Fire Supression

Best Practice Series
BP-81

Fire suppression systems vary in their design and application. All systems, except automatic sprinklers, should be provided with a manual actuator that can be operated from a safe, smoke-free location during a fire. A sprinkler system must have a backup hose and nozzle.

Locations

- ✓ Battery Charging Stations
- ✓ Oil Storage Locations
- ✓ Belt Drives
- ✓ Diesel Fuel Storage Locations
- ✓ Mobile Equipment
- ✓ Working Sections

- **ALWAYS** report fire suppression system problems to mine management.
- **ALWAYS** keep fire suppression detectors in working order.
- **ALWAYS** check to ensure that the actuation system is operable.
- **ALWAYS** protect hose and valve fittings from damage.
- **ALWAYS** provide regulators for high pressure water applications.
- **ALWAYS** use automatic sprinklers whenever possible.
- **ALWAYS** keep manual actuators unobstructed.
- **ALWAYS** check for signs of physical damage or conditions that would prevent system operation.
- **NEVER** keep valves to the suppression system turned off, unless maintenance is being performed and the area is manned.
- **NEVER** allow nozzles and sprinkler heads to become obstructed.
- **NEVER** allow untrained employees to maintain the fire suppression system.

Tips for Fire Suppression Design

- Design water spray systems to deliver at least 0.25 gpm of water per square foot of belt with a residual pressure of at least 10

psig to the most remote nozzle. Wet pipe sprinklers should be designed to provide at least 10 psig residual pressure to the most remote free flowing head(s). Use accepted design practices listed in 30 CFR when designing fire suppression systems. This should include considerations for testing and maintenance.

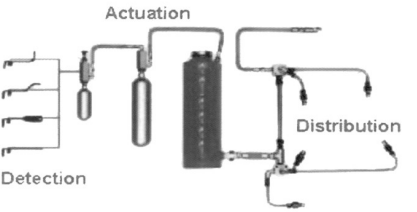
- Locate spray nozzles or sprinkler heads for maximum effectiveness.
- Flexible hoses, such as hydraulic hoses, used to feed sprinklers or spray nozzles must be flame-resistant.

It Happened . . .

☞ A fire occurred on the face behind the headgate drum of the shearer as it was cutting drawrock. The shearer had been stopped previously to check the oil in the gearcase due to potential overheating. Flames were extinguished in 1-2 minutes with the fire suppression sprays and a wash down hose.

☞ Belt slippage occurred when a rock lodged between the belt and the take-up roller. Friction at the head pulley caused a fire. The water spray system did not activate due to a malfunctioning solenoid. Two fire extinguishers and a fire hose were used to fight the fire.

☞ A fire occurred at a belt drive. Smoke was diverted to a return air course. A fire fighting crew used fire extinguishers and water to extinguish the blaze. The fire suppression system had been activated and controlled the fire.



Example of a basic fire suppression system

Arrive Home Alive

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June 2006