

SAFE WORK METHOD STATEMENT		SWMS Work on or near Energised Electrical Installations or Services			
Reference documents	Work Health & Safety Act 2011, Work Health & Safety Regulation's 2017, Code of Practice - Work near Overhead power lines – 2006 P18 Electrical safety Procedure, P18.F01 Risk assessment checklist – Working Near Overhead Power Lines				
SWI:	SWI46 – Measuring Clearance to Overhead Power Lines				
Training and Competencies	Working below overhead powerlines, underground assets identification training. Locators training. Isolation training, Electrician qualifications.				
Safety data Sheets	As required and determined by the risk assessment				
Personal Protective Equipment	As required and determined by the risk assessment, Isolation locks				
Plant and Equipment	As determined by the Risk assessment				
Inspection and Testing	Pre – start checks for plant and equipment				
Hazardous Chemicals and Dangerous Goods					
High Risk Work <i>Indicate if any of the HIGH risk activities are performed by workers</i>	<input type="checkbox"/> Where there is a risk of a person falling more than two metres.	<input type="checkbox"/> On in or adjacent to roadways, railways, shipping lanes or other traffic corridor.	<input type="checkbox"/> In, over or adjacent to water or other liquids where there is a risk of drowning.		
	<input type="checkbox"/> At workplaces where there is any movement of powered mobile plant.	<input type="checkbox"/> Involving the use of explosives.	<input type="checkbox"/> In an area where there are artificial extremes of temperature.		
	<input checked="" type="checkbox"/> On or near energised electrical installations or services.	<input type="checkbox"/> Involving a trench or shaft if the excavated depth is more than 1.5 metres.	<input type="checkbox"/> On or near pressurised gas distribution mains or piping.		
	<input type="checkbox"/> Involves structural alterations or repairs that require temporary support to prevent collapse.	<input type="checkbox"/> Involving a confined space.	<input type="checkbox"/> On or near chemical, fuel or refrigerant lines.		
	<input type="checkbox"/> Involving tilt-up or precast concrete.	<input type="checkbox"/> On telecommunications towers.	<input type="checkbox"/> Involving diving.		
	<input type="checkbox"/> Involving removal or likely disturbance of asbestos	<input type="checkbox"/> In an area that may have a contaminated or flammable atmosphere.	<input type="checkbox"/> Involves demolition of an element of a structure that is load-bearing or otherwise related to the structural integrity of the structure.		
	<input type="checkbox"/> Involving a tunnel.				
SWMS Prepared by:	Name and signature:			Date:	
Authorised by:	Name and signature:			Date:	
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*SWMS are to be reviewed as per the Document Control Procedure or when there has been a change to the Task / Process or Legislation.

Job Step	Hazard	Risk	Initial Risk Rating E,H,M,L	Control Measures <i>Controls have been identified using the hierarchy of controls</i>	Responsibility <i>Who</i>	Residual Risk Rating E,H,M,L
<p><i>Prior to works conducted – the site supervisor is to conduct a risk assessment to ensure adequate clearance between planned works and electrical cables can be maintained at all times. If the plant or work will encroach in the “exclusion zone (cable clearances) – table provided at end of SWMS” Energy provider MUST be consulted and a safety advice MUST be provided prior to work commencement (this can take up to 7 days to respond to request).</i></p>						
<p>Pre-Start and Planning</p>	<p>Lack of information provided to workers</p> <p>Design of work not identifying the hazard</p>	<p>injury or illness.</p>	<p>H</p>	<ul style="list-style-type: none"> Pre-start briefing to ensure all staff are fully aware of the scope of work before work commences. Ensure all persons have undertaken a site specific induction. Site specific risk assessment to be completed. Check all spotters’ tickets before work commencement to ensure in date and competency. Comply with all requirements from Energy provider. 	<p>Supervisors, competent person and worker</p>	<p>M</p>
<p>Investigations, Inspections Viewing and Measuring</p>	<p>being hit by vehicles</p>	<p>Injury or death</p>	<p>H</p>	<ul style="list-style-type: none"> Spotter may be required for activity. Park vehicle clear of roadway. Vehicle to have warning devices Workers to wear Hi-Vis clothing. Completed a risk assessment. 	<p>Supervisors, competent person and worker</p>	<p>L</p>
<p>Excavation Near underground: A/ Electrical Services</p>	<p>Contact with live parts.</p>	<p>Injury or death</p>	<p>H</p>	<ul style="list-style-type: none"> All underground services are to be identified prior to commencing work (Dial before you dig 1100). Ensure services locations are correctly verified by a plan, on the ground and depth indicated 	<p>Supervisors, competent person and worker</p>	<p>M</p>

