

been prevented. Although firefighting activities began almost immediately after the first explosion, section evacuation procedures did not begin immediately and conditions worsened before the fatal explosions occurred. Had the decision to evacuate been made sooner, after it became evident that the fire was not controllable, and had the individuals present at the affected mine section been more aware of the urgent need for evacuation under emergency conditions, the fatalities might not have occurred. Some miners present at the mine were equipped with personal emergency devices (PEDs) which are capable of communicating text messages to underground personnel. Many miners had evacuated the mine and these devices alerted the remaining miners to evacuate the mine. The message to evacuate, however, was not transmitted until after the third of four explosions occurred. Had a responsible person been in attendance at the mine to take charge during the mine emergency, that person could have made a decision to initiate and conduct a mine evacuation sooner.

Mine emergencies that trigger the need to evacuate include inundations. There have been two water inundations and one gas inundation where miners have died. In 1968, Saxsewell No. 8 Mine in Hominy Falls, West Virginia, experienced an inundation of water when a continuous miner cut through into the workings of an abandoned mine. There were 26 men in the mine at the time of the occurrence. One man escaped from the mine unassisted, but the others were trapped in the mine. Fifteen miners were rescued five days later and six others were rescued 10 days after the inundation occurred. Four men were fatally injured. In 1977, in Tower City, Pennsylvania, at Porter Tunnel, an inundation of water entered the mine through a breach in the mine floor at the low side rib in the gangway. The water had accumulated in the unmapped abandoned workings and broke through the floor of the advancing gangway. The inundation caused the death of nine miners, injuries to three and entrapment of one who was eventually rescued. Six miners in the affected section escaped safely through the return air emergency escapeway leading to the surface. The miners in the other sections, 65 in all, traveled both the intake and return air escapeways leading to the surface.

In 1978 at Moss 3 Mine in Duty, Virginia, water inundated some abandoned sections in the mine soon after work began on a 265 foot single-entry drainway to connect an abandoned area of the mine to the surface. On April 4, 1978, four men

were working to advance the drainway into an abandoned mined-out area. Although the air in the abandoned area was not tested after a test borehole penetrated the area, the continuous miner was used to penetrate into the abandoned area. Immediately after breaching into the abandoned area, the drainway was inundated with blackdamp (oxygen-deficient air). Two of the four miners who were advancing the drainway successfully retreated to the surface. The other two miners perished. The blackdamp also killed three other miners who went underground without protective equipment to search for the missing men. Similarly unequipped during rescue attempts, two other men were also overcome with blackdamp, but were successfully assisted to the surface.

A commenter asked that MSHA consider certain mine accidents that occurred during the last two years to determine whether there were deficiencies in the mine operator's emergency response. The commenter specifically asked MSHA to consider: the July 24, 2002 water inundation at Quecreek No. 1 Mine in Pennsylvania; the April 17, 2002 fire at the Blue Diamond mine in Kentucky; the September 16, 2002 fire at the Fairfax mine in West Virginia; the January 6, 2003 fire at the Mine 84 in Pennsylvania; the January 22, 2003 explosion at the McElroy mine shaft involving Central Cambria Drilling in West Virginia; and the February 13, 2003 fire at the Loveridge mine in West Virginia. Because there is no final MSHA accident report for Blue Diamond mine, McElroy mine, and Loveridge mine, MSHA has not drawn a conclusion as to the mine operator's emergency response in relation to this final rule. MSHA addresses the Quecreek accident in the section-by-section discussion of § 75.1501(d).

The Fairfax mine fire occurred on September 16, 2002, before promulgation of the ETS. In its August 20, 2003 accident investigation report of the Fairfax mine fire, MSHA concluded in part that, "Discovery of the fire, fire-fighting, and evacuation procedures were delayed because the Fire Detection System was disabled by an electrical short circuit problem, which prevented the system from sounding an audible fire alarm. The fire continued to intensify before it was discovered because the short circuit problem in the Fire Detection System was not rapidly evaluated and because the automatic Fire Suppression System was not properly installed."

MSHA issued a final accident investigation report for the fire at Mine 84 on April 9, 2003. The accident occurred after the ETS was promulgated and the requirements of the ETS were in effect. The following gives a brief description of the Mine 84 accident. On January 6, 2003, a fire occurred in the longwall section conveyor belt entry. At about 8:27 a.m., the carbon monoxide monitoring system gave a warning indicating elevated concentrations of carbon monoxide along the beltline. The warning was investigated and dense smoke was encountered in the belt entry. Underground personnel were eventually evacuated from the mine except for those needed to conduct fire-fighting activities. Eventually mine rescue teams took over fire-fighting activities and then worked continuously until they were able to contain and extinguish the fire by January 27, 2003. MSHA issued a 104(d)(1) order for a violation of 30 CFR 75.1502(a). MSHA determined that the operator's approved program of instruction for firefighting equipment and evacuation procedures was not followed due to management's failure to immediately withdraw the 1-B longwall crew to a safe location outby the sensor activating the alarm.

Several commenters objected to the ETS. They questioned the foundation of the emergency temporary standard, objected that the comment period spanned a traditional holiday, perhaps discouraging commenters from commenting, and recommended that the standard be revoked.

The rationale for issuing the ETS was thoroughly discussed in the December 12, 2002 **Federal Register** notice (67 FR 76658). The Agency continues to believe that the ETS was urgently needed and properly promulgated in accordance with the Mine Act. The fact that mine disasters are somewhat infrequent does not preclude the need to address the serious underlying issue of how to respond to the dangers to which miners are exposed during mine fire, explosion, and gas or water inundation emergencies. It should be noted that the post-hearing comment period was open until February 28, 2003, which MSHA believes was adequate time to submit comments, even considering that the comment period included a holiday. Although the ETS was in effect, it operated by law as a proposed rule, and allowed for comments by all interested parties. No party asked for a stay of the ETS, and the ETS has remained in effect since its publication on December 12, 2002.

One commenter asked that MSHA determine the goal of the rule. The commenter asked whether it was to