Arc Flash – Know The Laws of Your Province

Arc flash regulations are vital for ensuring the safety of workers who perform tasks involving or near energized electrical equipment. These regulations require **employers** to provide proper arc-rated personal protective equipment (PPE), implement effective lockout and isolation procedures, and ensure only qualified personnel carry out electrical work. Safety measures include the use of insulated tools, arc flash-rated clothing, appropriate signage, and detailed emergency response protocols. Workers **must** be trained to recognize electrical hazards, follow safe work procedures, and respond to arc flash incidents. While safety principles are broadly consistent across Canada, specific requirements differ by province and territory to reflect regional practices and risks. Adherence to these regulations significantly reduces the risk of serious injury, promotes electrical safety, and fosters a culture of hazard awareness in the workplace.

FEDERAL

In Canada, **employers must** protect workers from arc flash hazards under the **Canada Occupational Health and Safety Regulations**, **Part VIII, Sections 8.3 and 8.4**. They **must** ensure electrical work is performed by qualified personnel using insulated tools and protective equipment, especially for high-voltage systems. Training on safe procedures is also **required** to prevent injuries and maintain a safe work environment.

Part VIII – Electrical Safety

Standards

(1) The design, construction and installation of all electrical equipment, if feasible, **shall** meet the standards set out in the Canadian Electrical Code, Part I.

(2) The operation and maintenance of all electrical equipment **shall** meet the standards set out in the Canadian Electrical Code. **Section 8.3 (1) (2).**

Safety Procedures

(1) All testing or work performed on electrical equipment **shall** be performed by a qualified person or an employee under the direct supervision of a qualified person.

(2) Where the electrical equipment has a voltage in excess of 5,200 V between any two conductors or in excess of 3,000 V between any conductor and ground,

(a) the qualified person or the employee referred to in subsection (1) **shall** use such insulated protection equipment and tools as will protect him from injury during the performance of the work; and

(b) the employee referred to in subsection (1) **shall** be instructed and trained in the use of the insulated protection equipment and tools. **Section 8.4 (1) (2).**

Further details on the Canada Occupational Health and Safety Regulations can be found at *Justice.Gc.Ca*.

ALBERTA

In Alberta, **employers** are **required** to protect workers from arc flash and related hazards under the **Occupational Health and Safety Code Part 18, Sections 231 to 233(3), and 242. Employers must** ensure workers exposed to electric arc welding

or electrical flashovers wear appropriate flame-resistant clothing, footwear, and PPE suited to the hazard. Clothing **must** be non-melting and protective against radiation or flash fires. **Employers must** also provide properly fitting PPE for limbs and body when injury risks are present.

Part 18 – Personal Protective Equipment

Electric Arc Welding

A worker **must** not perform electric arc welding if it is reasonably possible for another worker to be exposed to radiation from the arc unless the other worker is wearing suitable personal protective equipment to protect the eyes or is protected by a screen. **Section 231.**

Flame Resistant Clothing

Use of Flame-Resistant Clothing

(1) If a worker may be exposed to a flash fire or electrical equipment flashover, an **employer must** ensure that the worker wears personal protective equipment that includes flame resistant outerwear and uses other personal protective equipment appropriate to the hazard.

(2) A worker **must** ensure that clothing worn beneath flame resistant outerwear and against the skin is made of flame-resistant fabrics or natural fibres that will not melt when exposed to heat. **Section 232 (1) (2).**

Foot Protection

(1) An **employer must** ensure that a worker uses footwear that is appropriate to the hazards associated with the work being performed and the work site.

(1.1) An **employer must** not require a worker to wear footwear that may pose a health or safety risk to the worker.

(2) If the hazard assessment identifies that protective footwear needs to have toe protection, a puncture resistant sole, metatarsal protection, electrical protection, chainsaw protection or any combination of these, the **employer must** ensure that the worker wears personal protective equipment to protect the feet that is approved to:

(a) CSA Standard Z195-14, *Protective footwear*, or

(b) ASTM Standard F2413-05, *Specification for Performance Requirements for Protective Footwear*, if the personal protective equipment to protect the feet was manufactured on or after March 31, 2023.

(3) Despite subsection (2), if a worker is likely to be exposed to a hazard other than those referred to in subsection (2), the **employer must** ensure that the worker uses footwear appropriate to the hazard. **Section 233 (1) to (3).**

Limb and Body Protection

If there is a danger that a worker's hand, arm, leg or torso may be injured, an **employer must** ensure that the worker wears properly fitting hand, arm, leg or body personal protective equipment that is appropriate to the work, the work site and the hazards identified. **Section 242.**

Further details on the Occupational Health and Safety Code can be found at *Alberta.Ca*.

BRITISH COLUMBIA

In British Columbia, **employers** are **required** to address arc flash hazards under the **Occupational Health and Safety Regulation, Sections 3.5, 8.31, 19.10 to 19.12. Employers must** ensure regular workplace inspections to prevent unsafe conditions, provide flame-resistant clothing where flash fire or arc flash risks exist, and disconnect and lock out low voltage electrical equipment before work begins. If

disconnection isn’t practicable, qualified workers **must** follow written safe work procedures using appropriate PPE and voltage-rated tools. Energized parts **must** be guarded or clearly marked with warning signs, and workers **must** be informed of the hazards.

Part 3: Rights and Responsibilities

Workplace Inspections

General Requirement

Every **employer must** ensure that regular inspections are made of all workplaces, including buildings, structures, grounds, excavations, tools, equipment, machinery and work methods and practices, at intervals that will prevent the development of unsafe working conditions. **Section 3.5.**

Part 8: Personal Protective Clothing and Equipment

Flame Resistant Clothing

When Required

Workers **must** wear flame resistant clothing appropriate to the risk if working in areas where they may be exposed to flash fires, molten metal, welding and burning or similar hot work hazards. **Section 8.31.**

Part 19: Electrical Safety

Working On Low Voltage Electrical Equipment

Disconnection and Lockout

(1) Low voltage electrical equipment **must** be completely disconnected and locked out as **required** by this regulation before starting work on it.

(2) Except as specified in subsection (3), if it is not practicable to completely disconnect low voltage electrical

equipment, work **must** be performed by qualified and authorized workers and in accordance with written safe work procedures which:

(a) require the use of personal protective equipment and voltage-rated tools, appropriate to the hazards and risks associated with the voltage at which the electrical equipment is operating,

(b) provide that, if practicable, uncontrolled liquid is not permitted close to any worker working on the equipment, and

(c) if applicable, control the use of metal ladders, wooden ladders with wire reinforced side rails, metal scaffolds or metal work platforms.

