IME
institute of makers of explosives

Alliance
An MSHA Cooperative Partnership

U.S. Department of Labor
MSHA
Mine Safety and Health Administration

Metal and Nonmetal Mine Safety Alert

Explosives and Blasting Safety

Blasting safety demands the highest level of attention among employees working in metal and nonmetal mining. Since 2010, seven miners have died at mines as a result of flyrock, misfires and toxic fumes. Two miners died in one incident in 2013. All mine operators, independent contractors and miners must follow strict explosives safety procedures to prevent fatalities.

Best Practices

- Follow manufacturers' guidelines for the storage, handling, transportation and use of explosive materials.
- Keep all explosive storage areas clean, dry and orderly.
- Rotate the inventory of explosive materials, making sure to use the oldest stock first.
- Never use damaged or deteriorated explosive materials, including initiation (detonating) devices, boosters, dynamite and blasting agents. Contact the explosives manufacturer if damaged, deteriorated or outdated explosives are discovered.
- Ensure that all locations where explosives are stored or used are properly ventilated before miners enter.
- Utilize technology such as face profilers and borehole probes to obtain specific details about areas of weak burden and potential borehole deviation.
- Communicate with the driller and understand the geology of the blast site.
- Review and follow the site-specific blast plan prior to loading any explosives. Develop a drill pattern appropriate for the location, and adjust stemming depth and/or decking to maintain adequate burden for the blast.
- Establish the blast area and remove all persons from the area before the blast is fired.
- Guard or barricade all access routes to the blast area to prevent people and vehicles from entering.
- Before firing a blast, give ample warning to allow all persons to be evacuated from the blast area.
- Conduct a post-blast inspection to be certain the blast area is safe before anyone re-enters.