date | Prepared By |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

**PRE-START INSPECTION AND RISK ASSESSMENT – HRA**

**WORKER SIGNOFF**

**Worker consultation, instruction, training, toolbox talks, review, acceptance record:**

I, the undersigned, acknowledge, that:

1. I have been consulted regarding the content of the PRE-START INSPECTION AND RISK ASSESSMENT (HRA), SWMSs and the NECA Red Book,
2. the relevant hazards, control measures, rules and requirements have been explained to me and are clearly understood by me,
3. I have read, understand and accept, this HRA and documents referenced in the control measures, including “No Live Work Policy”, SWMSs and Red Book, and

I, the undersigned, acknowledge, understand and accept that:

1. I shall only carry out work for which I am trained, instructed, equipped and competent,
2. I have advised my supervisor of any individual needs in relation to carrying out the work safely,
3. I will comply with the HRA, “No Live Work Policy” and SWMSs, otherwise work must stop immediately,
4. I will be vigilant regarding hazards and the suitability of the HRA and SWMS for the task at hand and implement further control measures where required, and
5. I understand that I am authorised and expected to safely stop work and immediately notify my supervisor if a task carries an unacceptable level of risk.

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |

**SWMS INSTRUCTION**
**SAFE WORK METHOD STATEMENTS**

These *Safe Work Method Statements* have been developed in consultation with the NECA Safety Committee and are reviewed to suit the organisation's safe work practices, and are designed as an instruction for persons carrying out the work.

The format is a MS Word table and is based on the requirements for SWMSs for Construction (WHS model Regulations Chapter 6 and Code of Practice) and Electrical (WHS Part 4.7 and Code of Practice).

The Risk Levels in the *Safe Work Method Statements* are defined as follows:

**Level 1, High Risk**: Does the hazard have the potential to kill or permanently or temporarily disable?
**Level 2, Medium Risk**: Does the hazard have the potential to cause lost time injury or illness?
**Level 3, Low Risk**: Does the hazard have the potential to cause a minor injury that might require first aid?
**Level 4, Minimal Risk**: Work activity is not expected cause harm, subject of appropriate implementation of risk control measures.

- **The identified Control Measure/s are designed to eliminate the risk (wherever possible) or otherwise minimise to a tolerable level.**
- **The persons responsible for ensuring the risk Control Measures are in place are the electrical supervisor / worker doing the job.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Critically, and in conjunction with the HRA, the SWMS communicates to the person/s doing the work appropriate Control Measures for the specific task step.**

**EVALUATION AND REVIEW PROCESS:**

- Review each of the SWMSs and edit to suit your general operations and/or specific projects. Prepare additional SWMS for other work processes that you undertake.
- Print out a copy for each work vehicle, file along with a copy of the NECA Red Book, so that a reference copy is available to the worksite.
- Review and evaluation of SWMSs is an ongoing process and is undertaken formally as a routine, at least annually.
- SWMS/HRA are formally reviewed & updated whenever:
  - ✓ a significant change to task or activity is identified
  - ✓ an incident occurs relating to the task or activity
  - ✓ a significant hazard is identified relating to the task or activity or
  - ✓ periodically as required.

Copies of NSW legislation are available from *www.legislation.nsw.gov.au*.
Copies of WHS model Codes of Practice and guidelines are available from *safeworkaustralia.gov.au/* or your local regulator.
Australian Standards may be acquired from *www.saiglobal.com* or from NECA offices
Copies of the NECA Red Book 2007 are available from NECA and reputable electrical wholesalers.
The NECA website is at *www.neca.asn.au*

*For further information or to make suggestions or provide input for developing additional Safe Work Method Statements, please contact Dark Knight Engineering*
*rod.griebe@dkegroup.com.au*

## HIGH RISK CONSTRUCTION WORK

These Safe Work Method Statements (SWMS) have been prepared as per the model Work Health and Safety Regulation 2011 (Part 4.7 – Electrical and Chapter 6 - Construction Work [see Regulation 161(3) and 299]) which:

- identifies the work that is high risk construction work (HR-ID: 1 to 18):

| HR-ID | Types of High Risk Construction Work |
|---|---|
| **1** | Involves a risk of a person falling more than 2 metres |
| **2** | Is carried out on a telecommunication tower |
| **3** | Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure |
| **4** | Involves, or is likely to involve, the disturbance of asbestos |
| **5** | Involves structural alterations or repairs that require temporary support to prevent collapse |
| **6** | Is carried out in or near a confined space |
| **7** | Is carried out in or near:<br>• a shaft or trench with an excavated depth greater than1.5 metres, or<br>• a tunnel |
| **8** | Involve the use of explosives |
| **9** | Is carried out on or near pressurised gas distribution mains or piping |
| **10** | Is carried out on or near chemical, fuel or refrigerant lines |
| **11** | Is carried out on or near energised electrical installations or services |
| **12** | Is carried out in an area that may have a contaminated or flammable atmosphere |
| **13** | Involves tilt-up or precast concrete |
| **14** | Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians |
| **15** | Is carried out in an area at a workplace in which there is any movement of powered mobile plant |
| **16** | Is carried out in an area in which there are artificial extremes of temperature |
| **17** | Is carried out in or near water or other liquid that involves a risk of drowning |
| **18** | Involves diving work |

- specifies hazards relating to the high risk construction work and risks to health and safety associated with the identified hazards
- describes the measures to be implemented to control the risks
- describes how the control measures are to be implemented, monitored and reviewed.

Note: these SWMS exceed the requirements of the WHS Regulations and *Code of Practice – Construction Work*
For construction jobs where the principal requires SWMS under WHS Chapter 6, only those rows that are identified with a HR-ID number from the above table need be presented.
All other row addressing non high risk work may be deleted. It is recommended that workers in our industry work to the full document.

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2020 USING PORTABLE LADDERS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Select appropriate ladder with regard to compliance with the relevant part of AS 1892 and the work to be done. | Electric shock<br><br><br>Manual handling | 1<br><br><br>2 | Metal or wire reinforced ladders shall not be used for any electrical work working near electricity<br>Ensure adequate lighting<br>Use correct technique and seek assistance as required | 4<br><br><br>4 | Electrical Supervisor / Worker doing the job | 11 |
| 3 | Inspect the ladder for condition. | Falling | 2 | Inspect ladders. Do not use damaged ladders. | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 4 | Position ladder to ensure stability. | Falling | 1 | Position ladders a minimum of 1 metre from edges of slabs or floors<br>Increase this distance as working heights increases.<br>Straight or extension ladders to be secured at top and bottom<br>Ladders need to extend 1 metre above landing level and to be long enough to work at least 1 metre from the top<br>Angle of ladder should be nominally 1 in 4 | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 5 | Ascending or descending a ladder | Falling | 1 | Maintain three points of contact on the ladder<br>Never tread on the top three rungs. | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 6 | Working from ladder | Falling | 1 | Wear bump hat with chinstrap in place for prolonged work.<br>Retain three points of contact at all times.<br>Always face the ladder and keep inside styles.<br>Never tread on the top three rungs.<br>Fall protection to be used when working above 1.8m<br>Refer SWMS2080 | 4 | Electrical Supervisor / Worker doing the job | 1 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2030 MANUAL HANDLING

