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General Manager - Safety

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Mine Safety & Health Administration
Office of Standards, Variance & Regulations
1100 Wilson Boulevard
Room 2350
Arlington, VA 22209-3939

RE: RIN 1219-AB44 (Underground Mine Rescue Equipment and Technology)

Dear Director:

CONSOL Energy Inc. has completed a review of the Mine Safety & Health Administration Request for Information regarding Underground Mine Rescue Equipment and Technology and is pleased to provide the following comments for the consideration by the Agency.

A. Rapid Deploy Systems

The events at QueCreek, Sago and Aracoma Alma have focused attention on the need for emergency communications capability in crisis. Changes in the prevalent mining systems and recent advances in communication technology suggest it is time for the agency to reevaluate options for rapid deploy systems as well as the related, longstanding communications protocol when forced to barricade. The timing for this effort is particularly appropriate given the sizeable influx of new, inexperienced miners entering the industry.

B. Breathing Apparatus

CONSOL Energy currently supports 12 mine rescue teams comprised of CONSOL Energy employees. CONSOL Energy's mine rescue teams have utilized a variety of mine rescue apparatus and until recently relied upon the Draeger BG-174. Our teams had good experience with the BG-174 units under harsh conditions and were

disappointed when the manufacturer announced it was discontinuing support of the apparatus.

Over the last few years, CONSOL Energy has replaced the BG-174 units with the newly introduced Draeger BG-4 apparatus. Our personnel experienced a learning curve with the BG-4 units, but the manufacturer, its representatives and distributors have been responsive to our needs during this transition and, as importantly, on those occasions when both the BG-174 and BG-4 apparatuses have been utilized in real mine rescue situations, where service assistance, replacement parts and supplies are critical.

Therefore, if the agency elects to evaluate competing units used by foreign teams, proven mine-worthiness of the apparatus, ready availability of parts and immediately available service and technical support must be carefully investigated. Other important considerations with all apparatus designs is the durability and ergonomics of the design, the weight of the unit and the ease of on-site service and repair by a benchman.

C. Self-Contained Self-Rescuers (SCSR)

Nearly a decade ago, CONSOL Energy elected to utilize oxygen-containing SCSRs in a storage plan to comply with the existing SCSR regulatory requirements. Pursuant to the current storage plan, underground personnel wear a W-65 chemical unit, which protects against carbon monoxide, and ample numbers of oxygen-containing SCSRs are stored in readily accessible caches in the working areas, personnel carriers, along beltlines and in numerous other designated locations. Although more costly than a single belt-wearable unit, a storage plan makes multiple oxygen containing units available to CONSOL employees if needed during an underground emergency evacuation. A storage plan also frees the employee from wearing or carrying a 1-hour unit, which weighs several pounds.¹ Our experience indicates that the established inspection frequency and the service life for SCSR units are adequate particularly when protected in storage caches.

D. Rescue Chambers

The underground bituminous coal industry has limited experience with rescue chambers. Unlike metal/non-metal mines, mining occurs in a diverse range of heights and conditions. Moreover, bituminous coal and methane are fuel sources. Recognizing, therefore, the well documented potential for secondary explosions in potentially catastrophic fire/explosion situations, CONSOL Energy considers it sound

¹ The one exception to the use of a storage plan is CONSOL Energy's acquisition, which continued its existing use of a person-wearable SCSR, with a chemically generated oxygen supply. These units are serviceable, but can be cumbersome to wear and, here again, weigh several pounds. As a possible alternative, CONSOL Energy is evaluating the use of an oxygen-containing belt wearable unit to replace the W-65 unit. Under our current storage plans these units would provide ample oxygen to reach a cache of 1-hour SCSRs. However, the only oxygen-containing belt wearable unit is currently rated at 10 minutes making its potential role unclear in light of the recent MSHA emergency rule.

mining practice to train their employees to evacuate in an emergency and to barricade only as a last resort. This training includes mock evacuation in smoke, SCSR use and storage locations and schooling on evacuation procedures.

E. Communications

The specific questions posed by the agency regarding general mine communications and mine rescue communications are timely and are the subject of an active NIOSH-lead Communications Partnership involving operators, labor, state agencies and MSHA Technical Support. The coal mining industry has been presented recently with a plethora of communications technologies purported to provide improved in-mine communications and tracking capabilities. Many proposals are merely conceptual and most others are unproven in this nation's prevalent and diverse underground coal mining conditions. Through the Communications Partnership, the wheat can be separated from the chaff, so to speak, with the evaluation of the more promising systems in a systematic and scientific manner. CONSOL Energy supports this approach and has provided technical assistance and the McElroy Mine as a test site for this process.

Our operations employ various communication means, including mine phones, leaky feeder systems and PED installations. As other comments have accurately reported, the weakness of these systems is their dependence on a relatively fragile, underground antennae or transmission infrastructure. In addition, radio-based systems have been handicapped by lack of approved permissible hand-held radios.

In response to high degree of attention paid recently to the PED system, we will comment briefly on CONSOL Energy's experience with the PED. Two CONSOL Energy mines, Robinson Run and Blacksville, are currently using the one-way, surface-to-underground, text-messaging PED system on a limited basis. Each installation utilizes underground loop antennae, typically installed in the track and belt entry with a skipped entry in between. Frustrating interference with existing communications and monitoring systems were experienced early-on in each of these installations, which were ultimately resolved.² Each mine has coverage that extends 5,000-7,000 feet from the long leg of the loop and 3,000 feet from the short leg. Coverage is limited to active areas and "shadow zones," as noted in other comments, are present within the coverage areas.

