

Top 10 health and safety risks for battery electric vehicles

Personnel struck by battery electric equipment is top health and safety risk

As identified by workers, supervisors, and employers in the Ontario mining industry through Ministry of Labour, Training and Skills Development-facilitated risk assessment workshop in partnership with Workplace Safety North.



1. Collision: Personnel struck by battery electric equipment



2. Training: Lack of training for maintenance employees



3. Arc Flash:* Improper live troubleshooting



4. Arc Flash:* Improper/unclear work delineation; worker assumes authorized to perform work on traditional work experience



5. Policies and procedures: No standardized industry regulations regarding battery electric vehicle (BEV) charge stations and charge locations



6. Arc Flash:* Inadequate specifications, standards, regulations – provincial



7. Arc Flash:** Inadequate management of change process



8. Electric Shock: Loss of control of a particular Li-Ion-based battery chemical energy source; exposing personnel to: electric shock



9. Arc Flash:* Field repairs



10. Collision: Inability to identify presence of an oncoming vehicle while traveling in a ramp system or around corners

* Loss of control of a particular Lithium-Ion (Li-Ion)-based battery chemical energy source; exposing personnel to thermal runaway (fire), arc flash, potential electric shock.

† Effective Management of Change involves review of all significant organizational changes to ensure an acceptable level of safety will be maintained after the change has been implemented.

For more information, please contact your WSN Health and Safety Specialist or visit workplacesafetynorth.ca

Overview of related WSN training offerings and resource material

Focus on workplace-specific hazards - JHSC Part 1, 2, and Refresher training

JHSC Certification: Part 1 (three days)

(Disponibile en français)

This mandatory course is available in three formats: self-paced e-learning, instructor-led virtual training, and instructor-led classroom training. Participants learn how to recognize, assess and control workplace hazards, the rights and duties of certified members, and how to conduct effective workplace inspections and incident investigations.

JHSC Certification: Part 2 (three days)

This mandatory course is available in two formats: instructor-led virtual or classroom training. Focusing on the concepts of recognition, assessment, and control of hazards, and evaluation of the hazard controls, participants learn how to apply these concepts to a minimum of six hazards relevant to their own workplaces. In addition, learners practise drafting action plans and recommendations for the employer.

JHSC Certification Refresher (one day)

This mandatory course is available in two formats: instructor-led virtual or classroom training. The one-day refresher training program is legally required every three years and provides the most up-to-date information that JHSC professionals can use to keep their workplace health and safety practices current and effective.

Free resources available online

How to prepare for upcoming provincial inspection blitz on battery electric vehicle and mobile diesel equipment hazards

- MLTSD-WSN Mining Webinar presentation

Virtual Symposium: Battery Electric Vehicle Safety in Mines - Conference proceedings

The internal responsibility system (IRS) is a system where everyone shares responsibility for occupational health and safety that is appropriate to their role and function within the workplace. All workplace parties — including employers, managers, supervisors, and workers — need to do their part to raise awareness of risks, and follow and promote safety procedures to help make workplaces safer.

Also available

WSN Training Programs for Mining Supervisor Common Core

- OHS Act and Mining Regulations
- Ground Control - Underground
- Incident Investigation
- Introduction to Safety Programs
- Manage Employees
- Mine Ventilation - Underground
- Occupational Health and Hygiene
- Planned Inspection and Observation
- Practise Effective Communication
- Prepare for Emergencies - Underground

Safety culture and program assessment

Based on findings from the Institute for Work and Health, there are ten occupational health and safety factors predictive of a company's health and safety performance. Using these factors, WSN developed the Climate Assessment and Audit Tool (CAAT) to properly assess the maturity of a firm's health and safety culture and system. Ask your WSN Health and Safety Specialist for more information.

About Workplace Safety North

Your local health and safety partner

An independent not-for-profit, Workplace Safety North (WSN) is one of four sector-based health and safety associations in Ontario. Headquartered in northern Ontario, WSN provides province-wide Ministry-approved workplace health and safety training and services for the mining and forest products industries.

With health and safety specialists located across the province, WSN and its legacy organizations have been helping make Ontario workplaces safer for more than 100 years. A leading provider of health and safety training and consulting, businesses call upon WSN for expert advice and information.



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