HEALTH, SAFETY & ENVIRONMENTAL MANUAL	14.9 Electrical Safety			
	Revision Number: **R0**		Number of Pages: **2**	
	Revision Date:	Approval Date: 10/01/2024	Effective Date: 10/01/2024	SIGNATURE:

ELECTRICAL SAFETY

PURPOSE

To give all workers an understanding of the hazards involved with electrical equipment.

SCOPE

Injuries

An electrical hazard is a dangerous condition where a worker can or does make electrical contact with energized equipment or a conductor. From that contact, the person may sustain an injury from shock, and there is a potential for the worker to receive an arc flash (electrical explosion) burn, thermal burn, or blast injury.
Factors that affect the presence of electrical injury and its severity depend on:

- the magnitude of the electric current
- its transmission (direct or indirect)
- body entry and exit sites
- the path the current takes through the body
- the surrounding environmental conditions (e.g. wet or dry environments)

Exposure to electricity can result in a range of injuries:

- cardiovascular system injuries (e.g. rhythm disturbances)
- burns
- nervous system disruption and respiratory arrest
- head injuries, and fractures and dislocations (caused by being “thrown” or “knocked down”) from the severe muscle contractions caused by the current.

According to the Ministry of Labour, thirty thousand (30,000) electrical shock incidents occur every year. Nearly half of these incidents involved people working on electrical equipment while it was energized.
According to the Electrical Safety Authority, the most common cause of occupational electrocution is using an improper procedure (60%).

What the law says

Employers need to develop and implement a written health and safety program that supports the control of electrical hazards in the workplace and follow the regulations that apply to electrical hazards in the workplace.

Common Hazards

The most common type of work to result in an electrocution is routine work involving repair and maintenance. The following are types of electrical hazards common to the work done by J-AAR:

- repair/ maintenance of energized electrical systems on equipment
- working in close proximity to energized electrical installations (panels, conductors)
- using electric tools, cords, generators
- repairing or using equipment in proximity to overhead power lines

ELECTRICAL SAFETY

Hazard Control

To control the hazard, ensure proper procedures are followed for each task. There may be different procedures required.

- Repair/ maintenance of energized electrical systems on equipment
  - Use Lockout Tagout procedures.
- Working on energized electrical installations (panels)
  - Only qualified electricians can repair or install electrical panels or work on live electrical systems
- Using electric tools, cords, generators
  - Ensure all tools are inspected before use and in good order.
- Repairing or using equipment in proximity to overhead power lines
  - Follow all electrical safety procedures found in the Regulations (i.e., Construction Reg. 213, Section 188)

Typically for maintenance and repair of equipment, lockout procedures must be followed.

REQUIREMENTS

All workers must understand and follow the proper procedures when working around electrical equipment and the requirement to lockout and tagout.

Legislation:

- Industrial Regulations 851, Sections 40-43
- Construction Regulations, Section 188
- Mining Regulations, Sections 155-159,