

# Fire Protection



## Best Practice Series

### BP-91

Electrical equipment in underground mines is designed to safely supply and distribute significant quantities of electrical energy to various parts of the mine. Equipment safety depends on proper selection, installation, and maintenance. Under adverse conditions, the energy supplied to the equipment can become uncontrolled, often appearing as extreme heat leading to a potential deadly fire.

- **ALWAYS** keep at least five bags of rock dust and a dry chemical fire extinguisher near underground electrical equipment such as compressors, pumps, transformers, power centers, and battery charging stations.
- **ALWAYS** vent harmful or explosive gases emitted by permanent underground electrical installations to the return entries.
- **ALWAYS** house permanent underground electrical installations in noncombustible structures or provide a fire suppression system.
- **ALWAYS** report electrical problems to your supervisor.
- **ALWAYS** keep electrical installations and the immediate area surrounding electrical equipment free of combustible materials and well rock dusted.
- **NEVER** attempt to repair electrical equipment unless you are certified to do so.
- **NEVER** lay or store anything on top of electrical equipment, including power centers and transformers.

## It Happened . . .

- ☛ A maintenance crew leaving the mine encountered smoke coming from a battery charging station. They extinguished the fire using extinguishers, sand, and water. The battery charger was left in the 'on' position allowing the charging cables to heat until they ignited.
- ☛ A fire occurred in a transformer located in the track entry. The fire was discovered when a section belt stopped. The fire was confined to the transformer and extinguished using water and fire extinguishers.
- ☛ A power center caught fire, resulting in a loss of power and smoke on the section. The miners were evacuated to intake air outby the power center. The power to the load center was disconnected and the flames extinguished.
- ☛ A fire occurred in an electrical installation. The possible misalignment of the switch blade caused an arc which caught the insulation on fire. The miner extinguishing the fire donned his SCSR and evacuated the area.



Example of a longwall controller box

*Arrive Home Alive*

**U.S. Department of Labor  
Mine Safety and Health Administration  
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June 2006