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| Work Method Description (in steps) | | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | For simple manual handling tasks and activities | Musculoskeletal injury and disorders | 2 | Limit lifting loads to manageable levels (refer Appendix 1 for info)<br>Follow steps below but without preparing job specific forms | 4 | Electrical Supervisor / Worker doing the job | |
| 3 | Identify characteristics: | | | **Use** National Code of Practice: Hazardous Manual Tasks (2011)<br>Follow manual handling and lifting rules<br>Involve employees in preparation | | | |
| 4 | The object to be handled. | Sizes, shapes, weight, bulk, stability, hot, cold, sharp edges grip. | 2 | Complete Risk Identification as in Appendix 1 | 4 | Electrical Supervisor / Worker doing the job | |
| 5 | The task. | Frequency, bending, reaching, twisting, balance, distances, forces. | 2 | Complete Risk Identification as in Appendix 1. | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | The working environment | Space, access, lighting, floor surfaces, hot/cold. | 2 | Complete Risk Identification as in Appendix 1. | 4 | Electrical Supervisor / Worker doing the job | |
| 7 | The individuals involved. | New, ages, disabilities, PPE & C, training, hazard awareness. If team lifting, training and physically matched | 2 | Complete Risk Identification as in Appendix 1. | 4 | Electrical Supervisor / Worker doing the job | |
| 8 | Assess characteristics of: | | | | | | |
| 9 | The working area. | Heights, space, chairs, lighting, floors, and access. | 2 | Complete Risk Identification as in Appendix 2<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 10 | The people. | Sufficient, new, ages, disabilities, PPE & C, training, hazard awareness. If team lifting, training and physically matched. | 2 | Complete Risk Identification as in Appendix 2. | 4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1.1 | The actions of people. | Posture, bending, stretching, reaching, twisting, and handling techniques. | 2 | Complete Risk Identification as in Appendix 2. | 4 | Electrical Supervisor / Worker doing the job | |
| 1.2 | The object. | Size, shape, weight, bulk, stability, hot, cold, sharp edges, grip, accurate placement. | 2 | Complete Risk Identification as in Appendix 2. | 4 | Electrical Supervisor / Worker doing the job | |
| 1.3 | Control hazards using the Hierarchy of Control and measures developed from 1 and 2. | Personal injuries and property damage. | 2 | Formulate action plans to include (1.5)<br>What is to be done,<br>Who will be responsible for completion,<br>When will the work be completed, and<br>Monitoring and reviewing the outcomes. | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

**Appendix 1 - Manual Handling Risk Identification Checklist**

| No. | | Yes | No |
|---|---|---|---|
| **Posture and Layout** | | | |
| **1** | Is stooping involved where the hands pass below mid thigh height? See risk factors 1 & 2 | | |
| **2** | Is reaching above shoulder height involved? See risk factors 1 & 2 | | |
| **3** | Is forward reaching (more than 30cm from the body) involved? See risk factors 1 & 2 | | |
| **4** | Is significant sideways twisting of the body involved? See risk factors 1 & 2 | | |
| **5** | Is unbalanced or uneven lifting or carrying involved? See risk factors 1 & 2 | | |
| **6** | Is an awkward grip involved? See risk factor 7 | | |
| **Task and Object** | | | |
| **7** | Is handling performed for more than one hour at a time? See risk factors 3 & 4 | | |
| **8** | Is handling performed more than once every five minutes? See risk factors 3 & 4 | | |
| **9** | Are there any forces applied to move the object, apart from lifting e.g. pushing, pulling, restraining, holding? See risk factor 5 | | |
| **10** | Is there a long vertical distance of travel (more than 25cm)? See risk factor 4 | | |
| **11** | Is the weight of the object:- a) more than 4.5 kg and handled from a seated position | | |
| | b) more than 16-20 kg and handled in a working posture other than seated | | |
| | **c)** more than 55 kg See risk factor 6 | | |
| **12** | Does the object have sharp edges or contain hot or cold materials? See risk factor 7 | | |
| **13** | Does it have unstable or unbalanced contents? See risk factor 7 | | |
| **14** | Are live persons or animals that may move around being moved? See risk factor 7 | | |
| **15** | Are slippery materials or objects being handled? See risk factor 7 | | |
| **16** | Is the object bulky or awkward to handle e.g. more than 75 cm in two dimensions? See risk factor 7 | | |
| **Workplace Conditions** | | | |
| **17** | Is the task being performed in a confined or cramped space? See risk factor 8 | | |
| **18** | Is the workplace where the task is to be performed hot, cold or poorly lit e.g. furnace / coolroom? See risk factor 8 | | |
| **19** | Are the floor surfaces slippery, sloped or uneven? See risk factor 8 | | |

**Appendix 2 - Manual Handling Hazard Identification and Controls Worksheet**

| Risk Factors | | Control Options | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **Modify Object** | **Modify Workplace Layout** | **Rearrange Materials Flow** | **Different Actions, Movements** | **Modify Task Mechanical Assistance** | **Modify Task Team Lifting** | **Mechanical Handling Equipment** | **Particular Training** |
| **1** | **Actions and Movements Used** | | | | | | | | |
| **2** | **Posture and Layout** | | | | | | | | |
| **3** | **Duration and Frequency** | | | | | | | | |
| **4** | **Time and Distance** | | | | | | | | |
| **5** | **Force Applied** | | | | | | | | |
| **6** | **Weight** | | | | | | | | |
| **7** | **Nature of Object Load** | | | | | | | | |
| **8** | **Condition of Workplace Environment** | | | | | | | | |
| **Consider further factors such as the following** | | | | | | | | | |
| **9** | **Work Organisation** | | | | | | | | |
| **10** | **Age** | | | | | | | | |
| **11** | **Skill and Experience** | | | | | | | | |
| **12** | **Mechanical Aids Available** | | | | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2040 WORKING WITH ELEVATING WORK PLATFORMS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check that machine is safe to use mechanically. | Machine failure, personal injury | 2 | Check logbook, hydraulics, tyres, audible alarm, and warning lights<br>Involve employees in preparation | 4 | Electrical Supervisor / Worker doing the job | 15 |
| 3 | Check electrical equipment on machine. | Electric shock | 1 | Check socket outlet, Post current device and earth continuity between earth pin and machine frame. Trip test RCD | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 4 | Check surfaces on which the machine is to be used. | Machine instability | 2 | Use machine only on stable, level surfaces in accordance with the manufacturer's instructions | 4 | Electrical Supervisor / Worker doing the job | 15 |
| 5 | Secure working area. | Personal injuries | 2 | Barricade working area, erect signs, tie tools on, and secure objects left at height<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Prevent falls. | Personal injuries | 2 | Use parachute harness with lanyard and shock absorber<br>Ensure attachment point is appropriate<br>Stay wholly within the bucket at all times.<br>Enter or exit bucket only while lowered.<br>Use the machine only in wind less than 12.5 m/sec | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 7 | Check services in work area. | Personal injuries | 2 | Isolate as required | 4 | Electrical Supervisor / Worker doing the job | 11 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2050 ERECTING AND USING MOBILE SCAFFOLDS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Erect scaffold in accordance with the manufacturer's or supplier's instructions. | Unstable ground<br>Overturning<br>Collapse<br>Falling | 2<br><br><br>1 | Place appropriate sole boards under standards<br>Involve employees in preparation<br><br>Ensure handrails are fitted as erection proceeds.<br>Use fall protection as appropriate refer SWMS2080 | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 3 | Proximity to wires | Electric shock | 1 | Ensure safe distances are maintained from conductors<br>Shield all exposed conductors in work area | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 4 | Check surfaces on which the scaffold is to be used. | Scaffold instability | 2 | Use scaffold only on stable, level surfaces in accordance with the manufacturer's instructions | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 5 | Secure working area. | Personal injuries | 2 | Barricade working area, erect signs, tie tools on, and secure objects left at height<br>Ensure adequate lighting<br>Wear appropriate personal protective equipment<br>Stay wholly within the scaffold at all times | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 6 | Observe safe work procedures for erection and use | Personal injuries<br><br><br>Manual handling | 2<br><br><br>2 | Use appropriate fall protection. Ensure SWL is observed and wheels are locked when in working position<br>Use the scaffold only in wind less than 12.5 m/sec<br>Use correct technique and seek assistance as required | 4<br><br><br>4 | Electrical Supervisor / Worker doing the job | 1 |
| 7 | Check services in work area. | Personal injuries | 1 | Isolate as required | 4 | Electrical Supervisor / Worker doing the job | 11 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 2060 DISMANTLING MOBILE SCAFFOLDS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| **2** | Clear area of extraneous materials | Falling objects | 2 | Ensure work platform is clean prior to dismantling<br>Involve employees in preparation | 4 | Electrical Supervisor / Worker doing the job | |
| **3** | Dismantle scaffold in accordance with the manufacturer's or supplier's instructions. | Electric shock<br>Overturning<br><br>Personal injury<br><br>Manual handling | 1<br>2<br><br>2<br><br>2 | Ensure safe distances are maintained from conductors<br>Remove lower ties only when the scaffold is dismantled down to that level.<br>Wear appropriate personal protective equipment<br>Ensure ropes for lowering equipment are securely tied.<br>Use correct technique and seek assistance as required | 4<br>4<br><br>4<br><br>4 | Electrical Supervisor / Worker doing the job | 11 |
| **4** | Secure working area. | Personal injury | 2 | Barricade working area and erect signs | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 2070 ISOLATE, LOCKOUT, TAG AND TEST

