Safety Alert
Unknown Electrical Services or Live Structures

Issue Date: 12 September 2019

Context:

There have been a number of incidents/near misses where contractors have made contact with live electrical services or live structures. These have occurred while drilling or cutting into walls/partitions and accessing or carrying out work in ceiling spaces. In many cases the project has had an electrical isolation in place, but live cables/structures remained within the work area.

Hazard:

- ☒ Unterminated live electrical cables in work space
- ☒ Unknown live cables in work space
- ☒ Damaged live cables contacting ceiling grid and/or metal structures such as wall or door frames
- ☒ Electrical services not connected to the power boards and/or services not isolated by the project within the work space
- ☒ No or insufficient electrical isolations in place with respect to planned works

ALWAYS ASSUME THAT EQUIPMENT, CABLES AND STRUCTURES ARE LIVE –
TEST FOR DEAD BEFORE TOUCH EVERY TIME

Actions Required:

Prior to carrying out any drilling or cutting into wall/partitions (vertical surfaces) or works within a ceiling void a task specific SWMS is to be in place and must include the hazard of **'unknown electrical services or live structures'.**

When determining the hazard controls for '**unknown electrical services or live structures**' the following should be considered:

- ☒ Scanning surfaces e.g. using wands or cable locators, before cutting or drilling to ensure that the structure is dead
- ☒ Conduct visual inspection of area that is to be drilled or cut, this may mean removing a small portion of the partition so that the internal space in the cavity can be viewed
- ☒ All metallic surfaces and structures such ceiling grids and wall/door frames are to be tested for dead prior to commencing any works
- ☒ All electrical cables in the work area that may be impacted, are to be terminated
- ☒ Ensure you have an appropriate process to de-energise/isolation e.g. Lock Out Tag Out (LOTO) and test for dead before touch every time
- ☒ Consider hierarchy of control outlined overleaf

More Information:

Electrical installations at construction sites: Industry standard
https://www.worksafe.vic.gov.au/resources/electrical-installations-construction-sites-industry-standard

Model Code of Practice: Managing electrical risks in the workplace
https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-electrical-risks-workplace

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Hierarchy of Control:

Elimination:
- ☒ Complete work before power is connected
- ☒ Relocation of electrical asset/service prior to starting work
- ☒ Redesign to eliminate need to access live components

Substitution:
- ☒ Replace electrical tools with non-electrical tools e.g. battery operated or hand tools

Isolation/separation:
- ☒ De-energise and isolate systems before commencing work and test for dead
- ☒ Install insulated covers and protect against inadvertent contact with live services
- ☒ De-energise works wherever possible

Engineering:
- ☒ Use only RCD protected portable socket outlet assemblies (PSOA)
- ☒ Use non-destructive drilling (NDD) or potholing techniques

Administrative:
- ☒ **Always assume that equipment, cables and structures are live – test before touch every time**
- ☒ Safe work procedures e.g. isolation process/permit, Lock Out Tag Out (LOTO)
- ☒ Testing and tagging of electrical equipment
- ☒ Live work prohibitions
- ☒ Warning signs

PPE:
- ☒ Using fiberglass ladders
- ☒ Non-conductive safety footwear
- ☒ Insulated gloves, mats, covers and tools
- ☒ Non-conductive and flame resistant/retardant clothing
- ☒ Safety glasses

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