Each month DMME personnel will be conducting monthly safety talks pertaining to Emergency Response and Preparedness. Topic-of-the-Month brochures and safety stickers will be handed out during these talks to help remind you of these critical safety points.

The Virginia Department of Mines, Minerals and Energy has developed several award winning mine safety videos. These videos were made possible thru Grants from the Mine Safety and Health Administration and can be found on our website at:
www.dmme.virginia.gov

Mine Safety Videos:

- The Right Choice
- Step Up To The Plate
- Lead The Way
- No Way Out
- The Miners' Bond

DMME
Virginia Department of Mines Minerals and Energy

Additional Information

For more information on the Virginia Topic-of-the-Month Mine Emergency Campaign, please contact:

Division of Mines
P.O. Drawer 900
Big Stone Gap, VA 24219
(276) 523-8224

UNDERGROUND

PERMISSIBILITY

Virginia Department of Mines, Minerals and Energy

Mine Emergency

March 2017 Topic-of-the-Month

PERMISSIBILITY FACTS

Permissible equipment is designed to prevent mine fires, ignitions and explosions.

Electrical equipment in the past, used "open type equipment" (nonexplosion proof) which allowed sparks and arcs to escape from electrical enclosures, causing fires, ignitions and explosions.

Many injuries and fatalities occurred before electrical equipment enclosures were designed to be permissible.

In September 1971, all equipment, other than intake air; used in and inby the LOCC and returns was required to be approved and maintained in a permissible condition.

What is permissibility?

1. A machine or accessory that has an MSHA approved metal plate attached;
2. A machine or accessory required to have explosion proof enclosures that are designed and manufactured to pass the following tests:
   - Withstand internal explosions of methane air mixture without damage to the enclosure walls or cover;
   - Withstand ignition of surrounding methane air mixtures; and
   - Withstand any discharge of flame from inside to outside of the enclosure.

30 CFR Part 18 and Schedule 2G specify permissibility standards and requirements.

Conditions that can cause a mine explosion initiated by electrical equipment are:

- Presence of gas in the immediate vicinity of the equipment;
- Penetration of the gas into the equipment by diffusion or other means;
- Ignition of gas on the equipment by diffusion or other means;
- Ignition of gas on the equipment by a electrical spark or flash; and
- Failure of the equipment to prevent the spread of the flame resulting from that ignition.

PERMISSIBILITY CHECKLIST

Electrical Enclosures

- Enclosures are intact, not damaged, cracked or broken;
- MSHA plate is attached that is clearly stamped with certification number;
- Cover does not exceed the maximum dimension specified in Part 18;

PERMISSIBILITY CHECKLIST

- Use a feeler gauge of appropriate size to check each gap.
- Electric cables outside of explosion proof enclosures are protected by flame resistant hose conduit.
- **Hose Conduit** have MSHA markings "Flame Resistant";
- Are securely clamped at both ends;
- Are clamped in place to prevent unnecessary movement;
- Are not subject to abrasion from sharp corners or edges;
- Are isolated from hydraulic lines and components;
- **Mounting & Fasteners** have MSHA markings "Flame Resistant";
- Are securely clamped at both ends;
- Are clamped in place to prevent unnecessary movement;
- Are not subject to abrasion from sharp corners or edges;
- Are isolated from hydraulic lines and components;
- **Packing Glands** are tight and 1/8 inch clearance remains between the gland nut and the enclosure.

MINE EMERGENCY SAFETY CHECK

T	F	Gas in the immediate vicinity of permissible equipment can cause an explosion?
T	F	Secure hose conduits to packing glands with electrical tape?
T	F	Explosive proof enclosures are designed to withstand internal explosions?
T	F	Electrical Repairman can study the Schedule 2G Code of Federal Regulations to help with the inspections and maintenance of permissible equipment?
T	F	All hoses conduits should have MSHA markings that read "Flame Resistant"?
T	F	Threaded covers can be secured with glue?
T	F	Feeler gauges of appropriate sizes are used to check openings in electrical enclosures?
T	F	Electrical enclosure MSHA plate should be stamped with the MSHA logo?
T	F	All fasteners used for securing covers on electrical enclosures are used for attaching non-essential parts or for making electrical connections?