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| **2** | Notify occupiers / tenants of potential power outages | | N/A | Protect against unauthorised access. | N/A | | |
| **3** | Identify ALL energy sources to be isolated (8.2). | Electric Shock<br>Personal injury | 1 | Do not work live<br>Use appropriate PPE designed for electrical testing<br>Involve workers in preparation<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **4** | Confirm and record phase rotation if required for commissioning purposes prior to de-energising. | Electric Shock | 1 | Use appropriate PPE designed for electrical testing | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **5** | Isolate ALL power sources associated with the works to be carried out as per site requirements and install insulating barriers. | Electric Shock | 1 | Switch power off and rack-out or remove removable breakers<br>Observe a safe work distance of 500mm from exposed conductors<br>Ensure other power sources where inadvertent contact could occur in the course of work to be conducted are also isolated<br>Check that auxiliary circuits are not energised (e.g. emergency services) | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **6** | Secure the isolation. | Electric Shock | 1 | Lockout and danger tag relevant circuit breakers<br>Use lockout hasp for multiple padlocks<br>Alternatively remove and tie back and tag connections | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **7** | Bond conductors where safe and practicable | Electric Shock | 1 | Test first for dead and equipotential<br>Use heavy duty clips and wire – connect to earth/neutral wire first | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **8** | Fit DANGER TAGS to isolation devices. | N/A | N/A | Sign, date and include warning of any abnormal hazard | N/A | | |
| **9** | Test that work area has been safely isolated/de-energised (i.e. DEAD) using appropriate test device. | Electric Shock | 1 | Confirm de-energisation before commencing work<br>Check exposed conductors in work area to 500mm of body/tool reach<br>Follow Standard Working Procedures<br>TEST EVERY TIME BEFORE YOU TOUCH | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 10 | Undertake scope of work to client's specifications. | Electric Shock | 1 | Follow appropriate SWMSs and HRAs<br>Work to AS/NZS 3000 and/or other specified or relevant standards<br>TEST EVERY TIME BEFORE YOU TOUCH | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 11 | Make safe prior to leaving site. | Electric Shock | 1 | Fit Out of Service/ Danger Tags to any incomplete work<br>Ensure that installation cannot be energised by switch | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 12 | Commission and make safe prior to re-energising. | Electric Shock | 1 | Ensure safe - follow swms3230 | 4 | Electrical Supervisor / Worker doing the job | 11 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2080 WORKING AT HEIGHTS EWP / TOP OF ROOF PANEL

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Working at heights can be in the form of:<br>• Working on a roof panel<br>• on the top of a tank<br>• from an EWP<br>• working within 2.0 m of an edge where there is the potential to fall 2.0 m or more. | Falling<br>Personal injury | 1<br>2 | Involve employees in preparation<br>Ensure adequate lighting<br>Recommended controls for fall protection can be in three forms or a combination of either<br><br>1. Fall prevention – placing a physical barrier to prevent personnel working where they can fall e.g.:<br>• Fixed barricading set back 3.0m from any fall potential<br>2. Fall restraint – limiting personnel from reaching the point of potential fall, e.g.:<br>• Roofing kneel boards to spread the load over a span<br>Anchorage points must be in place prior to commencement of work.<br>• Personnel must be attached, via lanyard, prior to any exposure to risk of fall<br>• Elevating Work Platform - Only personnel trained and certificated to operate this equipment. | 4<br>4 | Electrical Supervisor / Worker doing the job | 1 |
| 6 | Emergency rescue | Hanging | 1 | Where there is a risk of fall, persons are not to work alone.<br>Personnel should be trained in fall-arrest and rescue | 4 | Electrical Supervisor / Worker doing the job | 1 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
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**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 2090 TESTING AND TAGGING OF ELECTRICAL APPLIANCES

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Ensure that work complies with AS3760 and to Clause 64 and 65 of the NSW WHS Regulation 2011 Check operation of test equipment. | Inadequate knowledge<br>Overlook fault | 1 | Person undertaking work must be competent<br>Refer to codes and standard<br>Involve employees in preparation<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 3 | Unplug equipment from the supply. | Electric shock | 1 | Switch off at socket and disconnect plug | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 4 | Undertake visual and physical inspection for damage and defects in appliance, accessories, connectors, plugs and extension outlet sockets. | Minor cuts from sharp edges | 3 | Apply due care in inspection<br>Wear PPE where appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| 5 | Check flexible cords are effectively anchored to equipment, plugs and sockets. | Hand injuries and cuts | 3 | Apply due care in inspection<br>Wear PPE where appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Test earth continuity resistance not exceeding 1 ohm. | Hand injuries and cuts | 3 | Apply due care in inspection<br>Wear PPE where appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| 7 | Test insulation resistance not less than 1 megohm. | Hand injuries and cuts | 3 | Apply due care in inspection<br>Wear PPE where appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| 8 | Alternatively use leakage current test at rated voltage Class I – 5mA max Cords and Class II – 1mA max | Electric shock<br>Note the protective earth conductor may be live whilst testing | 1 | Protect equipment with RCD or isolating transformer.<br>Refer to stringent precautions to be followed when doing live testing in the *COP Managing electrical risks in the workplace* and prepare a separate risk assessment and SWMS for this work | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **9** | Prepare and fit tag to compliant equipment. Complete equipment log / register as a record and provide client with copy. | N/A | N/A | Tags do not have to be colour coded. | N/A | | |
| **10** | Take faulty items out of service and advise client of issue so client can arrange repair / replacement | N/A | N/A | N/A | N/A | | |

- **Test for de-energised every time before you touch any exposed conductors**
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- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
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**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 2100 USE OF MOBILE PLANT

