

M.A.C.S.S. Safety Update

Welcome to the September Edition of the Safety Update from MACSSGROUP. This free, monthly newsletter is aimed at keeping you abreast of our recent news as well as occupational health and safety issues.



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Electricity on Construction Sites



Dangers of Electricity

There are many causes of electric shock and electrocution within the workplace the most common is contact with overhead wires. This occurs when people misjudge the height or distance between the ground and overhead wires when carrying equipment such as poles and ladders. Other frequent causes of electrical injuries include:

- not isolating the electrical supply
- working on 'live' electrical equipment
- inadequate maintenance

There can be serious side effects, including:

- Burns
- Eye damage
- Partial loss of limb function
- Neurological disorders such as confusion and memory loss
- Injuries caused after the shock (eg falling off a ladder or contact with moving machinery).

Other side effects can include muscle spasms, respiratory arrest, cardiac arrest, and uncoordinated contractions of the heart.

The following electricity related serious accidents and fatalities were reported to EnergySafety (Australia) during the 2010-2011 year:

Electric Shocks	1053
Serious Electrical Accidents	12
Fatalities (included in 'serious electrical accidents')	4

Conductors and Insulators

A conductor is a material which contains movable electric charges. In a conductor, electric current can flow freely meaning that there is a flow of electric current. Metals such as copper are good conductors. Other materials that are sometimes used as conductors are silver, gold, and aluminum. Copper is still the most popular material used for wires because it is a very good conductor of electrical current and it is fairly inexpensive when compared to gold and silver. Aluminum and most other metals do not conduct electricity quite as good as copper.

An insulator is a substance that resists electric current. In an insulator therefore, electric current cannot flow at all. Most non-metallic solids are said to be good insulators such as glass, paper, Teflon, rubber and most plastics. Insulators are used to protect us from the

Harmonisation of Safety Laws Update

IMPLEMENTED

Commonwealth 1 January 2012

ACT 1 January 2012

NSW 1 January 2012

NT 1 January 2012

QLD 1 January 2012

TO BE IMPLEMENTED

SA - Parliament voted to adjourn debate on the Work Health and Safety (WHS) Bill until further notice

Tas - Amended commencement date of 1 January 2013 accepted by the Lower House on 13 March 2012.

Vic - The Victorian Government announced it would delay harmonisation

WA - WorkSafe WA has engaged Marsden Jacob Associates to facilitate public comment on the model Work Health and Safety Legislation for WA

Useful Information

dangerous effects of electricity flowing through conductors. Sometimes the voltage in an electrical circuit can be quite high and dangerous. If the volt

Our bodies will conduct electricity and you may have experienced this when you received an electrical shock. Generally, electricity flowing through the body is not pleasant and can cause injuries. The function of our heart can be disrupted by a strong electrical shock and the current can cause burns. Therefore, we need to shield our bodies from the conductors that carry electricity.

Electrical hazards in buildings or near underground conductors commonly cause problems in the following situations:

- Builders removing plasterboard from stud walls near exposed live parts (e.g. socket outlets)
- Plumbers cutting water pipes near electrical cables
- Fencing contractors digging holes where electrical cables could be buried

Hazards include:

- Any electrical lines or apparatus installed in building cavities that may become accessible when either:
 - A part of the building covering the cavity has been removed
 - Work is being carried out in the building cavity
- Conductive material inadvertently brought into contact with live parts (e.g. metallic sarking being installed in or removed from a building)
- Work activities that could damage electric lines or cables (e.g. drilling or sawing)
- Work done in a building or structure where the existence or location of electric lines and apparatus is not known
- Excavating or driving implements into the ground (e.g. star pickets) where underground cables may be located

If the risk is not known, it must be assumed that an electrical hazard could exist.



Underground Electrical Conduits

Electrical lines and cables may not be immediately recognizable: they can vary in their colour and cross-sectional shape.

The location of underground electrical conduits can be determined by:

- Calling 'Dial Before You Dig' (1100)
- Directly contacting specific authorities

Relevant authorities include:

- Distribution entities such as state Local Distribution Entities
- state Communication and data companies
- Local government authorities
- Water authorities
- Customers of distribution entities who have authority to place electricity cables in public places
- Owners or occupiers of private land
-

If there is known to be an underground electrical conduit in an area where it may present a risk, special precautions must be taken. These may include:

- Digging only by hand
- Using hand tools instead of power tools

Before working near live conductor – conduct a risk assessment

- Before any work near live conductors begins, consult persons in control of the

[Are you seeking to gain Federal Safety Commissioner Accreditation?](#)

M.A.C.S.S. RISK ASSESSMENTS

M.A.C.S.S. have years of experience providing risk assessments for the clients.

The risk assessments are performed based on State Legislation, State Codes of Practice and relevant Australian Standards that establish hazard identification, risk assessment and risk control processes for electricity on the worksite.

The objective of this National Standard is to protect the health and safety of persons from hazards arising from working with electricity.

M.A.C.S.S. will provide a full risk report including;

- hazard identification
- hazard risk rating
- remedial actions and time frames
- relevant Australian Standards
- risk control actions and explanation

Key Benefits of M.A.C.S.S. Risk Assessment Service

- All Risk Assessments incorporate Australian Standards and State Regulations
- Our expertise and comprehensive report will provide you with information to enable you to prioritise effective compliance actions

Our Selected Client



Initial e-mail or phone consultation obligation

- conductors to
- seek appropriate safety advice.
- Once the hazard has been identified:
- The risk must be assessed
- Control measures to eliminate the hazard or minimise the risk must be decided in consultation with involved personnel
- The effectiveness of the control measures will be assessed

SOME CONTROL MEASURES INCLUDE:

- Obtain appropriate authorisation
- Dial before you dig
- Ensure relevant equipment is isolated / protected / insulated
- Observe no-go zones
- Ensure calibration integrity of Electrical Equipment
- Use a trained safety observe

Consider:

Water authorities are typically contacted to locate power supplies for water metering equipment

Not all cables are covered with thermoplastic sheath

[AS3012-Electrical Installations: Construction and Demolition Sites](#)

[AS4836-Safe working on low voltage electrical installations](#)

The Electrical Code of Practice states that to ensure electrical safety across a broad range of workplaces, all items located in a non-hostile environment should be tested and tagged every 5 years in accordance with AS/NZS 3760:2010

Specific authorities can usually give more specific details about the locations of their conduits

[Energy Supply Association of Australia \(ESAA\)](#)

For Further information please feel free to contact us CONTACT DETAILS BELOW



*IMAGE SOURCE: www.infomine.com

Thank you for your time

We hope you enjoyed this edition of our Newsletter. If you require any additional information please feel free to contact us info@macssgroup.com.au

The only appropriate commitment toward safety performance is:

No Incidents, No Excuses

Sincerely,

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