



Powertech Labs Offers Ozone Testing Services

Powertech Labs Inc. has the capability and experience to test ozone concentrations present in the cooling air stream of electrical generators and in the workplace.

A typical site assessment includes:

- **Ozone concentration in cooling air stream of generator during different duty cycles and possible seasonal effects**
- **Ozone concentration in the workplace:**
 - **General background**
 - **Areas with greatest density of workers over a workday**
 - **Areas of potential highest concentration (near generator access points)**
 - **Confined and enclosed spaces with little air flow**

Following the site assessment, Powertech provides an assessment report that references each generator and provides a summary of findings, recommendations, and corrective actions.

Ozone Produced from Electrical Generators

In electrical generators, high voltage discharges occur on the stator bar insulation system as it ages. These discharges generate ozone in the surrounding air. Monitoring the ozone produced can play a key part of a preventative maintenance program assisting staff in tracking machine condition and planning maintenance outages. Ozone provides a good general method of tracking stator condition and can help determine

if more specific testing procedures are required. As the electrical discharge ages the stator bars, increased quantities of ozone are generated. The ozone is distributed in the cooling air stream of the generator and can ultimately migrate into the workplace, potentially compromising the safety of site personnel.

In British Columbia, WorkSafe BC has set ground-level ozone exposure in the workplace for personnel at 100 parts per billion (ppb) for light work and 50 ppb for heavy work over an eight-hour work period. Generators ozone levels are affected by many factors, including age, stator bar condition, partial discharge, ambient conditions of temperature and humidity, and the general cleanliness of the plant. Monitoring yearly (more often for identified problem sites) will enable the utility to detect changes that may be significant in terms of personnel safety and equipment condition.

Applied Chemistry

Powertech's Applied Chemistry laboratories have more than forty years' experience in testing, consultation, and applied research in the chemistry of insulating liquids, gases, and solids used in electrical equipment. The laboratories are equipped with state-of-the-art instruments for chemical, material, and polymer analysis focusing on insulating oils and gases, lubricants, fuels, and coolants.

FOR MORE INFORMATION CONTACT:

Darren Bromley 604.590.6616
Senior Manager
Generation Technology & Testing
darren.bromley@powertechlabs.com

Ian Wylie 604.590.7462
Senior Manager, Applied Chemistry
Substations Technology & Testing
ian.wylie@powertechlabs.com

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 utility generation, transmission and distribution power 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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