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Verify location of current services prior to bulk excavation (gas, power, telephone, water, sewer) and tree roots | Electric shock | 1 | Dial 1100 before you dig where appropriate [5.3] – i.e. breaking the ground<br>Locate services by non invasive digging and moved outside excavation area<br>Identify overhead power lines and maintain safe approach distances | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 3 | Confirm plant and equipment inspection / maintenance checks have be undertaken where appropriate (Mobile plant daily check report) | Equipment moving | 2 | Ensure plant is immobilised<br>All mobile plant to be fitted with audio alarm (motion and reverse)<br>All mobile plant to be fitted with amber flashing light<br>Safe weight limit to be displayed on plant / arm or stamped on equipment | 4 | Electrical Supervisor / Worker doing the job | 15 |
| 4 | Prevent unauthorised use of plant | Injury and damage | 2 | Render plant immobile whilst not in attendance<br>Do not leave keys in unattended plant<br>Only drive if you have the appropriate licence and or certificate of competency | 4 | Electrical Supervisor / Worker doing the job | 15 |
| 5 | Spotter | Person or property being hit | 2 | A spotter may be used in areas that may prevent the operator visibility is limited or operator control measures are difficult<br>Spotter to wear high visibility clothing, eye protection and helmet (to suit)<br>Spotter must be in continuous contact with operator by hand signals or radio | 4 | Electrical Supervisor / Worker doing the job | 15 |
| 6 | Plant operation | Person or property being hit<br><br><br><br><br><br>Plant becoming unstable | 1<br><br><br><br><br><br>1 | Trenching refer to swms2110<br>Ensure adequate lighting<br>Personnel in area to wear hi-vis clothing<br>Plant to stop if person or property (overhead wires) is in danger of being hit<br>No person to approach mobile plant until confirmed contact is made with the operator either by hand signals or radio<br>Payload to face uphill when moving up or down a slope<br>Consider one way plant movement to reduce vehicle accidents<br>Ensure secure footing and stable ground on paths of travel<br>Observe strict slope, reach and load limits | 4<br><br><br><br><br><br>4 | Electrical Supervisor / Worker doing the job | 15<br><br><br><br><br><br>15 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **7** | Refuelling of machinery | Fire and explosion | 1 | Shut down plant and ensure no open flames and no smoking in area<br>Ensure fire extinguisher is available and keep bystanders clear<br>Remove static electricity potentials - touch the fuel can and the plant away from the nozzle<br>Do not overfill, and avoid spillage and excessive vapours | 4 | Electrical Supervisor / Worker doing the job | 10<br>12 |
| | | Manual handling | 2 | Use correct technique and seek assistance as required | 4 | | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 2140 CUTTING EXISTING CONDUITS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Notify occupants of potential power outages | Trips, slips and falls | 3 | Check for steep or slippery surfaces and obstructions<br>Ensure adequate lighting at work site<br>If conduit is already in service take particular care in cutting process | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 3 | Identify the conduit and all wiring/cables in the conduit by tracing to and checking the starting and end points of the conduit<br>• Review available drawings, visual inspection and verification<br>• Use physical tracing where practicable | Electric shock<br><br><br>Some cabling may come from other power sources i.e. mixed circuits in the one conduit<br>Cuts and abrasions<br>Manual handling | 1<br><br><br>1<br><br><br>3<br>2 | Assume energised until positive tests confirms de-energised<br>Test before you touch<br>Ensure that all cables in the conduit are accounted for<br>Be aware of main, auxiliary and alternative sources of supply<br>If conduit could be associated with network or other supply, confirm authorisations<br>Be aware of possibility of concealed J-boxes<br>Wear protective clothing and gloves if necessary<br>Use correct technique and seek assistance as required | 4<br><br><br>4<br><br><br>4<br>4 | Electrical Supervisor / Worker doing the job | 11<br><br><br>11 |
| 4 | Progressively isolate relevant circuits | The switchboard could still have power | 1 | Undertake isolation procedure | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 5 | Confirm point of cut and make accessible | Cuts | 2 | Wear gloves and eye protection if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Cut the conduit<br>• Ring the conduit at partial thickness by using a plumbers pipe cutter and snap | Electric shock | 1 | Use insulated mat and wear gloves and eye protection as necessary | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Expose and confirm makeup of exposed cables | Electric shock | 1 | Use insulated mat and wear gloves and eye protection as necessary | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **8** | Continue safe work procedure | | N/A | Refer relevant SWMS and HRA<br>Restore installation to appropriate safety and wiring standards before restoring power | N/A | | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 2150 HEAT SHRINK CABLE JOINTS AND LUGS

| | | | | |
|---|---|---|---|---|
| Distribution: | ☐ Client (WHS rep) | ☐ Company Personnel | | |
| Risk Level: | 1 = HIGH (Death, permanent disability) | 2 = MEDIUM (Major injury, lost time injury/illness) | 3 = LOW (First aid, no lost time) | 4 = MINIMAL (no injuries) |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Clean cable sheath to remove any oil, grease, water, dirt etc by wiping the cable ends and connector/link<br>• Remove any sharp edges or burrs | Chemical irritants | 3 | Refer to SDS and follow safe work practices set out therein | 4 | Electrical Supervisor / Worker doing the job | 10<br>12 |
| 3 | Select tube, boot, cap size to suit cable size<br>• When waterproofing use adhesive lined where possible and allow twice minimum seal length | N/A | N/A | | N/A | | |
| 4 | Cut tube to length and fit to cable | Cut injury | 3 | Use side cutter where practical<br>Wear protective gloves where appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| 5 | Crimp conductor connection or lug and centre the tubing over the splice connectors/links | Hand injuries<br>Hand injuries | 3<br>3 | Use appropriate tool to crimp lug / sleeves<br>Use tools correctly | 4<br>4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 6 | Apply broad gentle heat evenly to all sides of heat shrink material<br>• Larger heat shrink materials require use of flame<br>• Start at centre and work to one end first<br>• If using a gas burner, use the cooler, soft flame<br>• Do not hold the torch still in one position or concentrate the hot inner flame of the torch on the tubing; this may cause scorching<br>• Keep the heat source moving around the circumference of the insulator to ensure uniform shrinkage<br>• Installation is complete when the tubing conforms to the link and if present, adhesive flow is apparent at both ends | Burns and fire | 2 | Use heat gun where possible to avoid open flame<br>Complete site hot work permit if using open flame<br>Ensure fire extinguisher is available when using open flame<br>Check for flammable substances (including gas) before using open flame<br>Use shield / reflector to protect other areas and get uniform heat coverage<br>Do not touch the heat shrink product until it cools<br>Ensure no one inadvertently touches hot parts of heating gun/torch after use | 4 | Electrical Supervisor / Worker doing the job | 10<br>12 |
| 7 | Tidy up | Fire, contaminants | 2 | Spent butane / gas canisters contain residual fuel and should not puncture or disposed in general rubbish | 4 | Electrical Supervisor / Worker doing the job | 10<br>12 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3010 CONDUIT INSTALLATION, PLACED PRIOR TO POURING CONCRETE

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check layout and mark out. | Tripping and exposed nails | 3 | Ensure areas in particular walkways are clear | 4 | Electrical Supervisor / Worker doing the job | |
| 3 | Install disposable lids for conduit boxes to timber | Cuts and abrasions | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 4 | Lay conduit and accessories. | Chemical glues<br>Manual handling | 3<br>2 | Refer to SDS and follow safe work practices set out therein<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | 10 |
| 5 | Tie down conduit | Cuts and abrasions | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3020 CONDUIT INSTALLATION IN THE GROUND

