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MINE SITE TECHNOLOGIES

8th January, 2008

TO: MSHA Standards & Guidance Group

RE: **Comments on "Guidance for Compliance with Post-Accident Two-Way Communications and Electronic Tracking Requirements of the Mine Improvement and New Emergency Response Act (MINER Act) Program Policy Letter"**

We wish to comment on the recently-released guidelines on Post-Accident Two-Way Communications and Electronic Tracking.

Firstly, we acknowledge the sound logic underpinning MSHA's recommendations to incorporate currently-available and proven technologies. In avoiding the creation of unrealistic expectations of what is technically achievable within the confines of an underground mine, practicality is retained to ensure mines can confidently use a range of technologies to meet the MINER Act requirements.

The importance of this clarification cannot be over-emphasized in light of the confusion created by claims made that some emerging and unproven technologies can be relied upon. These claims lead to unrealistic expectations of the availability of redundant paths to ensure communication is maintained even after the destructive force of a major incident underground. The fact that MSHA has acknowledged the difficulty of actually achieving many redundant paths, and requires only two, is a practical and realistic approach.

As MSHA is aware, Mine Site Technologies (MST) has focused on developing and deploying underground communications solutions for over two decades. More recently, and of particular relevance to the communication guidelines, MST has been working with the Australian Government research body, the Commonwealth Scientific & Industrial Research Organization (CSIRO), to further develop our one-way through-the-earth (TTE) PED System into a two-way TTE system.

We are pleased to announce that after three years of dedicated development we have proven the system's performance and are in the final productionizing phase. We plan to submit the system for MSHA intrinsic safety assessment prior to June 2009, targeting commercial availability in Fall 2009. During the development, successful trials have been undertaken at several mine sites in the United States, including Consol's Buchanan and 84 coal mines, Patriot Coal's Federal No. 2 coal mine and Dana Mining in Pennsylvania.

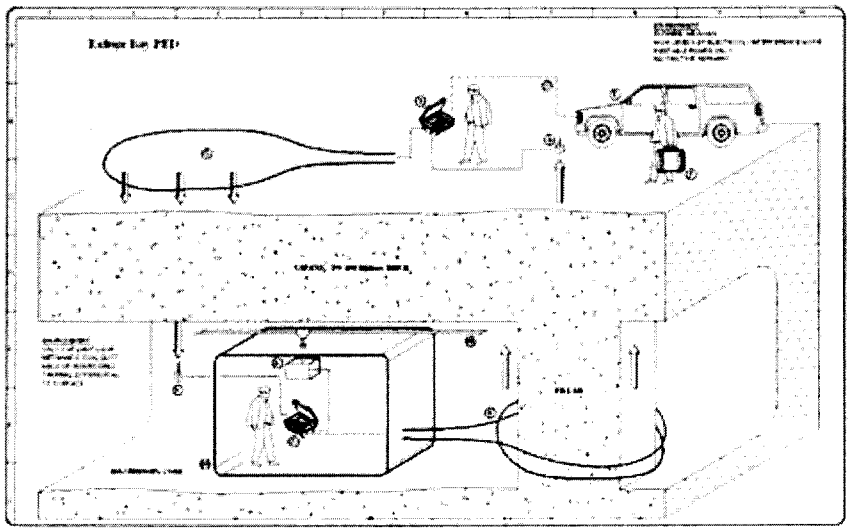
We are confident that this two-way through-the-earth capability will complement and greatly enhance the effectiveness of other communication systems being deployed at mine sites. MST has always advocated that no single system will meet all circumstances and the careful selection of two or three complementary technologies will deliver the most effective communication system for the day-to-day operation of a mine and be capable of contributing to the survival of miners should a major incident occur underground.

COMM - 7

The new two-way TTE system will allow custom text messages to be sent back and forth between the surface and underground, directly through the intervening rock strata. A typical scenario is to mount the underground transceivers in Refuge Bays and SCSR cache locations underground. On the surface, a similar transceiver, the size of a brief case, can be quickly deployed over the affected area and establish a two-way, through-the-earth link with the units underground.

Mining personnel will thus be able to quickly establish two-way communication without any cable link required to the surface or dependence upon other fixed nodes (such as a mesh network). *Experience has shown that this physical infrastructure is likely to be disrupted in any major incident. This is a critical differentiation of through-the-earth communications with other systems.*

Permanent surface installations can be set up where the terrain or land access allows, but it is envisaged that most surface units will only be deployed when required. Tests have shown this surface deployment will take approximately one hour. Schematically this is shown below.



Two-Way TTE System – Refuge Bay Example

In summary, MST acknowledges the practical approach taken by MSHA in their guidelines for meeting the MINER Act's two-way communicating and tracking requirements. We are also confident that the Two-Way TTE System will be a practical option as the alternative communication system required in Refuge Alternatives Final Ruling: 75.1600-3 Paragraph (a) (2).

Finally, through collaboration with US mine operators, we are confident that the Two-Way TTE System can be deployed to complement existing communication systems, and offer an effective overall communication package to increase the survivability of miners after an incident.

Yours faithfully
MINE SITE TECHNOLOGIES PTY LIMITED

LLOYD ZENARI
Chief Executive Officer