



INTERNATIONAL UNION OF OPERATING ENGINEERS
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Dr. R. Karl Zipf, Jr., Ph.D, P.E.
Senior Mining Engineer
NIOSH
Pittsburgh Research Laboratory
Disaster Prevention Branch
P. O. Box 18070
Pittsburgh, PA 15236

Dear Dr. Zipf

The International Union of Operating Engineers (IUOE), Local 953 of New Mexico represents underground coal miners at the BHP San Juan coal mine in Waterflow, New Mexico. We have reviewed the draft report of "Explosion Pressure Design Criteria for New Seals in U.S. Coal Mines". Please take into consideration the following points when finalizing the report for consideration by lawmakers. Your attention and concern for this issue is greatly appreciated and we look forward to a positive outcome for the safety of our underground coal miners.

If you should have any questions, please contact myself at 1-505-598-6634 or Mr. Chris Barbee at the contacts listed in the accompanying text.

Sincerely,

Barry Dixon
President, Business Agent
IUOE Local 953
151 Pennsylvania S.E.
P.O. Box 8533
Albuquerque, NM 87198-8533



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March 26, 2007
Dr. R. Karl Zipf
NIOSH
Pittsburgh Research Laboratory
Pittsburgh, PA

Review of Draft Report on the Explosion Pressure Design Criteria for New Seals in U.S. Coal Mines

Dear Dr. Zipf,

I am responding to the above draft report on behalf of the coal miners represented by the International Union of Operating Engineers (IUOE), Local 953 in New Mexico at the BHP San Juan Mine. As a Representative of Miners for our work group, I have been asked to issue comment on the draft report and offer other suggestions as to the implementation of legislation. Namely, the "Mine Improvement and New Emergency Response Act of 2006" or the "Miner Act".

First, the report is fine work. Many aspects of seal evaluation and construction that have not been previously examined are considered in this report. Aspects of prevention and monitoring are also noted which is greatly welcomed by our miners.

Rather than attempt to second guess or contest the results that are presented in the report, we would like to offer additional considerations that will help increase the safety of our mines as well as protect the operators and miners from undue burden.

These considerations include the following:

1. An increase in the protective strength of mine seals is welcomed. However, an examination of the dangers associated with seal construction seems to be missing. Materials handling is a constant danger and source of injury to the miners who actually construct seals on site. As "bigger" can equate to "better", bigger means an increased potential for injury both repetitive and catastrophic. When the guidelines for seal construction are finalized, please include consideration for the welfare of the construction crews and some measure of protection from injury from the additional materials handling that is sure to accompany new seal construction.

2. All of the mine disasters and explosions listed in the report have one thing in common that was not examined in the report. An explosive mixture was present and was not detected. Apparently, there were no action plans present to withdraw miners from the mine if indication of an explosive mixture were detected. While the "bigger is better" mindset would definitely have a positive effect on the safety of miners, prevention of an explosion in the first place is the real key to success. The current sampling regimen allowed under law could easily allow an explosive mixture to arise in the time it takes to get results back from a laboratory. In the report, consideration for "real time" monitoring is given. This is a positive step in prevention of sealed area gas explosions. Relief from the highest standards of seal construction is even given when monitoring is incorporated in seal management to encourage this methodology and is also welcomed as prevention is often more important than cure. Promotion of monitoring and development of appropriate action response plans needs to be given more emphasis in the final version of the report. Clarification of where and how often monitoring is to be done would also help operators and inspectors as it is unclear if each seal or each sealed area requires monitoring.
3. The report examines placement of seals based on a distance from an area of free expansion for explosion pressures away from a seal. As operators will tend to select methods that will reduce cost and time of construction, placement of gob seals less than 3 meters from a caved area may prove problematic. By reducing the distance to the gob and preventing the explosion volume from being large enough to encourage the additional energies of an explosion from occurring, operators could use a less costly and time consuming seal. As breakage of the mine roof close to a caved or gob area isn't easily predicted, construction of a less substantial seal closer to a more geologically active area could cause the seal to be structurally compromised due to loading. Rather than increase the size requirements for a seal so close to a questionable area, it would be advised to move the seal further back from the cave line. If this distance is increased but not to a point that encourages increased energies from reaching the seal face, then the strength of the seal could be preserved. Observations indicate that a distance of at least 30 feet from the gob side rib line would increase a seal's survivability and help preserve its strength.
4. Consideration of the positive effects of supplemental roof support for the protection of a seal should also be given in the design and evaluation steps for new seal construction. For instance, if roof to floor supports such as can cribs help protect a seal from the effects of convergence, wouldn't they also serve as protection for the seal from explosive forces by being a shield to some extent for the seal. If evaluation could show this to be so, this would encourage operators to install this type (or similar) of roof to floor support and gain relief from the higher strength standard that will prove to be more costly and time consuming.

5. Installation of anchoring bars in the body of a seal to hitch it more effectively to roof, rib, and floor is also examined in the report. This is proposed for the purpose of gaining an additional 0.5 safety factor for the overall performance of a seal in terms of blast resistance. As a typical seal installation at our coal mine would require over 200 anchor points, this would also increase the potential for injury during the construction of a seal. As the proposed guidelines already incorporate a safety factor of 2.0, is this additional work necessary? As the mass of a seal and the required notch hitching noted in the report are great resistors of movement due to blast impulse, these two factors should be examined as to their effectiveness and incorporated into seal design as opposed to the additional anchorage requirements.

6. There are eight construction materials shown in Figures 25, 26, and 27. Allowance for new or different materials for construction should be noted in the seal design portion of the report. Operators and miners would greatly welcome the possibility of reducing materials handling and increasing mechanized installation of seals. This is probably inherent in the design phase but could be more clearly stated.

Again, this effort to help increase the safety of our miners all across the United States is very positive. With our cooperative efforts in defining the new seal design rules, the results should be acceptable to miners, operators, and inspectors alike and preserve our ability to maintain safe coal production from America's mines.

Thank you,



Chris Barbee
Miners Representative
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Zipf, Richard K. (Karl) (CDC/NIOSH/PRL)

From: Dragon, Karen E. (CDC/NIOSH/EID)
Sent: Wednesday, April 18, 2007 9:13 AM
To: Zipf, Richard K. (Karl) (CDC/NIOSH/PRL)
Cc: Dragon, Karen E. (CDC/NIOSH/EID)
Subject: Emailing: 100-32607-Dixon_sub.pdf

Attachments: 100-32607-Dixon_sub.pdf



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ub.pdf (1 MB)...

Karl: Attached is copy of letter we rec'd on Docket 100. Call if you have any questions.

Thanks,

Karen E. Dragon
Docket Office Assistant
513/533-8303