

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



Additional Information

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

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UNDERGROUND EXPLOSIONS



Virginia Department of
Mines, Minerals and Energy



Mine Emergency

December 2016
Topic-of-the-Month

EXPLOSION CHARACTERISTICS

- Methane is a highly explosive gas with an explosive range of 5% to 15% with 12.1% or more oxygen.
- Methane is lighter than normal air; this causes the gas to accumulate near the mine roof .
- Methane is emitted from most coal seams.
- Methane explosions usually involve large numbers of people and large areas of the mine.
- Methane explosions produce a “fireball” that extends throughout a mine until the fuel—the methane in the 5% to 15% range is consumed or the oxygen level is consumed to below 12%

SAFETY TIPS

- ⇒ Adequate ventilation will prevent the accumulation of explosive amounts of methane in most cases.
- ⇒ All miners must be vigilant about the detection of methane gas and be properly trained on how to clear and /or reduce the gas.
- ⇒ Rock dust when suspended into the air by the forces of an explosion helps to extinguish the fireball flame and when it mixes with any coal dust it prevents it from becoming combustible.

KEY POINTS

MAJOR KEYPOINTS

- ⇒ The location and extent of the explosion, if known, shall be reported immediately to the authorized person located on the surface.
- ⇒ All underground personnel shall be accounted for, assembled to prepare for evacuation and withdrawn to a location designated by the responsible person or his designee.
- ⇒ All mine personnel not required for emergency response shall evacuate from the mine by the quickest, most practical means.
- ⇒ Electrical power to the affected area of the mine shall be deenergized as directed by the responsible person or his designee. Electrical power to other areas of the mine should be deenergized as necessary, while considering evacuation of mine personnel.
- ⇒ All underground personnel not required for emergency response shall evacuate by traveling the primary or alternate (secondary) escapewyay as directed by the mine responsible person or his designee.

KEYPOINTS—continued

- ⇒ Each miner shall have an SCSR in their possession and an additional SCSR readily accessible or on the transportation equipment.
- ⇒ Additional SCSR storage location should be shown on both the mine map and escapeway map.
- ⇒ Miners should don a self- rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered
- ⇒ Reflective, direction signs should be conspicuously posted in each entry that identify each SCSR storage location.
- ⇒ During evacuation, miners should get an escapeway map, if possible, to take with them.
- ⇒ The authorized person located on the surface should be informed of the number of miners beginning evacuation, if possible, and the escape route that will be used while exiting the mine.



MINE EMERGENCY SAFETY CHECK

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| T | F | Rock dust helps with visibility in underground coal mines? |
| T | F | All mine personnel are required to stay underground during a mine emergency. |
| T | F | Electrical power should be deenergized to the entire mine when there has been a mine explosion? |
| T | F | Reflective, direction signs should be conspicuously posted in each entry to identify each SCSR storage location? |
| T | F | Methane is not an explosive gas? |
| T | F | Adequate ventilation will prevent an underground explosion? |
| T | F | Miners should always review their mine map? |
| T | F | When evacuating an underground you should travel the quickest route? |
| T | F | When possible, notify surface personnel when a evacuating a mine? |
| T | F | Miners should don SCSRs at the first sign of smoke? |