

IME

institute of makers of explosives

Permissible Explosives Approvals

Issue: The government has lost its ability to ensure a safe supply of permissible explosives for the nation's coal miners.

Background: In 1913, the U.S. Bureau of Mines (USBM) was created to address a rash of fatal coal mining explosions by developing and encouraging the use of safer "permissible" explosives. Today, USBM's regulatory heir, the Mine Safety and Health Administration (MSHA), does not have the ability to evaluate the safety of these products.

While permissible explosives usage declined with the advent of mechanical means of coal removal, the market has stabilized, and today, about 4.5 million pounds of permissible explosives are consumed in the U.S. annually. Most of these products are used for development of coal mines and disposal of rooffalls to ensure adequate ventilation where mechanical means of accomplishing these tasks are impossible. Permissible explosives are unique in that they generate a lower temperature, and a shorter duration flame. These qualities lower the probability of igniting methane or coal dust, a potentially disastrous event.

The only way to evaluate these critical safety-related properties is to conduct elaborate tests. The government has not conducted these tests for over 18 years, the equipment is in disrepair, and the corporate knowledge needed to conduct the tests is slipping away into retirement. The government laboratory where permissible testing was conducted for 80 years has decided to abandon not just permissibility testing, but all explosives-related research.

Discussion: This situation must be corrected:

- MSHA does not have the ability to evaluate whether the explosive products being used in the mine meet regulatory specifications.
- MSHA has the regulatory authority to conduct quality control testing by taking samples from mines and testing them but, with no adequate laboratory, cannot. Ironically, MSHA has called into question the applicability of certain approvals; demanding that the approval holder prove the explosive will perform as originally approved, something MSHA should be doing on its own. IME believes that such activity is vital to ensuring a safe supply of permissible explosives.
- There are only three locations in North America (NA) that manufacture MSHA-approved permissible explosives and only two in the U.S. One of these locations has the only plant in NA that can make permissible dynamite. Plant accidents, shut downs, and other incidents could combine to shut down all or most of the domestic supply of approved permissibles. This would create dependency on foreign-made explosives without the ability to test them and ensure they meet US standards.
- Without the ability to test new permissible explosives, future improvements in explosives technology will be kept out of coal mines.

Recommendation: Congress should explicitly fund MSHA to reestablish a location where the permissible tests can be conducted and to provide continuing annual funding to support the effort.