



October 3, 2013

Re: MSHA-2013-0032-0001
Refuge Alternatives for Underground Mining – Limited Reopening of the Record

Responses to MSHA's request for comments regarding frequency of training for miners to deploy and use refuge alternatives.

1. I believe annual expectations training for refuge chambers in its current form is more than adequate given the potential or likelihood of its use. MSHA specifically required Crown III Mine (and presumably all other mines) to include in its approved ERP that miners would be instructed to seek shelter in refuge chambers only as a last resort – if and only if miners are unable to escape from the mine. This means the primary focus of emergency escapeway and evacuation drills should be on the donning of self-rescue devices and the ability to escape from the mine during an emergency or disaster. NIOSH study after study reveals that the single-most important element of survival from a mining disaster was the ability to properly don the self-rescue device and exit the mine.

Once each quarter miners are required to attend hands-on SCSR donning procedures which include a review of how the SCSR generates oxygen, activation and donning procedures. This training also includes a review of escapeways, lifelines, storage locations for all SCSRs and a non hands-on review of refuge alternative deployment. The quarterly classroom training can take from 25 to 40 minutes depending on the size of the class. This averages approximately 100 man-hours of training each quarter based on 200 employees x 30 minutes. For mines that hot-seat (produce coal between shifts), the producing crews must continue to mine coal while miners are being trained. Therefore there is a dual cost for this training: the wages for miners being in training (non-revenue generating) and the overtime expenses for employees producing while miners are in training. A third cost involved with this training is the non-revenue generating cost for employees traveling the escapeways as part of the quarterly evacuation drill. This statement is not to de-emphasize the importance of quarterly SCSR training: I believe most miners – both management and wage, will agree that this is likely the highest quality training miners receive during their careers. And well it should be as the skills demonstrated and learned during the quarterly drills will most likely be the skills that enable them to escape and survive mine emergencies.

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As stated in my opening statement, I believe annual expectations training for deployment of refuge chambers is more than adequate in its current form considering that most miners will work their entire careers and never actually deploy one underground. Most miners will tell you that they are more likely to don an SCSR and/or use a lifeline during the careers because they are trained to evacuate a mine during an emergency.

Once each year miners are required to be trained in the deployment and use of refuge alternatives. Crown III Mine includes this training as part of Annual Refresher and miners are required to activate the chamber, enter systematically through the airlock and enter the primary refuge chamber. Once inside, the instructor reviews how to set up scrubbing curtains, monitor oxygen flow and mine gases, deal with hygiene issues and behave while awaiting rescue. Crown III divides its employees into small groups that rotate into this training session throughout the day. This allows each group of approximately 20 employees to receive 35 minutes of focused training away from the mine-site and its distractions. While many non-miners may not believe this is adequate, when coupled with quarterly review of activation procedures, it certainly is adequate for a task that is not likely to ever occur.

2. I do not believe there is a training frequency that can be identified that would prepare miners for the heat, stress and anxiety of being in a confined space for up to 96 hours knowing the atmosphere outside the chamber is deadly. Even actual deployment training cannot be of any defined length to determine the threshold a person can withstand. Certainly a 30 to 45 minute stay in a refuge alternative is not going to generate the amount of heat, carbon dioxide and anxiety needed to simulate a mining disaster that would require the use of a refuge alternative.
3. Once each quarter miners are reminded that seeking shelter in a refuge alternative is the very last resort. We in the mining industry have been doing this now for 4 years - how many more times must they be told? I think most miners are smart enough to know that if given a choice of escaping from a mine disaster or taking shelter in a refuge chamber with limited food, air and water, their best option is to get out of the mine immediately.
4. The disadvantage to conducting hands-on training quarterly is that it will take away the opportunities mines have to place more emphasis on escaping from the mine as training resources and time are extremely limited in today's competitive industry. Conducting deployment training in a meaningful, effective manner in an underground environment would likely take an hour per miner per class. Presuming the average miner earns \$25 per hour, for Crown III Mine it would cost a minimum of \$5,000 per quarter in wages. Mines would be required to have a training refuge chamber, and this one-time cost to purchase a training chamber would likely cost as much as \$25,000 to \$30,000 each. These conservative estimates add up to about \$50,000 to \$60,000 per year.

5. Crown III Mine's begins each quarterly training session with a review (video) of how to deploy the A.L.Lee chamber. This includes a review of setting up the breathable air curtains and setting the oxygen flow for the number of occupants. It also includes the emphasis that refuge alternatives are to be used only when miners cannot evacuate the mine. This leads right into the importance of proper donning and use of SCSRs and maintenance/use of lifelines and escapeways. I believe this is where the most emphasis should be.
6. Crown III Mine spends approximately 5 to 10 minutes each quarter to review the deployment procedures video and field any questions regarding deployment, use and logistics. This training results in a cost of about \$800 each quarter for the quarterly refuge chamber review (no SCSR training). The annual deployment and hands-on training takes 35 minutes per employee to deploy, enter and simulate curtain activation and oxygen settings. This is about \$15 per employee x 200 employees equals \$3,000 per year for the annual deployment and hands-on training. AND, this does not include deflating the chamber bag and re-rolling the bag into the chamber shell for subsequent use – which takes approximately 10 minutes after each deployment. Crown III Mine does not have an A.L.Lee Training Chamber to use for the annual deployment and hands-on training, so we contract with A.L.Lee to transport the chamber and instructor to our training facility. This annual fee is approximately \$2,000.
7. Crown III miners experience little difficulty with quarterly review training of chamber deployment; however, several Crown III Miners experience much difficulty during actual hands-on deployment due to knee, back, neck pains and/or various physical issues. Others who are claustrophobic experience psychological stress each year during this training.

In summary, Tri County Coal is opposed to quarterly deployment and motor task training requirements. We see this additional training as totally unnecessary given that MSHA instructs miners to only use refuge alternatives as a last resort. We believe the assets and efforts that would be required to satisfy this "proposed" training are better utilized by continuing to prepare miners for prompt, orderly and efficient escape during a mine disaster by continuing to provide comprehensive SCSR, lifeline and escapeway training. It is our belief that the current refuge chamber alternative training requirements are adequate.



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