Labour and Workforce Development

OCCUPATIONAL HEALTH AND SAFETY DIVISION

Electrical Safety

A guide to Part 11 of the Occupational Safety General Regulations

October 2007

A GUIDE TO PART 11 – ELECTRICAL SAFETY - of the OCCUPATIONAL SAFETY GENERAL REGULATIONS

The information contained in this publication is a guide only and should be read with the *Occupational Safety General Regulations* for specific requirements. The Regulations are available through our web site at http://www.gov.ns.ca/lwd/healthandsafety/pubs.asp or copies may be requested by calling the Information Specialist at 902-424-5400 or toll-free 1-800-952-2687. For your reference and convenience the section of the Regulation has been included where possible

Part 11 – Electrical Safety

General provisions (sections 120-122)

What are my duties regarding electrical installations?

The employer must ensure that an electrical installation complies with the "Canadian Electric Code". An electrician can advise on this code.

I am an owner of a surface mine. Do I have to give notice if I connect to an electrical system?

Yes, the owner or operator of a surface mine must give written notice to the Department of Environment & Labour of the intent to connect or reconnect an electrical system.

Can I leave a mine unattended with the electrical system still connected?

No, the owner or operator must disconnect the electrical system before abandoning or leaving a mine unattended.

Personal protective equipment (sections 123-124)

Who is responsible to pay for personal protective equipment (PPE)?
When work is done on live electrical installations the employer must pay for the PPE and devices necessary to work safely. This includes rubber insulating:

- Gloves
- Sleeves
- Blankets
- Line Hoses.

The person who works on live electric installations must use PPE and devices where appropriate.

What is considered acceptable for insulting gloves and mitts?

Acceptable gloves and mitts will have a label on their cuff containing:

- Name of manufacture
- Type (ozone resistant (II) or not (I))
- Voltage class (0 to 4)
- Proof date

The label must be coloured as follows:

- Class 0 – red – up to 1,000V
- Class 1 – white – up to 7,500V
- Class 2 – yellow – up to 17,000V
- Class 3 – green – up to 26,500V
- Class 4 – orange – up to 36,000V

What is considered acceptable for insulating sleeves, blankets, line hoses, covers and matting?

Acceptable sleeves, blankets, line hoses, covers and matting will have a label containing:

- Name of manufacture
- Type (ozone resistant (II) or not (I))
- Voltage class (0 to 4)
- Proof date

Note voltage ranges for sleeves are the same as those above for glove and mitts.

Do the sleeves, blankets, line hoses, covers and matting have to be rubber?

No, the sleeves, blankets, line hoses, covers and matting do not have to be rubber, so long as they have similar electrical resistance as rubber.

What is considered acceptable for leather protectors for insulating gloves and mitts?

Leather gloves and mittens are used as mechanical protection for rubber gloves. Acceptable gloves and mitts will be marked with:

- Name of manufacturer
- Overall length

Note that there is no voltage rating for these protectors.

What is considered acceptable for fibreglass reinforced plastic rods (FRP) and tubes used in live line tools?

Acceptable rods/tubes will be marked with:

- Name of manufacture
- Month and year of manufacture
- That the rod/tube meets the industry standards

Note that there is no voltage rating for these rods/tubes.

When handling live power lines or power line equipment rated greater than 15,000V, can I just use rubber insulated gloves?

No, when handling live power lines or power line equipment rated greater than 15,000V hot line tools must be used in addition to other PPE required for the circumstance.

Can I use rubber gloves instead of hot line tool to handle energized power line or power line equipment rated at greater then 750 volts?

Rubber gloves can only be used instead of hot tools, when the Occupational Health and Safety Division has approved a work procedure.

Hazardous work (sections 125-126)

What is a switching device?

A switching device opens and closes one or more electrical circuits. Which includes:

- A circuit breaker
- Cut out assembly of a fuse support
- A disconnecting or isolating device used for isolating a circuit or equipment from a power source.

Can I work on an energized electrical installation rated at greater than 750V by myself?

Normally, there must be a second skilled worker to accompany the first skilled worker when working on an energized electrical installation rated at greater than 750V. However, a person may work alone if an adequate written procedure has been developed and the person is trained.

Where using PPE and following work procedures are inadequate to reduce the risk of an electrical hazard due to unusual factors, is a safety watcher required?

Yes, a safety watcher, designated in writing by the employer, must observe the person who is working on or near the electrical installation as an extra precaution.

Examples of unusual factors are

- Weather
- Work environment
- High voltage

Where the voltage is unknown, how close can I get to an overhead power line?

No closer then 6m to an overhead live power line or power equipment. (6≈20ft)

How close can a workplace be to a live overhead power line or power line equipment rated less than 750V?

A minimum distance of 1m or more is required. (1m≈3ft)

How close can a workplace be to a live overhead power line or power line equipment rated at or grater than 750V?

Voltage of Energized Electrical Power Line or Power Line Equipment	Distance
Greater than 750 volts and up to 69 000 volts	3.0 m≈10ft
Greater than 69 000 volts and up to 138 000 volts	5.0 m≈16ft
Greater than 138 000 volts	6.0 m≈20ft

What if the workplace is closer than described in the table above?

Work shall not begin until the employer has contacted NS Power or other power company and has confirmed the power line is insulated or guarded.

Plan of electrical installation (section 127)

When is an electrical plan required?

An electrical plan is required where an electrical installation used in a building or structure:

- Is rated at greater than 250 volts
- Is rated at greater than 250 amperes, or
- Has multiple services.

The plan must be updated to reflect repairs or alterations.

Electrical room (section 128)

What are my duties regarding electrical rooms?

The electrical room must be kept clean and orderly. The room cannot be used for storage and where the components are rated greater than 750V a sign stating “Danger-High Voltage ” must be posted.
Note that where the electrical room is in a manhole, controlled and maintained by the power company, no sign is required.