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| **2** | Minimise impact on public and persons in the area | Public safety | 2 | Schedule earthwork outside periods of high use (e.g. school hours (or use school holidays)) as much as possible | 4 | Electrical Supervisor / Worker doing the job | 14 |
| **3** | Check area for other services and confirm locations of any gas lines, power cables, telephone cables, water or sewer lines and tree roots. | Sun exposure<br>Tripping<br><br><br>Underground services | 2<br>3<br><br><br>2 | Use skin protection<br>Ensure area is clear<br>Ensure location of other services is confirmed and appropriate access permits obtained.<br>Dial 1100 before you dig<br>DBUD Maps must be no more than 30 days old | 4<br>4<br><br><br>4 | Electrical Supervisor / Worker doing the job | <br><br><br><br>9 |
| **4** | Check layout and mark out | Tripping | 3 | Ensure area is clear<br>Wear safety footwear | 4 | Electrical Supervisor / Worker doing the job | |
| **5** | Excavate trenches | Mobile plant<br><br>Manual handling<br><br>Falling in trenches<br><br>Trench collapse<br><br>Services damage | 2<br><br>2<br><br>2<br><br>1<br><br>3 | Observe safe work practices for mobile plant<br>Observe processes for trenching in<br>Use correct technique and seek assistance as required<br>Ensure trenches are as even and flat as practical<br>Barricade work area. Delineate top of batter to prevent encroachment of mobile plant and vehicles<br>Provide shoring, benches or battering in accordance with WorkCover requirements<br>Provide warning lights if necessary overnight | 4<br><br>4<br><br>4<br><br>4<br><br>4 | Electrical Supervisor / Worker doing the job | 15<br><br><br><br>1<br>7<br>7 |
| **6** | Lay conduit | Fire and explosion<br>Personal injury<br>Electric shock<br>Confined / restricted spaces | 3<br>3<br>1<br>2 | Comply WorkCover requirements<br>Implement risk management procedures<br>Confirm any existing installations are dead<br>Follow Standard Working Procedures | 4<br>4<br>4<br>4 | Electrical Supervisor / Worker doing the job | <br><br>11<br>6 |
| **7** | Restore ground to client's specifications | Manual handing<br>Tripping | 2<br>3 | Use correct technique and seek assistance as required<br>Ensure area is clear | 4<br>4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 3040 CABLE AND LADDER TRAY INSTALLATION

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures * (Clause No.) | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check layout and mark out | Tripping and exposed nails | 3 | Ensure areas in particular walkways are clear<br>Wear safety footwear<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 3 | Secure fixings and supports using correct size bolts and fixings | Debris and noise from drilling | 2 | Use minimum drilling speed consistent with effective work<br>Use PI respirator if appropriate<br>Use appropriate eye protection<br>Ensure drill bits are sharp | 4 | Electrical Supervisor / Worker doing the job | |
| 4 | Cut ladders or trays to fit using drop saw or 100mm angle grinder | Noise, eye injuries, cuts and abrasions<br>Manual handling | 2<br>2 | Ensure work piece is clamped<br>Use eye and hearing protection and use gloves if necessary<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | |
| 5 | Secure ladders or trays to support | Cuts and abrasion from sharp edges | 2 | Use ladders in accordance with SWMS2020<br>Use fall protection where appropriate refer SWMS2080<br>Use gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Remove sharp edges and protruding fixings | Working at heights, falls<br>Manual handling<br>Burns and fires from cutting and welding | 2<br>2<br>2 | Use ladders in accordance with SWMS2020<br>Use fall protection where appropriate refer SWMS2080<br>Use correct technique and seek assistance as required<br>Follow Hot Work procedures<br>Ensure emergency equipment and procedures are in place | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | 1 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3060 INSTALLATION OF SWITCHBOARDS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| **2** | Confirm installation specifications. | N/A | N/A | Involve employees in preparation<br>Note special requirements for temporary construction wiring | N/A | | |
| **3** | Prepare installation area and confirm adequate space including door swing for maintenance. | Hand injuries, tripping and exposed nail<br><br><br><br>Electric shock | 3<br><br><br><br>1 | Ensure areas in particular walkways are clear<br>Wear safety footwear<br>Ensure adequate lighting<br>Use suitable gloves if necessary<br>Check for auxiliary circuits and alternative sources of supply | 4<br><br><br><br>4 | Electrical Supervisor / Worker doing the job | <br><br><br><br>11 |
| **4** | Arrange for crane or other mechanical handling equipment if needed. | Traffic issues | 2 | Provide traffic control | 4 | Electrical Supervisor / Worker doing the job | 14 |
| **5** | Receive switchboard on site including test certificates. | Falling objects<br>Manual handling | 2<br>2 | Keep lifting area clear of people<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | |
| **6** | Transfer switchboards to installation location | Falling objects<br>Manual handling | 2<br>2 | Use mechanical handling equipment<br>Use correct technique and seek assistance as required<br>Consider use of mobile plant | 4<br>4 | Electrical Supervisor / Worker doing the job | |
| | | | | | | | |
| **7** | Mark out location ensuring coordination with other services. | N/A | N/A | N/A | N/A | | |
| **8** | Install switchboard to manufacturer's and client's specifications. | Manual handling<br><br>Electric shock | 2<br><br>1 | Implement manual handling risk control procedures<br>Refer SWMS2030<br>Ensure cables are de-energised before cutting<br>Check for exposed conductors and terminate all, prior to energising | 4<br><br>4 | Electrical Supervisor / Worker doing the job | <br><br>11 |
| **9** | Commission switchboard | Electric shock, explosion | 1 | Carry out pre-commission test and isolation procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **10** | Clean area | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 3090 INSTALLATION OF CABLE SUPPORTS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check location to drawing and specifications | Tripping and exposed nails | 3 | Ensure area is clear<br>Wear safety footwear<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 3 | Receive cable supports on site confirming correct type, size and number | Struck by falling objects<br>Manual handling | 2<br>2 | Keep lifting area clear of people<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | |
| 4 | Mark out route of cable supports to specifications confirming clearance of other services | Falling | 2 | Use ladders in accordance with SWMS2020<br>Use fall protection as appropriate | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 5 | Install supports to client's specifications supporting as necessary and using correct size bolts. | Electric shock<br>Falling | 1<br>2 | Ensure power tools and leads are tagged<br>Use ladders in accordance with SWMS2020 | 4<br>4 | Electrical Supervisor / Worker doing the job | 11<br>1 |
| 6 | Confirm tightness of fixings | Falling | 2 | Use ladders in accordance with SWMS2020 | 4 | Electrical Supervisor / Worker doing the job | 1 |
| 7 | Install cable supports | Struck by falling objects<br>Falling | 2<br>2 | Keep lifting area clear of people<br>Use ladders in accordance with SWMS2020<br>Use fall protection as appropriate | 4<br>4 | Electrical Supervisor / Worker doing the job | 1 |
| 8 | Clean area | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors (swms3220).**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose (3.7, 3.8).**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|

