

## ELECTRICAL ENGINEERING SAFETY | INFORMATION SHEET NO.1

# Electric shock protocol

December 2013

**Information Sheets are developed by the inspectors of electrical engineering in response to issues identified during site electrical engineering audits at extractive mines and questions raised by the mine operators. They are provided as guidance material for mine operators in the development of electrical safety standards.**

### Background

The mining industry experiences an unacceptable number of electric shock incidents.

A person suspected of receiving an electric shock may sustain delayed effects to their health and welfare from irregular heart beat (delayed ventricular arrhythmias).

Potential delayed effects from electric shock, which could be hours, days or weeks, after receiving an electric shock could affect the health and welfare of the victim.

### Purpose

The purpose of this protocol is to provide guidance for people to follow in the event that a person(s) is suspected of receiving an electric shock from a source voltage above extra low source voltage.

The protocol identifies a minimum level of treatment and medical diagnosis.

This protocol applies to any person receiving an electric shock, regardless of how minor the contact may appear.

### Scope

The scope of this protocol is to provide guidance material for mine operators in the development of mine site electrical shock response procedures.

This protocol applies to all people (employee, contractor or visitor) at the mine.

**Note:** The source voltage is to be treated as greater than extra low volts until the actual source voltage has been positively identified. Priority is to be given to the treatment of the victim which should not be withheld while the level of source voltage is being determined.

### Definitions

**Extra low voltage:** is a voltage not exceeding 50 volts A.C. or 120 volts ripple free D.C.

**ECG:** means Electro Cardio Graph

### Notifications

The operator of the mine is to notify NSW Trade & Investment Mine Safety of electric shock incidents in accordance with the legislative requirements.

Other notifications may include:

- victim's family
- employer, if a contractor
- as requested by the victim

## Electric shock protocol

**Step 1:** Establish a safe area.

If the victim is in contact with live apparatus the electric power source must be isolated before attempting to attend the victim.

The site is to be secured to prevent injury to other people.

**Step 2:** Assess condition and stabilise victim.

The victim is to be assessed and rendered the necessary first aid treatment.

Where required, apply basic life support:

**D**anger

**R**esponsive

**S**end for help

**A**irway

**B**reaths

**C**ompressions

**D**efibrillator

If no pulse is detected, CPR should be continued until qualified personnel arrive or signs of life return.

**Note:** Directions must be made available in the form of CPR signs posted at electrical distribution boards.

Refer to the Australian Resuscitation Council for further information

**Step 3:** Arrange transport to the nearest medical facility.

The supervisor is to arrange for transportation to a medical facility.

The victim must not be left alone or allowed to drive to the medical facility.

The supervisor is to notify the operator of the mine.

**Step 4:** Record relevant details of the incident.

The supervisor is to obtain the relevant information relating to the electrical shock incident and record it on the "Electric Shock Protocol Form" (Attachment 1).

**Step 5:** "Electric Shock Protocol Form" to be sent with the victim.

The "Electric Shock Protocol Form" is to be sent with the victim and given to the medical facility.

**Step 6:** Notify the medical facility

The supervisor is to contact the medical facility and advise the facility of the incident and transport arrangements.

**Step 7:** Provide incident information to the medical facility reception.

Upon arriving at the medical facility the following information is to be provided

The victim was attending (name of the operation) where (name of the victim) received an electric shock and that the details are documented on the "Electric Shock Protocol Form".

and

Present the completed "Electric Shock Protocol Form" to the medical facility.

Note: At this time, a 12 lead ECG is to be requested for the victim.

The person escorting the victim should clarify whether the medical facility or the escort is to advise the mine's operator of the situation.

**Step 8:** Return to work.

Where the victim is released from the medical facility for return to work, the mine should arrange transportation.

Upon arrival back at the mine the person shall report to the supervisor and advise of the results of the tests.

The supervisor is to notify the mine operator.

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (December 2013). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Trade and Investment, Regional Infrastructure and Services or the user's independent advisor.

Attachment 1.

## ELECTRIC SHOCK PROTOCOL FORM

Dear Doctor,

.....  
(print victim's name)

of

.....  
(victim's address)

is reported to have received an electric shock.

**Our company medical policy is that any employee who reports receiving an electric shock are provided medical assessment and a request for a 12-lead ECG to be performed.**

Time electric shock occurred:

Date electric shock occurred:

Source voltage: \_\_\_\_\_ volts

Record patient's pulse rate after incident: \_\_\_\_\_ beats/minute

The victim **did** / **did not** lose consciousness.

The victim has been unconscious from (time) \_\_\_\_\_ to \_\_\_\_\_ (time)

The victim has suffered burns, other injuries as follows:

Any additional symptoms:

Brief description of incident:

Signed:

Name:

Position:

Contact number: