

Electrical Safety (General)

An electrical hazard can be defined as a dangerous condition where a worker could make electrical contact with energized equipment or an electrical conductor. The nature of the work at Conviron results in many situations where electrical contact could occur if precautions are not taken.



HAZARDS

Electrocution, electric shock, thermal injury and arc flash, explosions/fire (hazardous atmospheres)



DO

- Lockout electrical equipment that is to be worked on or serviced.
- Inspect electrical equipment for any damage prior to each use.
- Inspect electrical cords for defects: check the power cord for cracking, fraying, and other signs of wear or faults in the cord insulation.
- Know where breakers and boxes are located in case of an emergency.
- Inspect the plug end for cracks and for missing, loose or faulty prongs.
- Pull the plug, not the cord when unplugging equipment



DO NOT

- **DO NOT** work on potentially energized equipment without proper lockout procedures in place.
- **DO NOT** use equipment, outlets or cords that are damaged or have exposed wiring.
- **DO NOT** bypass the switch and operate equipment by connecting and disconnecting the power cord.
- **DO NOT** block access to circuit breakers or fuse boxes.
- **DO NOT** use electrical equipment in wet conditions or damp locations.
- **DO NOT** use a metal ladder or scaffold near any exposed energized electrical circuits or equipment.

General Safe Work Practices

1. Keep power cords away from heat, water, oil, sharp edges and moving parts.
2. Inspect equipment for signs of damage before each use, especially electrical cords and switches. Tag defective equipment clearly with a **"Warning Do not use Tag"** then **Lock it Out** and **see your supervisor immediately**.
3. Ensure equipment is properly grounded using a three-prong plug or is double-insulated and labeled accordingly (CSA).
4. Turn off equipment before connecting it to a power supply and disconnect the power supply before making adjustments or changing accessories.

Regulatory Reference:

Manitoba Regulation 217/2006 • PART 38 -Electrical Safety General
 • PART 25 - Work In The Vicinity Of Overhead Electrical Lines

Failure to adhere to this Safe Work Practice will result in disciplinary action. If you have any questions or require clarification contact your immediate Supervisor.

Workplace, Safety and Health Convictions

Loewen Manufacturing Co. Ltd.

A worker **died** when he came in **contact with energized equipment**. The company was fined for failing to ensure that a worker used safe work procedures when working on electrical equipment.

Manitoba Hydro

A worker **sustained serious burns to the upper torso** as the result of **electrical contact**. The worker was attempting to secure energized lines to a hydro pole from the basket of a bucket truck, as part of an overhead construction crew in the R.M. of Springfield tasked with replacing overhead electrical lines. The employer plead guilty to the charge of failing to ensure that the work being carried out was done in a manner that prevented contact with overheard electrical lines.

Interlake Potato Farms Ltd

A worker received **2nd & 3rd degree burns to the hands and face** from an **electrical arc flash** from a main breaker panel. The company was fined for failing to ensure that an electrical worker de-energized electrical panels before their removal.

V & R Electrical Ltd

A worker for Portage la Prairie-based V & R Electrical Ltd. was seriously injured **while removing electrical cable from a splitter box** that was no longer being utilized. The task was performed “live” so as not to disrupt power to the facility. As the worker was removing a ground wire from the splitter box, the ground wire made contact with an energized lug nut which caused an arc flash. As a result, the **worker suffered burns to his face and neck**.

ProCast Technologies Inc.

A worker noted that due to an electrical issue, the temperature of a quench tank on a heat treating system had not reached the required temperature. An electrical contractor was contacted to attend. Before the electrical contractor arrived, the worker and a supervisor decided to check the voltage in an electrical panel. Using a voltage meter, the **worker touched the live electrical wiring in the panel with the voltage meter test leads**. An electrical contact occurred resulting in the worker suffering **2nd and 3rd degree burns to his hands, arms, neck and face**.

Vestas - Canadian Wind Technology Inc.

A worker suffered **first and second-degree burns to his wrist, face and eyes** when he came in **contact with an energized electrical panel**.

