Dragon, Karen E. (CDC/NIOSH/EID)

From: Tim Baker [tbaker@umwa.org]
Sent: Tuesday, April 17, 2007 12:34 PM
To: NIOSH Docket Office (CDC)
Subject: 100 - Mine Seals Comments
Attachments: Draft Criteria Comments.wpd

Please find the comments of the United Mine Workers of America regarding the Draft Criteria for New Seals.

Tim Baker

United Mine Workers of America
Department of Occupational Health and Safety
comments on the
National Institute for Occupational Safety and Health
DRAFT
Explosion Pressure Design Criteria for New Seals in U.S. Coal Mines

The United Mine Workers of America, International Union (UMWA or Union) is pleased to offer the following comments regarding NIOSH's Draft, *Explosion Pressure Design Criteria for New Seals in U. S. Coal Mines* (draft or draft criteria). The Union would like to express its general support of the draft and commend the professional at NIOSH for their dedicated efforts on behalf of miners and all working people.

However, the record would not be complete if we did not point out some unfortunate truths regarding this matter. The history of the mining industry is one of resistance to change and regulation when the health and safety of miners are at stake. Developments over the years since the writing of the 1969 Coal Act and the 1977 Mine Act have reinforced this understanding. While mine operators have toned down their rhetoric and open hostility to regulatory agencies they have moved aggressively to circumvent the pillars of these two important pieces of mining legislation from within.

The necessity to create a draft criteria for seals by NIOSH is a glaring example of the fruits of the mine operators efforts. Over the objections of the UMWA and many miners nationwide the federal Mine Safety and Health Administration (MSHA) at the insistence of mine operators virtually eliminated the language of the Acts requiring "explosion-proof or bulkheads" to isolate abandoned or worked out areas of the mine from active workings, to a 20 PSI standard. To further exacerbate the problem they permitted the use of lesser (substandard) materials to be used to construct these seals.

The mine disasters at Sago and Alma mines in 2006 can be traced immediately to the efforts of industry and the acquiescence of MSHA regarding the construction of seals. Other accidents that have maimed or killed miners over the years since the Acts were passed can likewise be shown as the result of the weakening of mining laws. The desire of mine operators, the weakness of the policymakers and leadership at MSHA and years of neglect by some in Congress have permitted in the mining industry to operate unrestricted. Many of the conditions that currently exist in some segments of the industry are reminiscent of those before the 1969 Coal Act was passed.

This can no longer be tolerated. The UMWA and the frames of the 1969 Coal Act understood that mine operators could not be trusted police themselves. Regulatory agencies must exert sufficient control over mine operators if all miners are to return home safely at the end of each shift.

With a few minor exceptions, that the Union will address in these comments, NIOSH has moved aggressively to address the inadequacy of the current seal requirements. They are to be commended for these efforts and MSHA should move just as aggressively to propose a rule that reflects the recommendations of the draft criteria.

The Union understands NIOSH's rationale, based on their research, for offering three design criteria for seal designs based on current mining practices.

1) Unmonitored seals with the possibility of detonation — 640 psi requirement
2) Unmonitored seals without the possibility of detonation — 120 psi requirement
3) Monitored seals with specific provisions — 50 psi requirement

However, the Union does not support the practice, given the circumstances that can exist, that areas of the mine to be sealed in the future should be permitted to be left unmonitored. Current technology exists that permit the mine operator to monitor this area at in all instances where seals are to be constructed. The existence of a 640 psi may be significantly more protective than the current requirement, but it is not as protective as monitoring such an area would be. The Union supports the 640 psi requirement, but seeks to have the area sampled at a sufficient number of locations to ensure the safety of miners to the greatest degree possible.

The Union is also concerned with the assertion of NIOSH that there are instances where sealed areas may exist that do not present the "possibility of detonation." The Union is unaware of any area of a mine to be sealed that would not surpass the "run up" distance described in the draft as necessary to permit detonation. In fact, given the dimensions of most entries in the mine it is likely there would be no sealed area that did not include a sufficient area to allow an explosion to move from ignition point to detonation. This potential would be further enhanced by the conditions that exist over time in sealed areas, such as roof falls or convergence.

The environment within the sealed area, like the active workings of a mine, are ever changing. It does not seem prudent to assume an area will not be prone to detonation if the conditions, once the area becomes sealed, are not monitored. This would require information that cannot obtained under the proposed circumstances. Sequentially sealing areas without monitoring the area could add significantly to this problem. Should a seals within a larger sealed area become compromised the conditions necessary for detonation could be permitted to exist. Without monitoring stations this would not be known unless a catastrophe occurred.

The Union would therefore recommend that mine operators not be permitted to construct future seals without ability to actively monitor the area they are designed to isolate from active workings. Such monitoring must be facilitated through the seals themselves and at a sufficient number of boreholes from the surface to offer a comprehensive understanding of the conditions that exist in the sealed area. Based on current mining knowledge the construction of seals that can withstand in excess of 120 psi may be plausible. Other applications may require seals to be constructed to control forces at 640 psi.

NIOSH also suggests that mine operators should consider utilizing inertization systems to control explosive mixture that may accumulate in sealed areas. The Union agrees with this recommendation, but would strengthen it by requiring mine operators to immediately inert sealed areas that approach explosive methane air mixtures. This type of system would need to be part of the mines overall sealing plan, as approved by MSHA.

The type of materials used for seal construction must also be given proper consideration. The Union believes that in order to meet the mandates of Congress, which must be the threshold established for new seal construction, only solid and substantial materials should be approved. Poured concrete, reinforced concrete or solid cement blocks laid wet in an overlapping pattern, all constructed at thickness applicable to the specific application are the only realistic options. Construction would also require hitching these structures into the ribs and bottom. These materials are readily available to the mining industry and would not require extensive or specialized training for installation.

Under no circumstances should alternative construction materials be permitted. The use of concrete foam, wood or other similar materials should be banned for such use in underground mining applications.

Seal construction should be routinely monitored by a certified engineer. Such monitoring would include routine inspections to verify compliance with MSHA approvals. The results of inspection findings must be recorded in a book on the surface for such information and any defects or deviations from plans must be immediately reported and corrected. Finally, the engineer must certify that construction was completed according to required specification and MSHA approval.

The Union also recommends the air used to ventilate seals be immediately directed away from active working sections into a return air course. The operator should also be required to constantly monitor this air for methane and other hazardous gases, using an atmospheric monitoring system, at a location immediately outby the last ventilated seal in each bank of seals.

Should additional information or clarification of these comments be necessary, please contact the United Mine Workers of America at (703) 208-7200