# 3110 INSTALLATION OF MAINS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Liaise with Supply Authority to coordinate supply. | N/A | N/A | N/A | N/A | | |
| 3 | Obtain Supply Authority Certificates and check drawings. | N/A | N/A | N/A | N/A | | |
| 4 | Coordinate shutdowns with client and workers. | N/A | N/A | Involve employees in preparation | N/A | | |
| 5 | Receive mains on site. | Falling objects<br>Manual handling | 2<br>2 | Keep lifting area clear of people<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | |
| 6 | Shut down and install DANGER Tags. | Electric shock | 1 | Isolate, lock, tag and test<br>Check for auxiliary circuits and alternative sources of supply<br>Confirm DEAD before commencing work | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Remove existing mains terminations if applicable. | Electric shock | 1 | Confirm DEAD before commencing work | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 8 | Install mains to specifications. | Electric shock<br>Manual handling | 1<br>2 | Confirm DEAD before commencing work<br>Use correct technique and seek assistance as required | 4<br>4 | Electrical Supervisor / Worker doing the job | 11 |
| 9 | Terminate new mains to specifications. | Electric shock | 1 | Confirm DEAD before commencing work | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 10 | Confirm installation to drawings and specifications and ensure connections are tight. | Electric shock | 1 | Confirm DEAD and identify cables before commencing work<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 11 | Clean area. | Hand injuries | 3 | Wear suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 12 | Test installation. | Electric shock | 1 | Confirm DEAD and identify cables before commencing work<br>Refer swms3230 - Energise and commission | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 13 | Liaise with Supply Authority for inspection and test. | N/A | N/A | N/A | N/A | | |
| 14 | Remove DANGER Tags. | Incorrect procedure | 3 | Energise and commission | 4 | Electrical Supervisor / Worker doing the job | |
| 15 | Energise supply. | Electric shock | 1 | Check for exposed conductors and terminate all, prior to energising<br>Follow Standard Working procedures. | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 16 | Install signs or labels as required. | Hand injuries | 3 | Use tools appropriately | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 3120 INSTALLATION OF SWITCHBOARD CONNECTIONS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Confirm switchboard meets and has been installed to specifications | N/A | N/A | Refer swms3060 | N/A | | |
| 3 | Confirm cables to be connected meet specifications and all cables have been installed. Check any specific requirements have been met. | Tripping and exposed nails | 3 | Ensure area is clear<br>Wear safety footwear<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 4 | Group cables together as they enter switchboard and fix with cable ties. | Manual handling<br><br>Hand injuries | 2<br><br>3 | Use correct technique and seek assistance as required<br>Involve employees in preparation<br>Use suitable gloves if necessary | 4<br><br>4 | Electrical Supervisor / Worker doing the job | |
| 5 | Separate cables into groups of like destination. Seal or plug any unused cable entries. | Electric shock | 1 | Confirm DEAD before commencing work | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 6 | Mark each conductor prior to removing any secondary insulation. | N/A | N/A | N/A | N/A | | |
| 7 | Group conductors of like destinations and fix into a loom system | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 8 | Align and terminate each conductor into its correct location. | Electric shock | 1 | Confirm DEAD before commencing work | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 9 | Check and tighten all terminations and connections. | Electric shock | 1 | Confirm DEAD before commencing work<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 10 | Confirm installations meet specifications. | N/A | N/A | N/A | N/A | | |
| 11 | Install labels, signs or markings as required. | N/A | N/A | N/A | N/A | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 12 | Clean switchboard. | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 13 | Confirm all circuits have been completed and DANGER TAG any incomplete circuits. | Incorrect procedure | 3 | Isolation, tag and test | 4 | Electrical Supervisor / Worker doing the job | |
| 14 | Test and commission switchboard using relevant procedures. Confirm phase rotation of all 3 phase equipment. | Electric shock | 1 | Follow safe work practices<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 15 | Complete records | N/A | N/A | N/A | N/A | | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3130 NEW WORK IN EXISTING SWITCHBOARDS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check drawings and specifications. | N/A | N/A | Refer to the no live work policy<br>Involve employees in preparation<br>Ensure adequate lighting | N/A | | |
| 3 | Arrange isolation of section of, or complete switchboard with client. | N/A | N/A | Isolate tag and test | N/A | | |
| 4 | Isolate section of, or complete switchboard, install insulating barriers. | Electric shock | 1 | Isolate all energy sources<br>Confirm DEAD before commencing work<br>Check for auxiliary circuits and alternative sources of supply<br>Follow Standard Working Procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 5 | Fit DANGER TAGS to isolation devices. | Incorrect procedure | 3 | Isolation, tag and test | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Test that work area has been safely isolated. | Electric shock | 1 | Confirm DEAD before commencing work<br>Follow Standard Working Procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Complete installations to client's specification. | Electric shock<br><br>Manual handling | 1<br><br>2 | Test and identify cables before commencing work<br>Check for exposed conductors and terminate all, prior to energising<br>Use correct technique and seek assistance as required | 4<br><br>4 | Electrical Supervisor / Worker doing the job | 11 |
| 8 | Check and tighten all terminations and connections. | Electric shock | 1 | Confirm DEAD before commencing work<br>Follow Standard Working Procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 9 | Confirm installation to client's specifications. | N/A | N/A | N/A | N/A | | |
| 10 | Fit DANGER TAGS to any incomplete work. | N/A | N/A | Isolation, tag and test | N/A | | |
| 11 | Install labels, signs or markings as required. | N/A | N/A | N/A | N/A | | |
| 12 | Clean work area. | Hand injuries | 3 | Wear suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 13 | Test and commission new installation following relevant procedures. Confirm phase rotation of all 3 phase equipment. | Electric shock | 1 | Follow Standard Working Procedures<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 14 | Complete records. | N/A | N/A | N/A | N/A | | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3140 INSTALLATION OF SUBMAINS

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Check location to drawings and specification layout and mark out | Tripping and exposed nails | 3 | Ensure area is clear<br>Wear safety foot wear<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 3 | Plan installation so as to work towards the main switchboard. | Electric shock | 1 | Isolate all energy sources<br>Connections to the main switchboard to be made ONLY when it is CONFIRMED DEAD<br>Check for auxiliary circuits and alternative sources of supply | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 4 | Confirm cable specifications and condition. | N/A | N/A | N/A | N/A | | |
| 5 | Install cable to client's specifications. | Falls<br><br><br><br>Manual handling<br>Electric shock | 2<br><br><br><br>2<br>1 | Use ladders in accordance with<br>Use fall protection as appropriate<br>Use correct technique and seek assistance as required<br>Ensure that no bare conductors can contact any live parts<br>Effectively insulate both ends of all cables near any live parts.<br>Restrain the ends of all cables near any live parts. | 4<br><br><br><br>4<br>4 | Electrical Supervisor / Worker doing the job | 1<br><br><br><br><br>11 |
| 6 | Terminate sub mains to specifications. | Electric shock | 1 | Isolate main switchboard and install DANGER TAGS<br>Isolation, lock, tag and test<br>CONFIRMED DEAD before making any connections<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Clean area | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| 8 | Test installation | Electric shock | 1 | CONFIRMED DEAD and identify cables before commencing work refer SWMS3220 | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 9 | Remove DANGER TAGS | Incorrect procedure | 3 | Energise and commission | 4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **10** | Energise main switchboard. | Electric shock | 1 | Follow Standard Working Procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **11** | Install signs or labels as required. | Hand injuries | 3 | Use tools appropriately<br>Wear suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3150 INSTALLATION OF POWER AND LIGHT CABLING