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B/ Poles and Stay Wires		<p>Interruption to services</p> <p>Plant severing live parts</p>	H	<p>either by high visible paint or flags.</p> <ul style="list-style-type: none"> • Pothole to ensure adequate clearance from underground services. (DON'T rely on sand or caution tape to assist with marking of services). Energy provider recommends potholing every 4 meters to ensure depth and location have not changed. • Sought advice from cable owners before commencing work in flooded or wet trenches where the trench is in close proximity to underground power cables. • Consider the use of barricades if possible to exclude work in the danger zone. • Work not to be attempted within 5m horizontal distance of pole stays where excavation depth is >250mm before contacting electrical Provider. • Work not to be attempted within 5m of pole with earth leads or cables running down into the ground before contacting the Electrician Provider. 	Supervisors, competent person and worker	M
Electrical Overhead Services	Contact with live parts.	Injury or death		<ul style="list-style-type: none"> • ALL overhead cables shall be treated as live electrical cables 		
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		<p>Interruption to services</p> <p>Plant severing live parts</p>	H	<p>unless confirmed in writing by the cable Provider.</p> <ul style="list-style-type: none"> • Check “Exclusion Zone Chart “for allowed operating distance near live parts. • Contact Energy provider and request for safety advise if plant or work activity will encroach the 3m exclusion zone. • Organise with Energy provider to de-energise to protect power cables, electrical equipment where safe distance cannot be maintained, when applicable request measure of electrical cable height. • If required request ‘Tiger Tails’ to be fitted if working within the 3 metre exclusion zone before work commences. This will be a cost to council. • Plant operators and safety observer must have completed the “Safe Working around Live Electrical Parts” awareness course if working within 3 metres of overhead power lines and a safety spotter is required to assist. 	Supervisors, competent person and worker	M

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			H	<ul style="list-style-type: none"> Adequate measures shall be in place to prevent objects, people or plant operating in the "Safety Observer Zone" for entering the "Exclusion Zone": Examining an alternative way to complete work without the need to enter the Safety Observer Zone. Erecting a physical barrier to prevent plant or equipment entering the "Exclusion Zone". Erection of warning signs either side of the power line. Having authorised person on site when plant is operating in the safety observer zone. Providing training, instruction and tool box talks on the tasks and work prior to commencement. Loads containing construction material are unloaded away from power line areas. 	Supervisors, competent person and worker	M
Safety Observer	Contact with live parts.	Injury or death		Plant shall not enter a "safety observer zone" unless:		
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			H	<ul style="list-style-type: none"> • Authorised by the energy provider “authorised person” is on site to monitor the work. • To have adequate training to perform the role. • The authorised person has provided instruction on safety issues regarding the overhead cable to the person operating the plant. • To warn the operator if any part of load, equipment is about to enter the exclusion zone. • The Safety Observer is to have no other job except to observe work conducted near power lines and maybe more than one may be required if structures/trees limit good visibility between spotter and plant. • Safety Observer must maintain a suitable line of sight position at all times to observe and communicate with hand signals and/or 2 two way that the person or plant is operating a safe distance from live power lines. • To ensure site facilities, work and parking areas are kept clear of potential low overhead cable may 	Supervisors, competent person and worker	M
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				<ul style="list-style-type: none"> fall if contact with plant. To maintain a safe distance from the work, plant and equipment they are observing. To wear appropriate personal equipment (cotton long shirt and pants, non-conductive helmet, footwear and gloves). An exclusion zone of 1 metre shall be maintained for ALL overhead power lines. 		
Site Barricading	Contact with live parts.	Injury or death	H	<ul style="list-style-type: none"> Ensure that the site is adequately barricaded. Ensure appropriate warning signs are erected. Ensure exclusion zone is flagged and the safety observer zone is highlighted within the barricaded area. 	Supervisors, competent person and worker	L
Other work conducted around live electrical parts	Contact with live parts.	Injury or death Interruption to services.	H	<ul style="list-style-type: none"> Where operating a hydro vac equipment to excavate in vicinity of underground electrical assets – maintain distance of 200mm between end of pressure wand and underground assets and not directly aimed at electrical asset. Water pressure not to exceed 2000psi. Directional boring near underground cables – trail holes 	Supervisors, competent person and worker	M
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			H	<p>are carefully dug to prove actual location of conduits/cables before using boring machinery.</p> <ul style="list-style-type: none"> • Heavy crawler/vibration equipment is operated on top of cables a minimum cover of 450mm to cable protective cover must be maintained. • Explosives must not be used within 5m of cables/conduits unless engineering report is provided indicating no damage will be sustained. • Plant and heavy equipment is not to travel with arms or tippers in the air 	Supervisors, competent person and worker	M
Public Safety / Pedestrians	<p>Contact with live parts.</p> <p>Contact with cranes or loads.</p> <p>Contact with moving plant.</p>	Injury or death	H	<ul style="list-style-type: none"> • Keep unauthorised persons out of the work site. • Instigate Traffic Management Plans and Traffic Control if necessary. • Pedestrian signage is to be installed. • Reduce vehicle speed around the work site. • Where required, clearly signed alternative safe laneways shall be made available for pedestrians. • Laneways crossing kerb and channelling shall have non slip ramps suitable for wheelchairs, 	Supervisors, competent person and worker	L
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			H	baby strollers, pedestrian scooters and aged or disabled persons. <ul style="list-style-type: none"> Plan and use safe vehicle access. Schedule working hours so as to limit exposure to the public. 		L
Work conducted around live electrical sources	Contact with live sources	Injury or death	H	<ul style="list-style-type: none"> Rescue plan P18.F01 (see example below) Rescue plan is communicated at pre – start brief to all persons 	Supervisors, competent person and worker	M