(3) Work **must** not be done on energized parts of electrical equipment associated with lighting circuits operating at more than 250 volts-to-ground without the prior written permission of the Board. **Section 19.10 (1) to (3).**

Warning Signs

(1) Before completing installation and after energizing low voltage electrical equipment, conspicuous signs visible to workers **must** be placed close to the equipment stating “Danger, Energized Equipment”. **Section 19.11 (1).**

Working Close to Energized Equipment

(1) Uninsulated, energized parts of low voltage electrical equipment **must** be guarded by approved cabinets or enclosures unless the energized parts are in a suitable room or similar enclosed area that is only accessible to qualified and authorized persons.

(2) Each entrance to a room and other guarded location containing uninsulated and exposed, energized parts **must** be marked with a conspicuous warning sign limiting entry to qualified and authorized persons.

(3) If uninsulated energized parts are not guarded with approved cabinets or enclosures:

(a) suitable barriers or covers **must** be provided if a worker unfamiliar with the hazards is working within 1 m (3.3 ft) of the uninsulated, energized parts, or

(b) the worker **must** be informed of the potential hazards and provided with and follow appropriate written safe work procedures. **Section 19.12 (1) to (3).**

Further details on the Occupational Health and Safety Regulation can be found at *Worksafebc.Com*.

MANITOBA

In Manitoba, **employers** are **required** to address arc flash hazards under the **Workplace Safety and Health Regulation**, **Sections 6.10(1)(b), 6.14(2), 38.2 to 38.6**. **Employers must** ensure that workers exposed to energized electrical conductors are provided with proper protective headwear, gloves, and sleeves. They **must** also develop and enforce safe work and emergency procedures, ensure only qualified electrical workers perform electrical tasks, and verify that all electrical work complies with legal and technical standards. Energized equipment **must** be properly located and guarded to prevent accidental contact.

Part 6 – Personal Protective Equipment

Protective Headwear – Workplaces that are not Construction Project Sites

(1) At a workplace that is not a construction project site, an **employer must** provide a worker with protective headwear that is appropriate for the risk and meets the requirements of CSA Z94.1-15, Industrial Protective Headwear – Performance, Selection, Care and Use or ANSI Z89.1-2003, American National Standard for Industrial Head Protection, if there a risk of

injury:

(b) to the worker from contact with an exposed energized electrical conductor. **Section 6.10 (1).**

Hand, Arm, Leg, and Body Protection

(2) Without limiting subsection (1), an **employer must** provide a worker with appropriate gloves or mitts and sleeves if there is a risk of injury to the worker from contact with an exposed energized electrical conductor. **Section 6.14 (2).**

Part 38 – Electrical Safety

Safe Work Procedures

An **employer must:**

(a) develop and implement safe work procedures for electrical work;

(b) train workers who do electrical work in those safe work procedures; and

(c) ensure that workers comply with those safe work procedures. **Section 38.2.**

Emergency Procedures re: Contact with Energized Electrical Equipment

(1) Without limiting section 38.2, an **employer must:**

(a) develop emergency procedures to be followed if an electrical worker or other person may come in contact with exposed energized electrical equipment and that contact may affect his or her safety or health; and

(b) implement those procedures if such contact occurs.

(2) The emergency procedures under subsection (1) **must** include the procedures to be followed for rescuing, administering

first aid and obtaining further medical assistance for the worker.

(3) An **employer must** ensure that workers who will implement the emergency procedures are trained in the procedures. **Section 38.3 (1) to (3).**

Electrical Workers must do Electrical Work

An **employer must** ensure that, in the workplace, only an electrical worker performs electrical work. **Section 38.4.**

Other Requirements to be Met

An **employer must** ensure that the electrical work performed in the workplace conforms to the requirements of:

(a) The Electricians' License Act;

(b) the Manitoba Electrical Code; and

(c) where applicable, the by-laws of the municipality. **Section 38.5.**

Equipment Location and Protection

An **employer** and an owner **must** ensure that energized electrical equipment is suitably located and guarded so that it is not contacted by a worker. **Section 38.6.**

Further details on the Workplace Safety and Health Act and Regulation can be found at *Gov.Mb.Ca*.

NEW BRUNSWICK

In New Brunswick, **employers must** address arc flash hazards under the **General Regulation, Sections 286, 287.1 to 287.4, 287.5 and 287.6, and 288**. They are responsible for ensuring only qualified workers handle energized equipment, implementing lockout procedures, and providing proper training

and PPE such as rubber gloves and shields. **Employers must** also ensure equipment is clearly labeled, maintained, and isolated when not in use. These requirements are essential for preventing arc flash injuries and ensuring electrical safety.

XIX – Electrical Safety

Definitions

In this Part:

"**electrical hazard**" means a danger of electric shock, arc flash burn, thermal burn or arc blast injury resulting from contact with electrical equipment or failure of that equipment; (danger électrique), **Section 286.**

Electrical Equipment

Room Containing Energized Electrical Equipment

(1) An **employer shall** ensure that the entrance to a room containing an electrical hazard is marked with conspicuous warning signs, symbols or tags stating that entry by unauthorized persons is prohibited.

(2) An **employer shall** ensure that no person enters or is permitted to enter a room or other enclosure with electrical hazards unless the person is:

(a) a qualified person, or

(b) an employee who enters the room or enclosure to complete a duty not involving an electrical hazard and the employee is instructed and trained in the electrical hazards. **Section 287.1 (1) (2).**

Suitability of Equipment and Manufacturer's Specifications

An **employer shall** ensure that electrical equipment and insulating material for electrical equipment is suitable for its use and that it is installed, maintained, modified and

operated in accordance with the manufacturer’s specifications. **Section 287.2.**

Working on Electrical Equipment

(1) An **employer shall** ensure that electrical equipment has a means of isolating its energy source and that the energy source is:

(a) lockable,

(b) situated in a location that is familiar to all employees, and

(c) properly identified.

(2) An **employer shall** provide a safety lock and key to a qualified person who may be **required** to lock out the electrical equipment.

(3) An **employer shall** establish a written lock out procedure for electrical equipment and ensure that a qualified person who may be **required** to lock out the electrical equipment is adequately instructed and trained to lock out the electrical equipment.

(4) An **employer shall** ensure that before a qualified person works on electrical equipment:

(a) an electrically safe work condition is established, and

(b) each qualified person who will be working on the electrical equipment:

(i) verifies that an electrically safe work condition is established,

(ii) locks out the electrical equipment using the safety lock and key provided by the **employer**, and

(iii) puts a non-conductive tag on the safety lock that

contains:

(A) words directing persons not to start or operate the electrical equipment,

(B) the qualified person’s printed name and signature, and

(C) the date and time when the tag was put on the safety lock.

(5) Before working on electrical equipment, a qualified person **shall** verify that the requirements set out in subsection (4) have been complied with.

(6) No person **shall** remove a safety lock or tag on electrical equipment except:

(a) the person who installed the safety lock or tag, or

(b) in an emergency or, when attempts are made to contact the person referred to in paragraph (a) and the person is not available, a qualified person designated by the **employer**. **Section 287.3 (1) to (6).**

Working on Electrical Equipment

(1) An **employer** and a qualified person **shall** each ensure that all testing and troubleshooting of electrical equipment is conducted in an electrically safe work condition.

(2) An **employer** and a qualified person **shall** each ensure that the instruments, equipment and accessories used to test and troubleshoot electrical equipment are in good working condition and are rated for the circuits and electrical equipment to be worked on.

(3) When the circumstances do not permit an electrically safe working condition to be established before working on or near energized exposed parts of electrical equipment, an **employer shall** ensure the work is carried out by a qualified person and the **employer** and qualified person **shall** each ensure that a

code of practice referred to in section 287.41 is established. **Section 287.4 (1) to (3).**

Main Service Switches and Temporary Panel Boards

An **employer shall** ensure that main service switches and temporary panel boards of electrical equipment:

(a) are securely mounted on sufficient supports in an upright position,

(b) are kept clear of any obstructions for one metre in front and two metres headroom,

(c) are within easy reach of and readily accessible to authorized persons,

(d) are adequately protected from weather and the accumulation of water,

(e) have a suitable cover over uninsulated energized parts, and

(f) have a label or other indicator that identifies what equipment is energized by each line. **Section 287.5.**

When Electrical Equipment is not in Use

An **employer shall** ensure that electrical equipment that is no longer in use:

(a) is de-energized and removed, or

(b) if left in place, is tagged as no longer in use, and:

(i) is locked out,

(ii) its conductors are disconnected and effectively grounded, or

(iii) its conductors are disconnected and removed. **Section 287.6.**

Protective Equipment

When Protective Equipment Required

An **employer shall** ensure that an employee does not work on an energized electrical utility line or utility line equipment or closer to an energized electrical utility line or utility line equipment than the applicable distance set out in subsection 289(1) unless the employee uses rubber gloves, shields, insulated objects or other necessary protective equipment. **Section 288.**

Further details on the General Regulation can be found at *Laws.Gnb.Ca*.

NEWFOUNDLAND & LABRADOR

In Newfoundland and Labrador, **employers** are **required** to address arc flash hazards under the **Occupational Health and Safety Regulations**, **Sections 73, 82, 478, 482, 484, 486, 490, and 501**. **Employers must** ensure that workers are qualified, follow safe work procedures, and use flame-resistant clothing and other appropriate personal protective equipment when exposed to arc flash risks. Electrical equipment **must** be tested, properly isolated, and locked out when feasible, and hazard assessments are mandatory when work **must** be done on energized systems.

Part VII – Personal Protective Equipment

Personal Clothing and Accessories

(1) The personal clothing of a worker **shall** be of a type and in a condition which does not expose the worker to an unnecessary or avoidable hazard.

(2) Where there is a danger of contact with moving parts of machinery or with electrically energized equipment, or where the work process presents similar hazards:

(a) the clothing of a worker **shall** fit closely about the body;

(b) dangling neckwear, bracelets, wristwatches, rings or similar articles **shall** not be worn, except for medical alert bracelets which may be worn with transparent bands that hold the bracelets snugly to the skin; and

(c) cranial and facial hair **shall** be confined or worn at a length which **shall** prevent it from being snagged or caught in the work process. **Section 73 (1) (2).**

Flame Resistant Clothing

(1) Where a worker may be exposed to a flash fire or electrical equipment flashover, an **employer shall** ensure that the worker wears flame resistant outerwear and uses other protective equipment appropriate to the hazard.

(2) A worker **shall** ensure that clothing worn beneath flame resistant outerwear and against the skin is made of flame-resistant fabrics or natural fibers that do not melt when exposed to heat. **Section 82 (1) (2).**

Part XXVI – Electrical Operations

Electrical Requirements

(1) An electrical installation, equipment, apparatus and appliance **shall** conform to the requirements of the Canadian Electrical Code as adopted in the *Electrical Regulations* under the *Public Safety Act*.

(2) Only a worker qualified to work on electrical conductors and equipment **shall** be authorized to do the work.

(3) Work **shall** not be done on an energized electrical conductor or equipment unless a hazard assessment is completed that includes determining the number of qualified workers that should be present while the work is being performed. **Section 478 (1) to (3).**

Testing Equipment

(1) Electrical test equipment may be used by qualified workers if it meets the requirements of:

(a) CSA Standard C22.2 No. 160, “Voltage and Polarity Testers”; or

(b) CSA Standard CAN/CSA -22.2 No. 231 Series-M89, CSA “Safety Requirements for Electrical and Electronic Measuring and Test Equipment”.

(2) Appropriate safe work procedures **shall** be established and followed for testing electrical equipment and circuits. **Section 482 (1) (2).**

Low Voltage Electrical Equipment – Disconnection and Lockout

(1) Low voltage electrical equipment **shall** be completely disconnected and locked out where **required** by Part IX before work is started on it.

(2) Where it is not practicable to completely disconnect low voltage electrical equipment, work **shall** be performed in accordance with an electrical safety program in accordance with a standard acceptable to the minister that:

(a) includes emergency procedures and emergency release of victims;

(b) requires the use of appropriate electrical protective equipment, including flame retardant clothing, voltage-related rubber gloves and cover up and other necessary live line tools;

(c) provides that, where practicable, uncontrolled liquid is not permitted close to a worker working on the equipment;

(d) prohibits the use of metal ladders, wooden ladders with wire reinforced side rails, metal scaffolds or metal work

platforms; and

(e) has available up to date diagrams. **Section 484 (1) (2).**

Working Close to Low Voltage Energized Equipment

(1) Uninsulated, energized parts of low voltage electrical equipment **shall** be guarded by approved cabinets or enclosures unless the energized parts are in a suitable room or similar enclosed area that is accessible only by qualified persons.

(2) An entrance to a room or other guarded location containing uninsulated and exposed energized parts **shall** be marked with a conspicuous warning sign limiting entry.

(3) Where uninsulated energized parts are not guarded with approved cabinets or enclosures:

(a) a suitable barrier or cover **shall** be provided where a worker unfamiliar with the hazards is working within the limited approach boundary of 1.07 metres of the uninsulated, energized parts; or

(b) a worker **shall** be informed of the potential hazards and provided with and follow appropriate written safe work procedures. **Section 486 (1) to (3).**

For more information:

- Isolation and lockout. **Section 490 (1) to (3).**
- Emergency work. **Section 501.1 (1) (2).**

Further details on the Occupational Health and Safety Regulations can be found at *Assembly.Nl.Ca*.

NOVA SCOTIA

In Nova Scotia, **employers must** address arc flash hazards under the **Occupational Safety General Regulations**, **Sections 12, 52 to 54, 120, 122, 123, 125, and 127**. They are responsible for

ensuring that electrical work is done by competent workers using proper lockout procedures, flame-resistant clothing, and arc-rated protective equipment. **Employers must** also conduct hazard assessments and implement safe work practices to prevent arc flash injuries.

Part 3 – Personal Protective Equipment

Hazard to Foot or Skin

(1) Where a person is exposed to a hazard that may injure the person's foot, an **employer shall** ensure that protective equipment is worn that is appropriate to the hazard and that complies with the latest version of CSA standard CSA Z195, "Protective Footwear".

(2) Where a person is exposed to a hazard that may injure the skin, an **employer shall** ensure that adequate protection is worn or used. **Section 12 (1) (2).**

Part 6 – Lock-out

Lock-out Procedure

(1) Where work is performed on a machine, equipment, tool or electrical installation, and the work is hazardous to a person in the workplace if the machine, equipment, tool or electrical installation is or becomes energized, an **employer shall** ensure that:

(a) the work is done in accordance with a written lock-out procedure established by the **employer**;

(b) no person works on the machine, equipment, tool or electrical installation until the machine, equipment, tool or electrical installation:

(i) is put in and maintained at a zero energy state,

(ii) is locked out, and

(iii) has a lock-out tag at each lock-out location; and

(c) a competent person verifies that the requirements of clauses (a) and (b) have been complied with and tests to determine that the machine, equipment, tool or electrical installation is in a zero energy state.

(1A) No employee **shall** perform work on a machine, equipment, tool or electrical installation in the circumstances described in subsection (1) unless the requirements of clause 52(1)(b) are met.

(2) The written lock-out procedure referred to in subsection (1) **shall** include:

(a) provision for complying with the requirements of subsection (1);

(b) the method of notifying a person in the work area of safe conditions for work after a lock-out has been completed;

(c) the method of determining that all persons near the locked out machine, equipment, tool or electrical installation are clear of the hazardous area and have been instructed to remain clear before the machine, equipment, tool or electrical installation, or any part of it, is energized; and

(d) the method of energizing the machine, equipment, tool or electrical installation. **Section 52 (1) (2).**

(1) No person other than the person who installed it **shall** remove a lock-out device or a lock-out tag on a machine, equipment, tool, or electrical installation.

(2) Despite subsection (1), where reasonable attempts have been made to contact the person who locked out the machine, equipment, tool or electrical installation and that person is not available,

(a) in a serious emergency, a person who has determined that

it is safe to energize the equipment may remove a lock-out device or a lock-out tag; or

(b) a competent person who:

(i) is designated in the written lock-out procedure, and

(ii) has determined that it is safe to energize the equipment, may remove a lock-out device or a lock-out tag. **Section 53 (1) (2).**

Despite subsection 51(4) or Section 52, where work is performed on a machine, equipment, tool or electrical installation, and the work is hazardous to a person in the workplace if the machine, equipment, tool or electrical installation is or becomes energized, and the requirements of subsection 51(4) or Section 52 are:

(a) inappropriate for the work to be performed or inadequate for the protection of persons at the workplace; or

(b) not reasonably practicable where the electrical installation is used for the generation or transmission of electricity, an **employer** may substitute for the requirements of those provisions an alternative adequate written procedure that specifies personnel responsibilities, training and equipment requirements and the details for carrying out the work in a manner that will ensure the safety of all person who may be exposed to a hazard arising from the work. **Section 54.**

For more information:

Part 11 – Electrical Safety

- General provisions. **Section 120 (1) (2), 122.**
- Personal protective equipment. **Section 123 (1) (2).**
- Hazardous work. **Section 125 (1) to (5).**
- Plan of electrical installation. **Section 127 (1).**

Further details on the Occupational Safety General Regulations

can be found at *Novascotia.Ca*.

NORTHWEST TERRITORIES

In the Northwest Territories, **employers must** address arc flash protection under the **Occupational Health and Safety Regulations**, **Sections 98(3), 448, 452, 457, and 462**. **Employers** are responsible for ensuring only qualified electrical workers perform electrical tasks, providing approved arc flash PPE, maintaining electrical equipment, and implementing emergency procedures in case of contact with energized conductors. Protective measures also include guarding high voltage switchgear, inspecting cables regularly, and posting appropriate warning signs.

Part 7 – Personal Protective Equipment

Skin Protection

(3) If there is a risk of injury to the skin of an electrical worker from arc flash, an **employer shall** provide the electrical worker with, and require the electrical worker to use, approved arc flash protection. **Section 98 (8).**

Part 30 – Additional Protection for Electrical Workers

Electrical Workers

(1) An **employer shall** not require or permit a worker to engage in electrical work unless they are a qualified electrical worker.

(2) An **employer** may require or permit a competent worker:

(a) to operate powered mobile equipment and perform non-electrical work on or near de-energized electrical equipment;

(b) to extend a portable power cable for routine advancement by interconnection of approved cord connectors, cord caps or similar devices;

(c) to change light bulbs or tubes;

(d) to insert or replace an approved fuse, to a maximum of 750 V, that controls circuits or equipment; or

(e) to connect and use portable electrical equipment that operates at less than 750 V to supply circuits by means of attachment plug, without overloading the circuit conductors. **Section 446 (1) (2).**

Electrical Equipment

(1) An **employer shall** ensure that electrical equipment used by workers is:

(a) approved for its intended use and location;

(b) maintained; and

(c) tested in accordance with the manufacturer's specifications.

(2) If defects or unsafe conditions are identified in electrical equipment, an **employer shall** ensure that:

(a) steps are taken without delay to inform and protect the health and safety of workers who could be endangered until the defects are repaired or the conditions are corrected; or

(b) the defects are repaired or the conditions are corrected as soon as is reasonably possible. **Section 447 (1) (2).**

Covers for Switches, Receptacles, and Connections

An **employer shall** ensure that:

(a) switches, receptacles, luminaires and junction boxes are fitted with a covers that are approved for the intended use;

(b) wire joints or connections are:

(i) fitted with an approved caps or other approved covers,

(ii) enclosed in approved boxes, or

(iii) if the wire joints or connections are not permanently installed, protected from damage by another approved means; and

(c) dead, abandoned or disused conductors or equipment are removed or disconnected and secured to prevent inadvertent energization. **Section 448.**

(1) An **employer shall** ensure that portable power cables and cable couplers are:

(a) protected from physical or mechanical damage; and

(b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.

(2) An **employer shall** ensure that:

(a) if an unsafe condition is identified in a portable power cable or cable coupler, the cable or coupler is repaired or taken out of service; and

(b) splices in a portable power cable are sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.

(3) A worker **shall** take reasonable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler. **Section 452 (1) to (3).**

(1) An **employer shall** ensure that portable power cables and cable couplers are:

(a) protected from physical or mechanical damage; and

(b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.

(2) An **employer shall** ensure that:

(a) if an unsafe condition is identified in a portable power cable or cable coupler, the cable or coupler is repaired or taken out of service; and

(b) splices in a portable power cable are sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.

(3) A worker **shall** take reasonable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler. **Section 452 (1) to (3).**

For more information:

- High Voltage Switchgear and Transformers. **Section 457 (1) to (3).**
- Emergency Program. **Section 462 (1) to (3).**

Further details on the Occupational Health and Safety Regulations can be found at *Canlii.Org*.

NUNAVUT

In Nunavut, **employers must** address arc flash protection under the **Occupational Health and Safety Regulations**, **Sections 98(3), 448, 452, 457, and 462**. **Employers** are responsible for ensuring only qualified electrical workers perform electrical tasks, providing approved arc flash PPE, maintaining electrical equipment, and implementing emergency procedures in case of contact with energized conductors. Protective measures also include guarding high voltage switchgear, inspecting cables regularly, and posting appropriate warning signs.

Part 7 – Personal Protective Equipment

Skin Protection

(3) If there is a risk of injury to the skin of an electrical worker from arc flash, an **employer shall** provide the

electrical worker with, and require the electrical worker to use, approved arc flash protection. **Section 98 (8).**

Part 30 – Additional Protection for Electrical Workers

Electrical Workers

(1) An **employer shall** not require or permit a worker to engage in electrical work unless they are a qualified electrical worker.

(2) An **employer** may require or permit a competent worker:

(a) to operate powered mobile equipment and perform non-electrical work on or near de-energized electrical equipment;

(b) to extend a portable power cable for routine advancement by interconnection of approved cord connectors, cord caps or similar devices;

(c) to change light bulbs or tubes;

(d) to insert or replace an approved fuse, to a maximum of 750 V, that controls circuits or equipment; or

(e) to connect and use portable electrical equipment that operates at less than 750 V to supply circuits by means of attachment plug, without overloading the circuit conductors. **Section 446 (1) (2).**

Electrical Equipment

(1) An **employer shall** ensure that electrical equipment used by workers is:

(a) approved for its intended use and location;

(b) maintained; and

(c) tested in accordance with the manufacturer’s specifications.

(2) If defects or unsafe conditions are identified in electrical equipment, an **employer shall** ensure that:

(a) steps are taken without delay to inform and protect the health and safety of workers who could be endangered until the defects are repaired or the conditions are corrected; or

(b) the defects are repaired or the conditions are corrected as soon as is reasonably possible. **Section 447 (1) (2).**

Covers for Switches, Receptacles, and Connections

An **employer shall** ensure that:

(a) switches, receptacles, luminaires and junction boxes are fitted with a covers that are approved for the intended use;

(b) wire joints or connections are:

(i) fitted with an approved caps or other approved covers,

(ii) enclosed in approved boxes, or

(iii) if the wire joints or connections are not permanently installed, protected from damage by another approved means; and

(c) dead, abandoned or disused conductors or equipment are removed or disconnected and secured to prevent inadvertent energization. **Section 448.**

(1) An **employer shall** ensure that portable power cables and cable couplers are:

(a) protected from physical or mechanical damage; and

(b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.

(2) An **employer shall** ensure that:

(a) if an unsafe condition is identified in a portable power

cable or cable coupler, the cable or coupler is repaired or taken out of service; and

(b) splices in a portable power cable are sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.

(3) A worker **shall** take reasonable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler. **Section 452 (1) to (3).**

(1) An **employer shall** ensure that portable power cables and cable couplers are:

(a) protected from physical or mechanical damage; and

(b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.

(2) An **employer shall** ensure that:

(a) if an unsafe condition is identified in a portable power cable or cable coupler, the cable or coupler is repaired or taken out of service; and

(b) splices in a portable power cable are sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.

(3) A worker **shall** take reasonable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler. **Section 452 (1) to (3).**

For more information:

- High Voltage Switchgear and Transformers. **Section 457 (1) to (3).**
- Emergency Program. **Section 462 (1) to (3).**

Further details on the Occupational Health and Safety Regulations can be found at *Canlii.Org*.

ONTARIO

In Ontario, **employers must** address arc flash and electrical safety under **Reg. 213/91: Construction Projects**, **Sections 181 to 187, 190 to 193**. **Employers** are responsible for ensuring that only qualified workers perform electrical work, that written procedures are developed and followed for working near energized equipment, and that protective gear such as rubber gloves and arc-rated PPE is provided and properly maintained. Equipment **must** be suitable and installed per safety standards, and energized components **must** be properly tagged, guarded, or locked out. Emergency procedures, proper supervision, and training are also **required** to prevent electrical shock and burn injuries.

Part II – General Construction

Electrical Hazards

(1) Except where otherwise **required** by this Regulation, electrical work performed on or near electrical transmission or distribution systems **shall** be performed in accordance with the document entitled "Electrical Utility Safety Rules" published by the Infrastructure Health and Safety Association and revised 2019.

(2) Sections 182, 187, 188, 189, 190, 191 and 193 do not apply to electrical work that is performed on or near electrical transmission or distribution systems if the work is performed in accordance with the document referred to in subsection (1). **Section 181 (1) (2).**

(1) No worker **shall** connect, maintain or modify electrical equipment or installations unless,

(a) the worker holds a certificate of qualification or a provisional certificate of qualification issued under the *Building Opportunities in the Skilled Trades Act, 2021*, that is not suspended, in the trade of,

(i) electrician construction and maintenance, or

(ii) electrician domestic and rural, if the worker is performing work that is limited to the scope of practice for that trade; or

(b) the worker is otherwise permitted to connect, maintain or modify electrical equipment or installations under the *Building Opportunities in the Skilled Trades Act, 2021* or the *Technical Standards and Safety Act, 2000*.

(2) A worker who does not meet the requirements of clause (1) (a) or (b) may insert an attachment plug cap on the cord of electrical equipment or an electrical tool into, or remove it from, a convenience receptacle. **Section 182 (1) (2).**

Every reasonable precaution **shall** be taken to prevent hazards to workers from energized electrical equipment, installations and conductors. **Section 183.**

(1) No person, other than a person authorized to do so by the supervisor in charge of the project, **shall** enter or be permitted to enter a room or other enclosure containing exposed energized electrical parts.

(2) The entrance to a room or other enclosure containing exposed energized electrical parts **shall** be marked by conspicuous warning signs stating that entry by unauthorized persons is prohibited. **Section 184.**

(1) Electrical equipment, installations, conductors and insulating materials **shall** be suitable for their intended use and **shall** be installed, maintained, modified, and operated so as not to pose a hazard to a worker.

(2) For greater certainty, the regulations made under section 113 of the *Electricity Act, 1998* apply to electrical equipment, installations, conductors and insulating materials and to temporary wiring installations on projects. **Section 185**

(1) (2).

Electrical equipment, installations and conductors that are not to be used for the purpose for which they were designed **shall** be,

(a) removed; or

(b) left in an electrically non-hazardous condition by being disconnected, de-energized, tagged and,

(i) grounded, in the case of power lines,

(ii) locked out, in the case of electrical equipment. **Section 186.**

Tools, ladders, scaffolding and other equipment or materials capable of conducting electricity **shall** not be stored or used so close to energized electrical equipment, installations or conductors that they can make electrical contact. **Section 187.**

(1) This section applies if work is to be done on or near energized exposed parts of electrical equipment or of an electrical installation or conductor.

(2) An **employer shall**,

(a) establish and implement written measures and procedures for complying with this section to ensure that workers are adequately protected from electrical shock and burn; and

(b) make a copy of the written measures and procedures available to every worker on the project.

(3) The worker **shall** follow the written measures and procedures.

(4) Subject to subsection (9), the power supply to the electrical equipment, installation or conductor **shall** be disconnected, locked out of service and tagged in accordance with subsection (6) before the work begins, and kept

disconnected, locked out of service and tagged while the work continues.

(5) Hazardous stored electrical energy **shall** be adequately discharged or contained before the work begins and **shall** be kept discharged or contained while the work continues.

(6) The following rules apply to the tagging of the power supply under subsection (4):

1. The tag **shall** be made of non-conducting material and **shall** be installed so as not to become energized.
2. The tag **shall** be placed in a conspicuous location and **shall** be secured to prevent its inadvertent removal.
3. The tag **shall** indicate,
4. why the equipment, installation or conductor is disconnected,
5. the name of the person who disconnected the equipment, installation or conductor,

iii. the name of the person's **employer**, and

1. the date on which the equipment, installation or conductor was disconnected.
2. The tag **shall** not be removed unless it is safe to do so.

(7) A worker, before beginning work to which this section applies, **shall** verify that subsections (4) and (5) have been complied with.

(8) If more than one worker is involved in work to which this section applies, a means **shall** be provided to communicate the purpose and status of,

(a) the disconnecting, locking out and tagging of the electrical equipment, installation or conductor; and

(b) the discharging and containment of any hazardous stored electrical energy.

(9) Locking out is not **required** under subsection (4) if,

(a) in the case of a conductor, it is adequately grounded with a visible grounding mechanism;

(b) in the case of equipment or an installation,

(i) the power supply is less than 300 volts, the equipment or installation was not manufactured with provision for a locking device for the circuit breakers or fuses, and a written procedure has been implemented that is adequate to ensure that the circuit is not inadvertently energized, or

(ii) the power supply is 300 or more volts but not more than 600 volts, the equipment or installation was not manufactured with provision for a locking device for the circuit breakers or fuses, a written procedure as to how work is to be done has been implemented and the work is supervised by a competent worker to ensure that the circuit is not inadvertently energized. **Section 190 (1) (9).**

For more information:

- Requirements when working near energized exposed parts of electrical equipment or of an electrical installation or conductor. **Section 191 (1) to (10).**
- Tools, devices and equipment conductor **shall** be designed, tested or used to protect workers. **Section 192.**
- Worker use of Rubber gloves. **Section 193 (1) to (5).**

Further details on the Reg. 213/91: CONSTRUCTION PROJECTS can be found at *Ontario.Ca*.

PRINCE EDWARD ISLAND

In Prince Edward Island, **employers must** ensure electrical safety under the **Occupational Health and Safety Act General Regulations**, **Sections 36.2 to 36.17, 36.37, and 45.1**. Only

competent workers or supervised apprentices may work on energized equipment, and appropriate PPE—such as rated gloves and guards—**must** be provided. **Employers must** enforce de-energizing, lockout, and tagging procedures before work begins and ensure equipment is not re-energized until safe. Work in high-risk areas like tunnels or near high-voltage lines requires extra protective measures and clear communication.

Part 36 – Electricity

Worker Qualifications

The **employer shall** ensure that a worker **shall** not work on any energized electrical conductor or equipment unless he is:

(a) competent; or

(b) an indentured apprentice under the direct supervision of a competent person. **Section 36.2.**

Communication Workers

The **employer shall** ensure that when communication workers are **required** to work on energized electrical utility conductors or equipment, such workers **shall** be competent as specified in section 36.1. **Section 36.3.**

Application of Electrical Inspection Act

(1) The **employer shall** ensure that the installation, use and maintenance of any electrical wiring or equipment including temporary wiring, complies with the Electrical Inspection Act and the regulations made thereunder.

Standards

(2) The **employer shall** ensure that all newly installed electrical utility and communication lines and equipment are installed in conformance with CSA Standard C22.3 No.1-15, Overhead Systems, and CSA Standard C22.3 No.7-20, Underground

Systems. **Section 36.4 (1) (2).**

Protective Devices

(1) The **employer shall** ensure that workers do not work on energized electrical conductors or equipment unless adequate protective devices specified for protection against the voltage involved are used.

Protective Gloves

(2) When working on energized electrical conductors or equipment operating at a potential greater than 120 v nominal up to and including 5,000 v phase to phase, the **employer shall** provide and the worker **shall** use rubber gloves having a minimum rating of 10,000 v, shields and other necessary safety equipment.

(3) When working on energized electrical conductors or equipment in excess of 5,000 v, and not exceeding 15,000 v phase to phase, the **employer shall** provide and the worker **shall** wear rubber gloves having a minimum rating of 20,000 v or use adequate hot line tools.

Testing

(4) Rubber gloves **shall** be tested at least twice a year and replaced as **required**.

When Gloves to be Worn

(5) Rubber gloves **shall** be worn at all times while working on energized circuits in accordance with section 36.6 or while within the primary zone on any poles or structure carrying over 120 v phase to ground to 25000 phase to phase circuits. primary zone, defined.

(6) In subsection (5), “primary zone” means the distance measured from a high voltage (120 v phase to ground and 25000 phase to phase) source to a suitable distance of clearance

measured down or away from the pole or structure to the top of the worker’s head, which in all cases **shall** be 1 200 mm (4 ft.) measured to the nearest live point and all insulator porcelain is to be considered energized. **Section 36.5 (1) to (6).**

Work on Energized Equipment

(1) The **employer shall** ensure that no worker **shall** work on any energized electrical conductor or equipment operating at more than 3,000 v, unless procedures satisfactory to the Director are used, and the workers are provided with and trained in the use of special tools which are approved for use by an authority acceptable to the Director.

Workers Present

(2) No work **shall** be done on an energized electrical line or equipment which is at a voltage more than 600 v unless two or more workers are present while the work is being performed.

Application of Subsection (2)

(3) Subsection (2) does not apply to the fusing of transformers where the transformer fuses are accessible without passing or reaching past electrical wires or appliances carrying more than 240 v; nor to work done with special tools that are designed for the purpose, and which are used by workers who have been trained in the use of those tools.

Tunnels

(4) In tunnels and manholes, no work **shall** be done, or permitted to be done, on an energized electrical line or equipment having a voltage of more than 240 unless there are at least two competent workers present.

Guards

(5) No work **shall** be done in or around any place or structure in proximity to energized electrical wires or equipment which are normally isolated by position or elevation, unless such electrical lines or equipment are provided with guards which will effectively prevent contact by any worker or by any equipment being used or handled.

Idem

(6) Guards **shall** meet the specifications of an authority acceptable to the Director.

Notices

(7) Notices reading “Danger-High Voltage” **shall** be placed in prominent positions in proximity to electrical equipment operating at over 600 v that may be accessible to workers. **Section 36.6 (1) to (7).**

For more information:

- De-energizing procedures. **Section 36.7, 36.8.**
- Re-energizing procedures. **Section 36.9.**
- Communication requirements. **Section 36.11.**
- Manhole requirements. **Section 36.12.**
- Water hazards. **Section 36.13.**
- Access to switching device. **Section 36.14.**
- Overhead protection. **Section 36.15.**
- Poles between conductors. **Section 36.16.**
- Protective measures. **Section 36.17.**
- De-energizing responsibility. **Section 36.37.**

Part 45 – Personal Protective Equipment

Further details on the Occupational Health and Safety Act General Regulations can be found at *Princeedwardisland.Ca*.

QUÉBEC

In Quebec, **employers** are **required** to address arc flash hazards under the **Regulation Respecting Occupational Health and Safety**, **Chapter V**, **Sections 312.30, 312.110, 312.116 to 312.118, and 345**. **Employers must** ensure underwater electrical tools are low voltage, insulated, grounded, and equipped with shut-off switches and ground fault detectors. When working near power lines, workers **must** be provided with and wear CSA-compliant arc flash PPE, including protective footwear, fire-resistant clothing, helmets, and eye protection. **Employers must** also obtain utility authorization, ensure proper worker training, and use tools compliant with ASTM F711 and CSA C225.

Chapter V – Electricity

Protection against electrical hazards: Electric voltage of devices, equipment and tools used underwater **must** not exceed 110 V in direct current or 42 V in alternating current.

Those devices, equipment and tools **must** be:

(1) insulated;

(2) equipped with a shut-off switch;

(3) equipped with a ground fault detector if the power supply is alternating current from the public network or its equivalent; and

(4) grounded, in the case of equipment. **Section 312.30 (1) to (4).**

Additional requirements when performing work near a power line: Every worker who performs work near a power line **shall** wear the following personal protective equipment:

(1) electric-shock resistant footwear that complies with CSA Standard Z195, Protective footwear;

(2) a safety hat that complies with class E of ANSI/ISEA Standard Z89.1, American National Standard for Industrial Head Protection, or CSA Standard Z94.1, Industrial Protective Headwear – Performance, Selection, Care and Use;

(3) fire-resistant upper body clothing that complies with CAN/ULC Standard S801, Standard on Electric Utility Workplace Electrical Safety for Generation, Transmission and Distribution;

(4) a class 2 high-visibility safety garment that complies with CSA Standard Z96, High-visibility safety apparel, and does not have suspenders; and

(5) eye protective equipment that is made from non-conducting materials and complies with CSA Standard Z94.3, Eye and face protectors. **Section 312.110 (1) to (5).**

Prior authorization: No person may undertake work near a power line without first obtaining written authorization from the electrical power company that operates the line. **Section 312.116.**

Training: Only persons who have received the training **required** by the electrical power company may perform work near a power line operated by the electrical power company. The training **shall** at least pertain to:

(1) the description of the situations requiring the power line to be turned off or the reactivation device to be switched off-circuit from the circuit breaker device that powers it;

(2) the list of components of the power line that have an anomaly in order to detect any situation likely to compromise the worker’s safety;

(3) the safety precautions **required** to ensure that the worker is isolated from the power line being cleared;

(4) the necessity, on the basis of the work to be carried out

and the risks identified, to have a worker on the ground supervise the worker who is clearing the power line; and

(5) the approach distances applied by the electrical power company and the additional safety precautions to be taken if the worker cannot clear the power line while respecting the applicable approach distance. **Section 312.117 (1) to (5).**

Equipment and tools: Any equipment or tool likely to be used within the approach distances of a power line **shall** be designed, tested and maintained in accordance with ASTM Standard F711, Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used in Live Line Tools.

The insulated arms of the aerial basket lifting devices used near a power line **shall** comply with CSA Standard C225, Vehicle-mounted aerial devices. **Section 312.118.**

Protectors for other parts of the body: The wearing of protective equipment suited to the type of work performed such as a hood, an apron, leggings, protective sleeves and gloves is mandatory for all workers exposed to burning objects or objects with sharp edges or dangerous projections, splashes of molten metals or in contact with dangerous or infectious substances. **Section 345.**

Further details on the Regulation Respecting Occupational Health and Safety can be found at *Gouv.Qc.Ca*.

SASKATCHEWAN

In Saskatchewan, **employers** are **required** to address arc flash and electrical safety under the **Occupational Health and Safety Regulations**, **Sections 7-6(3), 7-9(3), 7-12(2), 30-2 to 30-8, 30-13, 30-17, and 30-18**. **Employers must** ensure only qualified electrical workers perform electrical tasks and that all workers exposed to energized equipment are provided with and use approved arc flash protection, dielectric headwear, and

insulating gloves and sleeves. **Employers must** also ensure electrical equipment is approved, maintained, and safe, and that work near energized conductors is guarded or conducted using protective measures.

Protective Headwear

(3) If a worker may contact an exposed energized electrical conductor, an **employer** or contractor **shall** provide, and require the worker to use, approved industrial protective headwear that is of adequate dielectric strength to protect the worker. **Section 7-6 (3).**

Skin Protection

(3) If there is a risk of injury to the skin of an electrical worker from arc flash, an **employer** or contractor **shall** provide the electrical worker with, and require the electrical worker to use, arc flash protection that meets an approved standard. **Section 7-9 (3).**

Hand and Arm Protection

(2) If a worker may contact an exposed energized high voltage electrical conductor, an **employer** or contractor **shall** provide, and require the worker to use, approved rubber insulating gloves and mitts and approved rubber insulating sleeves. **Section 7-12 (2).**

Part 30 – Additional Protection for Electrical Workers

Electrical Workers

(1) Subject to subsection (2), an **employer** or contractor **shall** permit only electrical workers to construct, install, alter, repair or maintain electrical equipment.

(2) An **employer** or contractor may permit a competent worker who is not an electrical worker:

(a) to operate powered mobile equipment and perform non-electrical work on or near de-energized electrical equipment;

(b) to extend a portable power cable for routine advancement by interconnection of approved cord connectors, cord caps or similar devices;

(c) to change light bulbs or tubes;

(d) to insert or replace an approved fuse, to a maximum of 750 volts, that controls circuits or equipment; or

(e) to connect small portable electrical equipment that operates at less than 750 volts to supply circuits by means of attachment plugs, if the connection does not overload the circuit conductors, or to use or operate small portable electrical equipment that is connected in that way. **Section 30-2 (a) to (e).**

Electrical Equipment

(1) An **employer** or contractor **shall** ensure that only approved electrical equipment is used by workers and that the electrical equipment is:

(a) approved for the intended use and location of the electrical equipment;

(b) maintained in proper working condition and capable of safe operation; and

(c) tested in accordance with the manufacturer's recommendations.

(2) If defects or unsafe conditions have been identified in electrical equipment, an **employer** or contractor:

(a) **shall** ensure that:

(i) steps are taken immediately to protect the health and safety of any worker who may be at risk until the defects are

repaired or the unsafe conditions are corrected; and

(ii) the defects are repaired or the unsafe conditions are corrected as soon as is reasonably practicable; or

(b) **shall** ensure that the electrical equipment is disconnected and removed from use.

Covers for switches, receptacles, connections, etc. **Section 30-3 (1) (2).**

An Employer or Contractor Shall Ensure That:

(a) all switches, receptacles, luminaires and junction boxes are fitted with a cover that is approved for the intended use and location of the cover;

(b) all wire joints or connections are:

(i) fitted with an approved cap or other approved cover;

(ii) enclosed in an approved box; or

(iii) if the wire joints or connections are not permanently installed, protected from damage by another approved means; and

(c) all dead, abandoned or disused electrical conductors or equipment are removed from the place of employment or disconnected and secured to prevent inadvertent energization. **Section 30-4.**

For more information:

- Electrical equipment in tunnel or manhole. **Section 30-5.**
- **Section 30-6.**
- Extension and power supply cords. **Section 30-7.**
- Portable power cables and cable couplers. **Section 30-8 (1) to (3).**
- High voltage switchgear and transformers. **Section 30-13 (1).**

- Exposed energized electrical conductors operating at certain voltages. **Section 30-17.**
- Emergency program. **Section 30-18 (1) to (3).**

Further details on the Occupational Health and Safety Regulations can be found at *Saskatchewan.Ca*.

YUKON

In Yukon, **employers** are **required** to address arc flash and electrical safety under the **Occupational Health and Safety Regulations, Sections 1.14, 1.18, 1.22, 9.05, 9.07, 9.09(1), 9.12, and 9.22**. **Employers must** provide and ensure the use of protective clothing, non-conductive headwear, and arc flash-rated gear when workers are exposed to electrical hazards. Electrical work **must** comply with CSA standards and involve qualified workers following written procedures, especially for low- and high-voltage systems. Equipment **must** be isolated and locked out where practicable, with clear signage and emergency protocols in place to protect workers from arc flash, shock, and other electrical risks.

Part 1 – General

Protective Equipment and Clothing – Skin, Leg, and Body

Provision

Appropriate skin, hand, foot or body protection **shall** be provided if a worker may be exposed to a substance or a condition that may puncture, abrade, burn, corrode, electrically shock or otherwise adversely affect the skin or be absorbed through it. **Section 1.14.**

Protective Equipment and Clothing – Headwear

Provision and Use

Safety headwear **shall** be provided to and worn by workers and

shall:

Non-Conductive

(a) have a non-conductive rating where workers may be exposed to electrical hazards,

Highly Visible

(b) be blaze orange, red or another high visibility colour or have retro-reflective decaling to make the worker more visible, such as when working around moving equipment, in forestry operations or controlling traffic,

Standards

(c) meet the requirement of:

94. CSA Standard Z-94.1-05, Industrial Protective Headwear – Performance, Selection, Care and Use,
95. ANSI Standard Z89.1-2003, Industrial Head Protection, or

iii. other similar standards acceptable to the board.

(d) meet previously published CSA or ANSI standards, remain in service only as long as it is in good condition and provide effective head protection,

Chinstraps

(e) have an effective means of headwear retention when the worker is working in conditions that may cause loss of the headwear, and

Winter Liners

(f) be equipped with winter liners in cold weather. **Section 1.18 (a) to (f).**

Protective Equipment and Clothing – Eye and Face

Provision and Requirements for Use

A worker **shall** be **required** to wear properly fitting safety eyewear, goggles, face shields, side shields, glasses or other such protective items provided by the **employer** and appropriate to the workplace conditions where the worker:

(a) handles, uses or is exposed to materials or substances that may injure the eyes,

(b) is engaged in or is around work or processes where objects or particles may fly, be thrown about or otherwise cause danger of impact with the eyes,

(c) is exposed to excessive light, heat rays, electric arcs or similar hazards,

(d) has 20/200 or less vision in either eye or is blind in either eye,

(e) is working on or testing energized electrical equipment, or

(f) is working with laser beams. **Section 1.22 (a) to (f).**

Part 9 – Electrical Safety

Lines And Equipment

Standards

(1) All electrical utility and communication lines and equipment **shall** meet the requirements of:

(a) CSA Standard C22.3 No. 1-01, Overhead Systems, and

(b) CSA Standard C22.3 No. 7-94, Underground Systems.

Test Equipment

(2) Electrical testing equipment used by workers **shall** meet the requirements of:

(a) CSA Standard C22.2 No. 160-M1985, Voltage and Polarity

Testers,

(b) CSA Standard C22.2 No. 231 Series-M89, CSA Safety Requirements for Electrical and Electronic Measuring and Test Equipment, or

(c) other similar standards acceptable to the board.

(3) Appropriate safe work procedures **shall** be established by the **employer** and followed by the workers for testing electrical equipment and circuits.

Switches, Panels, and Services

(4) A switch and temporary panel board controlling a service entrance, service feeder or branch circuit **shall** meet the following requirements:

(a) a switch and temporary panel board **shall** be securely mounted on a well-constructed vertical surface, be obstruction free and have a cover over the insulated current-carrying parts,

(b) the switch and temporary panel board **shall** be located in an area where water will not accumulate, and be within easy reach and readily accessible to workers,

(c) the switch controlling a service centre, service feeder or branch circuit **shall** not be locked in the closed position, and

(d) the switch controlling a service centre, service feeder or the branch circuit **shall** be housed in a lockable enclosure and be provided with a device for locking the enclosure.

Other Electrical Equipment

(5) Where electrical transformers, capacitors or other electrical equipment are installed on exterior walls or buildings, they **shall** be located at a sufficient distance from the windows or such openings to avoid fire hazards or

accidental contacts through the wall openings. **Section 9.05 (1) to (5).**

For more information:

Working On Low-Voltage Electrical Equipment

- **Section 9.07 (1) to (6).**

Working On High-Voltage Electrical Equipment

- Isolation and lockout. **Section 9.09.**

Working On De-Energized High-Voltage Power Systems

- Isolation and lockout. **Section 9.12 (1) to (3).**
- Emergency work. **Section 9.22 (1) (2).**

Further details on the Occupational Health and Safety Regulations can be found at *Wcb.Yk.Ca*.