

## Electrical Protection for Power Distribution Systems

October 6-7, 2003 • Toronto, ON  
Days Hotel and Conference Centre - Toronto Airport

This course has been specifically designed for electric utility engineers, consultants and others involved in the selection and coordination of overcurrent protective devices used in medium-voltage electric power distribution systems. Facilities engineers engaged in the selection of devices for protecting small power transformers, as well as the coordination of those devices with both source-side and load-side protective devices, will also benefit from the seminar.



Protection of distribution power systems requires an understanding of system faults and their detection, as well as their safe disconnection. This course presents a comprehensive and systematic description of the concepts and principles of operation and application of protection schemes for various power system elements. The course begins with an overview of power system faults, short circuit calculations, components of power system protection schemes, as well as a full session on microprocessor-based relays and their application.

Course Instructor:

**Alan Wing, P.Eng., Siemens Canada**

### • course focus

Power System Faults  
Short Circuit Theory  
Fault Studies  
Components of Power System Protection Schemes  
Current Transformers (CTs) & Voltage Transformers (VTs)  
Co-ordination of Electrical Protection Systems  
Feeder Overcurrent Protection  
Transformer Protection

before September 29th only \$599.00 + 41.93 GST

## Electrical Power Distribution Equipment and System Commissioning and Acceptance Testing

October 14-15, 2003 • Calgary, AB  
Holiday Inn Calgary Downtown

October 16-17, 2003 • Edmonton, AB  
Coast Terrace Inn

October 23-24, 2003 • Vancouver, BC  
Holiday Inn Vancouver Centre

November 4-5, 2003 • Toronto, ON  
Holiday Inn Toronto Airport East

November 25-26, 2003 • Saskatoon, SK  
Saskatoon Inn and Convention Centre

November 27-28, 2003 • Winnipeg, MB  
Radisson Winnipeg Downtown

**BONUS**

Delegates to this course will receive the 2003 edition of the International Electrical Testing Association's (NETA) "Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems" Guidebook, FREE as part of the course materials package!



The start up of any electrical system for the first time, regardless of its size, type or industry, is a very special occurrence and poses some unique challenges to electrical personnel. Inexperience and poor planning will inevitably result in prolonged delays in the start up which can lead to costly productivity losses. This course provides invaluable information to anyone who wishes to know and understand the role of Acceptance Testing,

Commissioning and Start-up of Electrical Power Distribution Systems. The importance of planning and preparation for the project, from engineering to commissioning and start-up, will be emphasized. This course deals with safety considerations and testing and start-up procedures for all the components of any electrical system. The course leader will also offer useful guidelines on what to do when things go wrong during this phase of a project.

Course Instructor:

**Kerry Heid, Magna Electric**

### • course focus

Understanding Electrical Drawings  
Test Equipment Overview  
Power Cable Acceptance Testing  
Relaying Protection Commissioning  
Substation Equipment Acceptance Testing  
Transformer Acceptance Procedures  
Distribution Switchgear Commissioning  
Plant Start Up, Documentation, & Safety Considerations  
The Electrical Power Distribution Equipment and System Commissioning and Acceptance Testing course

early bird registration fee \$599.00 + 41.93 GST  
(8days prior the course date)

## Substation Testing and Maintenance

November 17-18, 2003 • Vancouver, BC  
Holiday Inn Vancouver Centre

November 19-20, 2003 • Edmonton, AB  
Best Western Cedar Park Inn

October 23-24, 2003 • Vancouver, BC  
Holiday Inn Vancouver Centre

December 1-2, 2003 • Toronto, ON  
Best Western Carlton Place Hotel



Participants will cover the maintenance and testing requirements for common substation devices, including power transformers, oil, air and vacuum circuit breakers, switchgear, ground grid systems, batteries, chargers and insulating liquids. This course focuses on what to do, when to do it and how to interpret the results from testing and maintenance. This course will be of benefit to supervisors, field engineers, plant engineers, technicians and others with the responsibility for the specification of the maintenance, testing and evaluation of the most common types of substation devices rated from 2.3kV to 230kV.

Course Instructor:

**Fred Tanguay, Black & McDonald**

### • course focus

The Substation As A System  
Circuit Breaker Maintenance  
Insulating Liquids  
Transformers  
Lightning Arrestors  
Protective Relays  
Ground Grid Systems  
Batteries and Chargers

early bird registration fee \$599.00 + 41.93 GST  
(8days prior the course date)