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| **2** | Check location to drawings and specification layout and mark out | Tripping and exposed nails | 3 | Ensure area is clear<br>Wear safety foot wear<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| **3** | Plan installation so as to work towards the main switchboard. | Electric shock | 1 | Connections to the main switchboard to be made only when it is CONFIRMED DEAD | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **4** | Confirm cable specifications and condition. | N/A | N/A | N/A | N/A | | |
| **5** | Install cable to client's specifications. | Falls<br><br>Manual Handling<br><br>Electric shock | 2<br><br>2<br><br>1 | Use ladders in accordance with<br>Use fall protection as appropriate<br>Use correct technique and seek assistance as required<br>Ensure that no bare conductors can contact any live parts<br>Effectively insulate both ends of all cables near any live parts<br>Restrain the ends of all cables near any live parts | 4<br><br><br><br>4<br><br>4 | Electrical Supervisor / Worker doing the job | 1<br><br><br><br>11 |
| **6** | Terminate submains to specifications. | Electric shock | 1 | Isolate main switchboard and install DANGER TAGS<br>Isolation, tag and test<br>CONFIRMED DEAD (swms3220) and identify cables before commencing work<br>Check for exposed conductors and terminate all, prior to energising | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **7** | Clean area | Hand injuries | 3 | Use suitable gloves if necessary | 4 | Electrical Supervisor / Worker doing the job | |
| **8** | Test installation | Electric shock | 1 | CONFIRMED DEAD (swms3220) and identify cables before commencing work (swms3220) | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **9** | Remove DANGER TAGS | Incorrect procedure | 3 | Energise and commission ( | 4 | Electrical Supervisor / Worker doing the job | |
| **10** | Energise main switchboard. | Electric shock | 1 | Follow Standard Working Procedures (swms3230) | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **11** | Install signs or labels as required. | Hand injuries | 3 | Use tools appropriately | 4 | Electrical Supervisor / Worker doing the job | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

# 3170 ISOLATE, LOCKOUT, TAG AND TEST

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Notify occupiers / tenants of potential power outages | | N/A | Protect against unauthorised access. | N/A | | |
| 3 | Identify ALL energy sources to be isolated (8.2). | Electric Shock<br>Personal injury | 1 | Do not work live<br>Use appropriate PPE designed for electrical testing<br>Involve workers in preparation<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 4 | Confirm and record phase rotation if required for commissioning purposes prior to de-energising. | Electric Shock | 1 | Use appropriate PPE designed for electrical testing | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 5 | Isolate ALL power sources associated with the works to be carried out as per site requirements and install insulating barriers. | Electric Shock | 1 | Switch power off and rack-out or remove removable breakers<br>Observe a safe work distance of 500mm from exposed conductors<br>Ensure other power sources where inadvertent contact could occur in the course of work to be conducted are also isolated<br>Check that auxiliary circuits are not energised (e.g. emergency services) | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 6 | Secure the isolation. | Electric Shock | 1 | Lockout and danger tag relevant circuit breakers<br>Use lockout hasp for multiple padlocks<br>Alternatively remove and tie back and tag connections | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Bond conductors where safe and practicable | Electric Shock | 1 | Test first for dead and equipotential<br>Use heavy duty clips and wire – connect to earth/neutral wire first | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 8 | Fit DANGER TAGS to isolation devices. | N/A | N/A | Sign, date and include warning of any abnormal hazard | N/A | | |
| 9 | Test that work area has been safely isolated/de-energised (i.e. DEAD) using appropriate test device. | Electric Shock | 1 | Confirm de-energisation before commencing work<br>Check exposed conductors in work area to 500mm of body/tool reach<br>Follow Standard Working Procedures<br>TEST EVERY TIME BEFORE YOU TOUCH | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 10 | Undertake scope of work to client's specifications. | Electric Shock | 1 | Follow appropriate SWMSs and HRAs<br>Work to AS/NZS 3000 and/or other specified or relevant standards<br>TEST EVERY TIME BEFORE YOU TOUCH | 4 | Electrical Supervisor / Worker doing the job | 11 |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 11 | Make safe prior to leaving site. | Electric Shock | 1 | Fit Out of Service/ Danger Tags to any incomplete work<br>Ensure that installation cannot be energised by switch | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 12 | Commission and make safe prior to re-energising. | Electric Shock | 1 | Ensure safe - follow swms3230 | 4 | Electrical Supervisor / Worker doing the job | 11 |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3210 DISCONNECTING EXISTING INSTALLATION

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **1** | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4 | Electrical Supervisor / Worker doing the job | |
| **2** | Notify tenants of potential power outages | | N/A | Ensure adequate lighting | N/A | | |
| **3** | Isolate the Work Area, test, tag and lock | The switchboard could still have power<br>Some cabling may come from other power sources | 1<br>1 | Undertake isolation procedure<br>Clearly mark with temporary tape | 4<br>4 | Electrical Supervisor / Worker doing the job | 11<br>11 |
| **4** | Disconnect cabling at switchboard | Electric shock<br>Cuts and abrasions | 1<br>3 | Test before touch be aware of auxiliary and alternative sources of supply Wear protective clothing and gloves if necessary | 4<br>4 | Electrical Supervisor / Worker doing the job | 11 |
| **5** | Test for live cables in work area and identify with temporary tape | Test instrument fails<br>Use of ladder - falls | 2<br>2 | Check test instrument against known source<br>Use safe ladder procedure | 4<br>4 | Electrical Supervisor / Worker doing the job | 1<br>1 |
| **6** | Trace individual cables back to source, confirm cable is dead and cut to remove | Electric shock<br>Use of ladder – falls<br>Falling objects | 1<br>2<br>2 | Use insulated tools and equipment and gloves and eye protection if necessary<br>Use safe ladder procedure<br>Use safe means of raising and lowering materials | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | 11<br>1 |
| **7** | Tidy up | Cuts and abrasions<br>Back injury | 2<br>2 | Wear protective clothing and gloves if necessary<br>Use correct handling and lifting methods | 4<br>4 | Electrical Supervisor / Worker doing the job | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3220 TEST FOR DE-ENERGISED (DEAD)

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy (1.3) | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Confirm isolation of energy sources | | N/A | Refer isolation section of swms3170<br>Observe No live work policy | N/A | | |
| 3 | Select suitably rated test equipment | Internal breakdown | 2 | Instrument should be Cat3 or better for normal 240/415volt work | 4 | Electrical Supervisor / Worker doing the job | |
| 4 | Check your test device/equipment for integrity and ensure is in good working order. | | N/A | Before test, prove testing equipment is working correctly<br>Ensure adequate lighting | N/A | | |
| 5 | Locate reference earth potential conductors. | Electric Shock | 1 | Only touch bare earth conductor with insulated instrument probe | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 6 | Identify all possible relevant electrical conductors to be confirmed DEAD within 500mm of body/tool reach. | Electric Shock | 1 | Do not touch (other than with test probe)<br>Be aware of auxiliary supplies for energised sources<br>Isolate or shield exposed conductors if energised | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 7 | Test that work area has been safely isolated/de-energised (i.e. DEAD) using appropriate test device. | Electric Shock | 1 | Only touch bare earth conductor with insulated instrument probe<br>Confirm de-energisation and safe before commencing work Refer to 9.1 for possible additional precautions | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 8 | Confirm post-test that your test device is operational. | | N/A | After test, prove testing equipment is working correctly | N/A | | |
| 9 | Only touch (i.e. make body contact) electrical conductors where necessary | Electric Shock | 1 | Reprove they are DEAD - as above before touching<br>TEST EVERY TIME BEFORE YOU TOUCH<br>Use insulated tools | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 10 | Continue safe work procedure | | N/A | Refer relevant SWMS and HRA | N/A | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

# 3230 ENERGISE AND COMMISSION INSTALLATION

Distribution: ☐ Client (WHS rep) ☐ Company Personnel

Risk Level: 1 = HIGH (Death, permanent disability) 2 = MEDIUM (Major injury, lost time injury/illness) 3 = LOW (First aid, no lost time) 4 = MINIMAL (no injuries)