RESCUE PLAN FOR WORKING NEAR OVERHEAD POWER LINES

INSTRUCTION: In the event a person needs rescuing due to injury or exposure to a dangerous environment and it's **not** life threatening, the rescue plan in that situation will be to Call 000 or 112 (mobile) thereafter the emergency services will undertake the rescue. Thereafter only if it's safe to do so, apply first aid (*if required*) whilst waiting for the emergency services to arrive.

The 'Rescue Plan' (*other than in the above circumstances*) will be as described below:

RESCUE PLAN	
RESCUE EQUIPMENT for RESCUE PLANS	LIVE - HIGH VOLTAGE MAINS OR APPRATUS RESCUES
	<ol style="list-style-type: none"> Never attempt to rescue person(s) from a <u>live</u> high voltage mains or appratus, this can only be performed by a competent person.
	LOW - VOLTAGE RESCUES
	<ol style="list-style-type: none"> Rescue Plan inclusive communication system to be discussed at toolbox meeting and checklist / risk assessment and SWMS made available for workers. Inspect rescue & electrical rescue kits before planned work commences. ensure rescue kits are

✓ required equipment;

- Roofing Rescue Kit
- Electrical Rescue Kit
- Safety Net

LIKELIHOOD How likely is it to happen? ↓	E=EXTREME H=HIGH M=MEDIUM L=LOW				
	← CONSEQUENCES – How severely could it affect health and safety? →				
	CATASTROPHIC Kill or cause Permanent Disability	MAJOR Serious Illness or Injury	MODERATE Medical Attention, Time off Work	MINOR First Aid Required	INSIGNIFICANT No Injuries
ALMOST CERTAIN Is expected to occur	E	E	H	H	M
LIKELY	E	H	H	M	M

Will probably occur					
POSSIBLE Might occur	H	H	H	M	L
UNLIKELY Could occur	H	M	M	L	L
RARE May occur only in exceptional circumstances	H	M	M	L	L

Risk Level	Required Action
Extreme	Act immediately: The proposed task or process activity must not proceed. Steps must be taken to lower the risk level to as low as reasonably practicable using the hierarchy of controls.
High	Act today: The proposed activity can only proceed, provided that: The risk level has been reduced to as low as reasonably practicable using the hierarchy of controls. The risk controls must include those identified in legislation, Australian Standards, Codes of Practice etc. and The document has been reviewed and approved by the supervisor and A Safe Working Procedure or Safe Work Method has been prepared and The supervisor must review and document the effectiveness of the implemented risk controls
Medium	Act this week: The proposed task or process can proceed, provided that (i) The risk level has been reduced to as low as reasonably practicable using the hierarchy of controls and The document has been reviewed and approved by the supervisor and A Safe Working Procedure or Safe Work Method has been prepared.
Low	Act this month: Managed by local documented routine procedures which must include application of the hierarchy of controls.

Ordinary Person Zone

a) Tables 1 provides approach distances for:

i. ordinary persons performing work near overhead power lines (including plant, hand tools, or other equipment held by a person).

ii. cranes and their loads and items of mobile plant operated by an ordinary person near overhead power lines.

Table 1: Approach Distances for Work Performed by Ordinary Persons

Nominal phase to phase a.c. voltage (volts)	Approach Distance (m)
Up to and including 132,000	3.0
Above 132,000 up to and including 330,000	6.0
Above 330,000	8.0
Nominal pole to earth d.c. voltage (volts)	Approach distance (m)
Up to and including +/- 1500 volts	3.0

Accredited Person Zone

a) *Tables 2 provides approach distances for:*

- i. accredited persons, with a safety observer who are performing work near overhead power lines (including plant, hand tools, or other equipment held by a person).*
- ii. cranes and their loads and items of mobile plant operated by accredited persons, with a safety observer who are performing work near overhead power lines.*

Table 2: Approach Distances for work performed by Certified Persons, with a Safety Observer

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Nominal phase to phase a.c. voltage (volts)	Approach Distance (m)
Insulated low voltage cables up to 1000, including LV ABC	0.5
Un – insulated low voltage conductors up to 1000	1.0
Above 1000 up to and including 33,000	1.2
Above 33,000 up to and including 66,000	1.4
Above 66,000 up to and including 132,000	1.8
Above 132,000 up to and including 220,00	2.4
330,000	3.7
500,000	4.6
Nominal pole to earth d.c. voltage (volts)	Approach distance (m)
Up to +/- 1,500	1.0

Acknowledgement register

All workers are to sign this register to indicate they have read and understood this document prior to commencing work.

Name	Signature	Date	Name	Signature	Date

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