When initially installed at the Robinson Run Mine in 2005, the manufacturer's representative advised against a surface loop due to average cover of 800-1,000 feet. As a result, the mine installed a 2,000 foot underground loop antennae. 10 individual belt-peds are used for routine day-to-day communications for a limited number of maintenance and roving supervisors.

² A PED system installed at the Buchanan Mine was abandoned in 2002-02 as a result of unresolved interference problems with other mine communication and monitoring systems.

The Blacksville system has been in operation for several years and currently utilizes a 1,500 antennae loop and is in the process of installing a second loop. 70 individual belt-peds are employed for routine day-to-day communications for a limited number of maintenance and management personnel.

Finally, in addition to the foregoing comments, CONSOL Energy incorporates herein by reference the statements made on behalf of the NMA before the House Committee on Education and the Workforce Subcommittee on Workforce Protections held on March 1, 2006, and Senate Committee on Health, Education, Labor and Pensions oversight hearing on mine safety held on March 2, 2006.

F. Robotics

While there are still technological hurdles to clear, the government should continue to support the ongoing efforts of skilled mine rescue personnel, such as Virgil Brown, in the area of robotics. Although these efforts in robotic assistance for mine rescue are in their relative infancy, the potential benefits are clear; for example, evaluation of mine atmosphere and infrastructure when conditions dictate against team exploration.

G. Thermal Imagers and Infra-Red Imagers

CONSOL Energy has benefited from thermal imagers and infra-red imagers for a variety of mining applications, including for fire prevention and detection. The larger screen hand-held imager is a useful evaluation tool when fighting a mine fire with restricted visibility. These devices are relatively expensive, however, at a cost of approximately \$45,000 and, in the past, have been loaned to our mine rescue teams by NIOSH (Bruceton) for training, fire fighting and reentry efforts.

H. Developing New Mine Rescue Equipment

The underground bituminous coal mining industry provides a limited market for mine rescue equipment, which does not encourage commercial research and development of new technology. Therefore, NIOSH (Bruceton), MSHA and the various state mining agencies are to be commended for their ongoing efforts to improve mine rescue preparedness through training, improvement of technology and the purchase of specialty mine rescue equipment. Our cooperative efforts with NIOSH and other interested parties to evaluate new mine rescue technology, equipment and training methods have resulted in many improvements over the years; continuation of these efforts need to be encouraged with additional government funding. CONSOL Energy mine rescue teams are particularly interested in the potential of recent advances in wireless voice communications technology to improve upon the commonly used sound power systems and permissible radios.

I. Mine Rescue Teams

The availability of adequate numbers of capable mine rescue personnel within a relatively short time frame is critical when dealing with a significant mine emergency. CONSOL Energy's 12 mine rescue teams are associated with various active mine sites and are situated in the 5 states where we operate underground mines. This configuration permits CONSOL Energy to provide unparalleled emergency response to our mining sites. CONSOL Energy's employee-comprised teams mean our team members are familiar with our mining methods.³

CONSOL Energy's emergency team notification is coordinated through a communication center manned 24-7 and a corporate mine rescue support team. Recognizing that minutes count in a true emergency, each team has a truck and trailer with its essential equipment (apparatuses, cap lights, supplies and clothing) standing-by. This arrangement enables team members to travel directly to an emergency. Separate caches of supplemental supplies are also located at strategic locations.

Each team has a bench man because experience has shown in an emergency the apparatus wearer should be permitted to concentrate on emergency response and apparatus maintenance left to the care of the specialty skilled bench man. Mine rescue team response capability hinges on preparedness borne from training, experience, as well as having appropriate equipment and supplies. Up-to-date mine maps, ventilation data and, in mine fire situations, adequate water sources are also key, interdependent elements of a safe and effective mine rescue effort.

In CONSOL Energy's experience, adequate training significantly exceeds the regulatory requirements. We consider hands-on training in real or simulated conditions as well as participation in mine rescue contests to be an important element in the development of team coordination. Internally, we also provide comprehensive mine emergency response training for our management team addressing subjects such as initial emergency response, mine rescue protocol, command center operation, ventilation and mine gas analysis. Based on recent experience, we would propose similar training for field-level agency personnel.

J. Government Rule

The following recommendations are additional considerations for agency action:

- Maintain industry and agency focus on prevention, detection and response to mine emergencies through training, technology and good mining practices.

³The existing regulations require each mine have available coverage from two mine rescue teams. To assure rescue efforts proceed expeditiously we recommend available coverage be increased to three. Contract teams should be required to have a periodic presence at sites they cover and a familiarity with those mine sites, e.g., geographic location, mine layout and ventilation.

- Provide tax credits or similar relief for operators who support teams comprised of company employees. The average cost of an appropriately equipped and trained mine rescue team is a minimum of \$186,000 per year.
- Adopt “Good Samaritan” legislation for mine rescue personnel.
- Provide government-funded life insurance for mine rescue personnel.

CONCLUSION

As the public hearing comments of our mine rescue team members attest, CONSOL Energy has a proud history as an industry leader in safety and strongly supports the agency’s efforts to improve mine emergency preparedness, response and communications. Like our employees and their families, CONSOL Energy looks to government and agency leaders to “do the right thing” when safety is the issue, rather than what is merely politically expedient.

Respectfully submitted,

Elizabeth S. Chamberlin