

# Eagle Ridge Hospital

Port Moody, BC: IEM Canada Supplies Generator Paralleling Distribution and Master Control Switchgear for Critical Healthcare Facility.

## Executive Overview

### INDUSTRY

- Healthcare

### CHALLENGE

- Design the latest compact paralleling system to meet applicable codes, consultant and operator preferences, with state of the art controls and communicative functionality
- Dimensional and electrical challenges to overcome existing site requirements
- Need to integrate existing circuit breakers making them interchangeable and operable in all 6 breaker cradles

### SOLUTION

- Design and build custom fit equipment to eliminate need of structural site modifications
- Fully integrated generator paralleling system designed to monitor and interface with two 1000kWe MTU emergency standby diesel generators
- Incorporated two IEM Canada engine controllers and a PLC for master controls and integrated communications to facilities existing BACnet protocol building automation system
- Experienced staff anticipated challenges and planned accordingly for seamless on-site efforts

### BENEFITS

- Renewed and upgraded power supplies at a critical hospital
- Saved capitol costs by eliminating the need to make major structural modifications in order to install equipment



## Eagle Ridge Hospital – Port Moody, BC 2011

**PARTNERS:** Cullen Diesel Power Power Ltd., Stantec Engineering & Fraser Health Authority

Like many healthcare facilities, the Eagle Ridge Hospital site was in need of a critical upgrade to its power system. The project required quality, responsiveness and flexibility to deliver the best possible solution.

With the current electrical distribution equipment considerably past its prime and the building's electrical demand at capacity, an innovative design and creative upgrade was required that didn't disturb the normal course of business.



IEM Canada EASYGEN 3200 Series engine controllers and GE Fanuc 90-30 series PLC for Master Controls

Compartment doors were specified to be color coded for ease of identification during any power system problem

## CHALLENGE

Design a high density, expandable, four section generator paralleling switchgear system rated at 600/347V, 3 phase, 4 wire with silver plated copper bus rated to 3000A at 42kAIC. The lineup required the ability to be installed through 32" wide, 84" high doors without the need to make any site modifications. In addition to these dimensional challenges, the project called for the need to integrate existing circuit breakers making each interchangeable as well as operable within any six cradles.

IEM Canada made an offer for a modular, customized approach with a packaged solution. Having considered a number of switchgear vendors, IEM Canada was chosen because of cost and its ability to custom design, manufacture and deliver equipment to meet these specific custom requirements.

## SOLUTION

IEM Canada's solution called for a four section generator paralleling switchgear system with integrated sprinkler drip-shield and gasketing designed to interface with two MTU 1.0 MW onboard DGC2020 engine controllers. Also incorporated were two IEM Canada EASYGEN 3200 Series engine controllers and one GE Fanuc 90-30 series PLC for master controls and integrated communications to the facilities existing BACnet protocol building automation system. The lineup was operating on 24VDC with a separate 24VDC power supply within the control cabinet in order to maintain system integrity and reliability in the event of a temporary or prolonged main power source outage. Changing from 120V operators to 24VDC required removing pins from all cradles so all 1600AF/1200AF breakers, including SPARES could be racked in and out of any of the six positions.

The entire lineup was built to be broken down into four individual sections at a depth that would fit through the building doors. IEM Canada's custom built solution was designed with the facility in mind to eliminate the need for the facility to make any structural modifications in order to install equipment. This saved both time and money.

## RESULTS

**Renewed and upgraded power supplies at a critical healthcare facility.**

Eagle Ridge Hospital is up and running with renewed power and a more reliable and efficient control system. IEM Canada was able to think outside the box with an innovative, custom fit design saving the hospital capitol costs not having to make structural modifications in order to install equipment.

IEM Canada's experienced staff was able to anticipate challenges and planned accordingly to respond with an innovative solution and delivered throughout the project with seamless on site efforts.

All equipment deployed meets UL/CSA standards.

## Industrial Electric Mfg.™ (IEM)

Headquartered in Fremont, CA, IEM is the largest independent full-line manufacturer of electrical distribution and power quality equipment in the U.S. For over half a century, IEM has delivered customer-specific solutions to meet the ever changing power requirements of growth industries in North America. At IEM, tradition and technology still drive innovation. An experienced engineering staff and one of the most flexible design and manufacturing systems in the industry set IEM apart from standard product manufacturers.



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