



ESA

**Electrical Safety
Mining Services Group**

Mining Services - Training Module

Transformers in Mines and Mining Plants

Course Overview:

An Electrical Safety Code Workshop on Transformers in Mines and Mining Plants with specific references to the Provincial Mining Regulations, M421-93-00 “Use of Electricity in Mines” and the Canadian Electrical Code.

Course Topics:

- Specific Regulations for Mines and Mining Plants
- Requirements for Equipment Approvals
- Liquid Filled and Dry-Core Type Indoor and Outdoor Transformer Installations
- High and Low Voltage Control and Instrument Transformers
- Grounding and Bonding of Transformers
- Safe Clearances required for Transformer
- Available Fault Current
- Protection and Control
- Transformer Enclosure Ratings
- Control Transformers
- Auto Transformers

Course Purpose:

- Learn using all of the applicable regulations, standards and codes for reference.
- Learn how to size transformers, conductors and the required overcurrent protection.
- Recognize potential hazards in existing installations with particular emphasis on conductor sizing and primary and secondary protection.
- Recognize how to safely use different types of transformers.
- Provide detailed information to ensure new installations meet all of the applicable requirements.
- Increase the knowledge and awareness of transformers for all electrical personnel
- Participate in a hands on calculation of transformer circuits.