

MINE EMERGENCY COMMUNICATIONS PARTNERSHIP

Summary of kick-off meeting 03-03-06

The meeting was held at NIOSH-PRL, Bldg 140, and began at 9AM; an attendance list will be emailed to the attendees.

Dr. Jeffery Kohler, NIOSH, gave opening remarks, and discussed the advantages of a partnership and the goals of this one. He said that although the initial focus of the Partnership would be on coal mine applications, much of the information could be transferable to metal/nonmetal mines. Mr. Jeffrey Welsh was named as the NIOSH coordinator for the coal mine applications.

Kohler pointed out that the labor partner, the UMWA, was unable to attend because of a scheduling conflict. He apologized for this, and stated that this meeting would not be considered an official partnership meeting since the UMWA was not represented. Accordingly, no action would be taken on this meeting's goals 2, 3, and 4.

The benefit of a "charter" for this partnership was raised by some attendees, and after a brief discussion, Dave Beerbower offered to draft a charter and to circulate to the partners for their input.

The original goals of this meeting as identified in the email were:

- 1) to understand current practices and technologies
- 2) to define performance criteria
- 3) to define a test protocol
- 4) to identify potential test sites

A summary of the activities and action items follows.

Meeting Goal #1

Dr. Jurgen Brune, NIOSH, presented an overview of mine communications discussing the environment and dynamic conditions under which the systems are expected to operate. Mr. William Schiffbauer continued the NIOSH technical presentation by discussing signal paths, frequency, noise, leaky feeders, and wireless technologies, and then summarizing the Bureau of Mines (BOM) research with through-the-earth transmission. This sparked much discussion among attendees, and in particular there was significant interest in past Bureau of Mines research and its application today. A copy of the NIOSH presentation will be distributed to attendees.

Action Item #1.1: Review the old BOM reports and summarize the conditions under which the “Schiffbauer” BOM system works. [Schiffbauer, Yenchek] [due March 20]

Action Item #1.2: Summarize “state-of-the-art” emergency communications technologies that are being used throughout the international mining industry. [Gurtunca, Luzik, Ruff, Schiffbauer] [due March 31]

The next presentation was by Mr. Steve Luzik, MSHA. He summarized the approval process focusing on Part 23, 30 CFR. He noted that MSHA approvals consider both gas and dust while UL and FM only consider gassy atmospheres. Steve reported that MSHA currently has over 84 proposals for new communication systems to evaluate; he suggested that the Partnership could help to expedite the review and evaluation of these proposals.

Luzik stated that four companies have approvals for leaky feeder systems while no two-way hand-held devices are marketed. The PED cap lamp is marketed through Mine Site Technologies. The PED system is currently used at 15 to 20 mines, surface and underground. The Tracker PED is used in Australia. The PED is one way with no confirmation of receipt. It is retrofitted within cap lamps. He listed preferred criteria including two-way voice and text, availability, survivability, compliance with MSHA requirements. A performance evaluation should consider how well signals propagate, maximum node distance, overburden, coverage, interference, and accuracy of tracking, among others.

MSHA plans to evaluate six wireless emergency communication systems at Consol’s McElroy Mine starting March 20. They include the Rayant Breadcrumb wireless with beacons, the Time Domain ultrawide radar communication and tracking system, the Kutta Consulting through-the-earth system, the Vital Alert Canary 2 TTE with ferrite antenna, the Transtek Telemag 2-way system, and the Geosteering system. All systems will be evaluated under the same conditions applying a test protocol currently under review. A copy of the MSHA presentation will be distributed to the attendees.

Following the MSHA presentation, each of the other partners commented on technologies being tested or considered at various mine. In addition to this discussion, James Dean, state of WV, briefed the Partnership on his state’s mandate to implement rescue chambers, tracking and communication systems in WV within 90 days. Joe Scaffoni, PA, referred to similar legislation in the form of bill 1092.

Goals #2 and #3

The performance expectations for emergency communications systems were not discussed other than comments during the NIOSH and MSHA presentations. However, it was noted that the performance criteria or expectations should be reflected by the test protocol. The content and nature of a test protocol were not discussed, but it was noted by Mr. Luzik that MSHA has prepared a draft test protocol for its purposes. It was agreed that the MSHA protocol could serve as a draft for the Partnership's protocol, and Mr. Luzik offered that MSHA would be agreeable to using the Partnership's protocol for its testing, as long as the development did not delay MSHA's schedule. Dr. Kohler suggested that the MSHA protocol be emailed to all participants, and that a subgroup incorporate the review comments into a consensus protocol for review by the entire group. This was agreed to, and a subgroup was named:

Steve Luzik or designee, MSHA
Jeff Welsh or designee, NIOSH
John Burr Consol), (BCOA)
Wendell Christenson (Arch), NMA
To Be Named, UMWA
James Dean, WV
Alan Martin, PA

Action Item 3.1. Email the MSHA test protocol to the participants. [Luzik will send to Welsh for distribution to participants] [due March 13]

Action Item 3.2. Participants will review MSHA test protocol and email comments to Steve Luzik with a "cc" to Jeff Welsh. [All] [due March 21]

Action Item 3.3. Subgroup members will prepare a revised protocol, which reflects the submitted comments and suggestions, and distribute to the Partnership. [Luzik, Welsh] [due March 26]

A conference call may be scheduled after Item3.3 has been completed. The purpose of the call would be to discuss the test protocol and to achieve consensus on its use.

Action Item 3.4. Schedule a conference call shortly after Action Item 3.3. is complete, to discuss the test protocol and to review progress in the other areas. [Welsh] [due March 21]

Goal #4

There was no discussion to identify test sites for various technologies. During the meeting it was noted that many coal mining companies, including several who did not send representatives to this meeting, have volunteered their mines as test sites. It was

also noted that the initial tests, which were being planned prior to this meeting, will occur at a union mine.

A goal for the next meeting will be to match mine sites to technologies for testing.

Other

The desirability of, and need to harden, mine communication and atmospheric monitoring systems was raised. This may be somewhat outside of the scope of this partnership on emergency communications. However, an important and related issue is whether or not communications systems or monitoring systems should be allowed to remain energized after the fans have stopped. This topic will be placed on a future meeting agenda for discussion

The next face-to-face meeting will be scheduled based on need, probably in approximately 4 – 6 weeks.

The meeting adjourned at 2 PM.