

Arc Flash Hazards Analysis and Reporting

Powertech conducts arc flash hazards studies to identify the presence and location of potential hazards and to recommend mitigation.

An arc flash is the sudden release of energy in the form of light and heat caused by an unintended current flowing through air from one exposed live conductor to another conductor or to ground. Such incidents can occur spontaneously when insulation is compromised, when a foreign object is accidentally dropped, bridging a pair of conductors, or when minimum electrical clearances are violated. They can result in fatal injuries to workers, destruction of equipment, and severe fire.

The National Fire Protection Association Guidelines (NFPA70E) and the Canadian Standards Association (CSA Z462) require facility owners to perform an arc flash hazards analysis prior to allowing workers to perform tasks on energized equipment.

Powertech services include the following:

Data Collection and Verification

Powertech engineers work with gualified electricians to identify equipment locations where an arc flash hazard analysis is required. We collect detailed information about the electrical system, including system configurations and parameters, protective device settings, and coordination. This information allows us to confirm and validate a power circuit's single-line diagram and is utilized as a basis for modeling the system.

Simulation and Calculation

We use state-of-the-art arc flash analysis software to calculate the arcing current and the incident energy resulting from an arc flash at each piece of identified electrical equipment in a power circuit according to IEEE 1584 and NFPA 70E.

FOR MORE INFORMATION CONTACT:

Dr. Jorge Hollman - 604.831.5148

Senior Manager & Principal Engineer Substations Engineering Studies jorge.hollman@powertechlabs.com

Analysis and Recommendations

Powertech's analysis identifies potential arc flash hazards and provides recommendations for personal protective equipment (PPE) selection, boundaries for limited and restricted approaches, arc flash hazard mitigations, and safe work practices.

Reporting, Mitigation, and Labeling

A final report includes assumptions, findings, results, values, conclusions, and recommendations to mitigate arc flash hazard. This document helps facility owners to improve their electrical systems and utilize the findings to mitigate and resolve arc flash hazards within their premises.

The report also identifies locations of all warning labels to identify the incident energy, limited and restricted approach distances, and flash protection boundary distance.

Thermography Inspection

Thermography inspection, conducted as per NFPA70e, allows equipment failure prevention before breakdown occurs, avoiding loss of production, equipment damage, and worker injury. Equipment heat signatures are identified using an infrared camera operated by an ASNT thermal/infrared certified staff. The heat signature pictures are then analyzed, and preventative mitigations are developed to avoid unplanned outages.





ISO 14001



ABOUT POWERTECH LABS:

Powertech Labs Inc. is one of the largest testing and research laboratories in North America, situated in beautiful British Columbia. Canada. *Our 11-acre facility offers 15* different testing labs for a one-stop-shop approach to managing electrical utilities, and testing gas components, pressure vessels and systems.

Outside of the utilities industry, Powertech provides routine testing capabilities, product development, research and consulting services to support an array of industrial-type operations, electrical equipment manufacturers and automotive original equipment manufacturers.

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