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| 1 | Undertake / confirm workplace risk assessment HRA (document record) and secure area | Site specific issues<br>Worker safety<br>Public access and unauthorised persons | 3<br>3<br>3 | Do inspection and review tasks and review HRA checklist<br>Check test equipment and PPE, consult with workers involved<br>Clear area and use appropriate barricades and signage<br>Observe No live work policy | 4<br>4<br>4 | Electrical Supervisor / Worker doing the job | |
| 2 | Identify ALL energy sources and confirm isolated (8.2). | Electric Shock<br>Personal injury | 1 | Follow swms3170 and swms3220<br>Do not work live | 4 | Electrical Supervisor / Worker doing the job | 11 |
| 3 | Undertake visual inspection to confirm installation work is complete to client's specifications.<br>Complete installation connections to switchboard.<br>Remove bonding leads in preparation for energising. | Minor injury | 3 | Refer visual inspection requirements of AS/NZS 3000<br>Use PPE as appropriate<br>Ensure all circuits are suitably identified<br>Ensure adequate lighting | 4 | Electrical Supervisor / Worker doing the job | |
| 4 | Check your test device/equipment for integrity and ensure is in good working order. | | N/A | Before test, prove testing equipment is working correctly | N/A | | |
| 5 | Test new installation and/or repairs prior to energising. | | 3 | Refer inspection and test requirements of AS/NZS 3000<br>Follow Standard Working Procedures refer AS3017<br>Check for exposed conductors and terminate all, prior to energising<br>Ensuring all ends are terminated and tails are secured out of reach so that no inadvertent contact can be made | 4 | Electrical Supervisor / Worker doing the job | |
| 6 | Replace removable switches (off) and rack-in | Minor injury | 3 | Confirm test equipment is operational | 4 | Electrical Supervisor / Worker doing the job | |
| 7 | Remove locks and out-of-service / danger tags | N/A | N/A | Locks and Danger Tags to be removed by person who placed and signed (except by supervisor in exceptional circumstances) | N/A | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

| | Work Method Description (in steps) | Possible hazards and risks | Risk Level | Control measures | Post Risk | Responsible Person | HR-ID |
|---|---|---|---|---|---|---|---|
| **8** | Energise and test wiring, and check equipment and apparatus as operational before return to service. | Electric Shock | 1 | Sequence the energising and test and check, by sections (e.g. polarity)<br>Confirm phase rotation of all 3-phase equipment<br>Confirm operational and safe prior to handover<br>Follow Standard Working Procedures | 4 | Electrical Supervisor / Worker doing the job | 11 |
| **9** | Tidy up installation and work areas<br>Remove equipment from site | Minor injury | 3 | Use PPE as appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| **10** | Remove signage and barriers | Minor injury | 3 | Use PPE as appropriate | 4 | Electrical Supervisor / Worker doing the job | |
| **11** | Handover installation to client | N/A | N/A | Complete certificate of compliance electrical work and other paperwork<br>Provide relevant paperwork to client and submit to authorities, as appropriate | N/A | | |

- **Test for de-energised every time before you touch any exposed conductors**
- **All PPE and test equipment shall be inspected prior to use, to ensure it is safe to use/operate and is fit for purpose**
- **All workers to be vigilant in relation of changes in safety conditions and workplace environment.**
- **All workers are authorised and expected to safely stop work and immediately notify their supervisor if a task carries an unacceptable level of risk.**
- **Each SWMS is developed in consultation with the workers, and monitored and reviewed by management periodically and as a result of change.**

**Read, understood, accepted and signed by all persons involved (refer to universal signoff Sheet 3 at back of document):**

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
|---|---|---|---|---|---|
| 1 | | | | | |

| Client | Project | Section | Issue Date | Approved by |
|---|---|---|---|---|
| | | Electrical | | Rod Griebe |

## NOTES TO CONTROL MEASURES

| Personal Qualifications and Experience | Personnel, Duties and Responsibilities | Training Required to Complete Work |
|---|---|---|
| 1. Minimum of trades assistant or trainee /apprentice working under a qualified Supervisor, for all electrical wiring work. | 1. Competent person to carry out daily inspections of work site for hazards. | 1. Supervisor and employees to be trained in hazard identification, risk assessment and control (HRA), Safe work method statements, Asbestos Induction and Manual handling. |
| 2. No previous experience required for this activity. | 2. All personnel to maintain a tidy work site. Personal protection equipment (PPE) to be worn at all times. | 2. Supervisor to hold current Electrical License under OFT or Australian Communications Authority Licence type BCL F. |
| 3. Complete signoff to work on this task. | 3. Stop work rather than accept a safety risk. | 3. Appropriate industry and site induction including NECA Red Book. |

**PPE that may be required:**

Long sleeved shirt, long trousers, safety footwear, high visibility vest
Sun screen (SPF30+), eye protection, gloves, ear plugs/muffs, hard hat, cap
Overalls, coveralls and/or dust coat, knee pads
Respirator/masks, face protection or goggles
Insulated gloves and mat, insulated shields, harnesses for fall protection

**Legislation:**

Work Health and Safety Act 2011
Work Health and Safety Regulation 2017

**Plant/Equipment:**

Manufacturer's recommended tools and test equipment
Hand tools, portable drills, appropriate mechanical handling equipment
Ladders, scaffold and EWP as appropriate

**PPE required for minor work on asbestos containing material:**

P1 or P2 dust mask minimum, respirator protection, disposable coveralls with fitter, hood and cuffs, boots without laces and/or boot covers, gloves where appropriate

**Standards:**

AS/NZS 3080:2003 Telecommunications installations - Generic cabling for commercial premises (as amended 2009) and client's specifications
AS/ACIF S009:2006 Installation requirements for customer cabling (Wiring Rules).
AS/NZS 3012:2010 Electrical Installations - construction and demolition sites
NECA Red Book - Safety Guide for Employees in the Electrical Communications and Data Industries 2007
AS/NZS 3000 Wiring Rules
SDSs for Hazardous Substances

**Plant/Equipment required for minor work on asbestos containing material:**

Hand tools and ladders, paper, foam or plastic cup/s, ACM waste bags, (200 µm) HEPA filter vacuum cleaner, slow speed drill, shaving foam or gel, disposable rags, bucket of water, duct tape, sealant (non-hazardous substance) e.g. silicon or water based paint

**Codes of Practice and Guidelines**

Code of Practice Construction Work
Code of Practice Managing Electrical Risks in the Workplace

**Maintenance Checks:**

Hand tools and ladders to be checked daily.
All PPE and test equipment to be checked before use.

## SWMSs CONSULTATION / INSTRUCTION / TRAINING RECORD

### UNIVERSAL SIGNOFF

Review and evaluation of SWMSs is an ongoing process and is undertaken formally as an annual routine.

| SWMSs prepared and approved by: | Name: | Position: | Date: _____/_____/_____ |
|---|---|---|---|

**Worker consultation, instruction, training, toolbox talks, review, acceptance record:**
Only persons who have completed the signoff are authorised to work on the relevant tasks covered by this document.

I, the undersigned, acknowledge, understand and accept that:

1. the relevant HRA and above “No Live Work Policy”, SWMSs and NECA Red Book have been reviewed and explained to me,
2. the contents and requirements have been explained and are clearly understood by me,
3. I shall only carry out work for which I am equipped and competent,
4. I have been consulted regarding the content of the SWMSs and the NECA Red Book,
5. I have advised my supervisor of any individual needs in relation to carrying out the work safely,
6. I will comply with the “No Live Work Policy” and SWMSs, otherwise work must stop immediately,
7. I will be vigilant regarding hazards and the suitability of the HRA and SWMS for the task at hand and implement further control measures where required, and
8. I understand that I am authorised and expected to safely stop work and immediately notify my supervisor if a task carries an unacceptable level of risk.

| # | SURNAME | GIVEN NAME | ROLE | SIGNATURE | DATE |
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The list of tasks covered by this record is provided on the cover page. Signing of the individual policy and SWMS pages is only required where a change of procedure is noted.