Safety Alert

Working with electrical conduits

WorkCover New South Wales recently released this safety alert. A similar incident recently occurred on a VicRoads project, fortunately without an electric shock.

This safety alert reminds workers of the dangers involved in cutting conduits that contain or are located near electrical circuits.

Background

There have been two recent deaths from a fatal electric shock, by workers who cut conduits that contained electrical circuits.

In the first incident, an air conditioning service technician received a fatal electric shock while carrying out repair work on the drain pipe of a roof mounted air-conditioning unit.

While cutting the drain pipe, the technician damaged the energised electrical wiring feeding the air-conditioning unit. The wiring was within another conduit alongside the drain pipe.

In the second incident, an electrical contractor received a fatal electric shock while cutting a conduit.

He was replacing a faulty lighting circuit that was located in an underground heavy-duty PVC conduit. He started doing repairs, when the replacement cable became stuck.

The worker then dug a trench, exposing a section of the conduit and cut through it with conduit cutters. He struck an energised 415 volt three phase sub-main circuit that was in the same conduit as the lighting circuit he was working on.

Photo 1: Separate circuits within the same conduit.

Photo 2: Electrical conduit next to drain pipe.

Action required

Anyone carrying out electrical work must:

- Develop and implement safe systems of work, and give workers information, instruction, training and supervision;
- Identify and isolate the contents of all conductor enclosures before starting any work;
- Thoroughly examine the start and end points of the conduit to work out if electricity is running through it;
- Treat conductors as energised and follow procedures for working on energised electrical equipment until all electrical circuits have been de-energised, isolated/disconnected and proven de-energised using an appropriate multimeter;
- Find the main switch for the premises and turn off the power - attach a danger tag or lock the switchboard to ensure the power remains off until the work is completed;
- As a final check, use a voltage proximity tester to determine if conductor is energised. 'Test Before You Touch' safe work procedure should be followed in all steps of the job;
- Read our section on electrical and power safety to help reduce your risk of injury.

Further information

Australian Standard AS/NZS4836: 2011 Safe Working on or Near Low Voltage Electrical Installations and Equipment

PLEASE COMMUNICATE THIS INFORMATION TO ALL RELEVANT ROAD CONSTRUCTION & MAINTENANCE STAFF AND CONTRACTORS