



# **Electronic Control Systems**

## 2 Day Program Training Agenda Peak 150 Electronic Control for Steam Turbines

### COURSE OBJECTIVE

Learn about the application, installation, and operation of the Woodward Peak 150 digital steam controls used on steam turbines in mechanical drive applications. Hardware and software will be explained, programming demonstrated and the control connected to a closed loop test set. This class will provide you the opportunity to learn more about the understanding of how the Peak 150 control, actuators, and their associated accessories allow their turbines to operate together, either on or off the infinite bus (utility) or operating a mechanical drive.

### THE FOLLOWING TOPICS WILL BE COVERED:

- Overview of the Peak 150 hardware
- Review of the two-line display and keyboard
- Review of inputs and outputs (I/O) including correct customer wiring
- Description of the possible functions of the control system
- Review of the Peak 150 interface (PCI)
- Detailed review of the operation of each of the different functions and how they relate to each other
- Discussion of the configuration procedure and hands on operation of the control system

### ELECTRONIC CONTROLS

Peak 150

PRICE \$935.00 CAD Minimum 3 Student booking required

#### ATTENDANCE

3~5 Students per session, allowances can be made available for a larger volume, please advise.8:00am ~ 4:00pm

CONTROLS & ENGINEERING

70 East Beaver Creek Rd, Unit 10, Richmond Hill, ON L4B 3B2 416 907-3844

Student will have an understanding of the following concepts:

- Governor control theory pertaining to the Peak 150 steam turbine controls.
- Ability to field program, tune the control sand stroke the actuators.
- Understanding of different modes of operation such as; manual start, semi-automatic start, automatic start.
- Ability to describe the different types of control such as speed/load, cascade, auxiliary, remote and extraction/admission control.

The following will be provided:

- Communication cables and adapters
- Softwares & drivers
- Classroom accessories
- Breakfast & Lunch(at Madsen facility)

Note: Students are required to bring Laptops Compatible operating systems: WinXP, Win7

### CONTACTS

### **MADSEN CONTROLS & ENGINEERING**

Richmond Hill, Ontario. **Khalid Hussain** Senior Account Manager (416) 907-3844 khalid.hussain@Madsen.ca

### **MADSEN DIESEL & TURBINE**

St. John's, Newfoundland. **Trevor Porter** Technical Manager (709) 726-6774 <u>trevor.porter@madsen.ca</u> <u>www.madsen.ca</u>

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