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SUBJECT: Global Positioning System (GPS) and Established Surface Stations or
Markers

Who needs this information?

Operators of underground coal or metal and nonmetal mines, independent contractors, miners' representatives, Mine Safety and Health Administration (MSHA) enforcement personnel, state mining agencies, and other interested parties need this information.

What is the purpose of this bulletin?

This Program Information Bulletin (PIB) informs the mining industry of potential alternatives when inclement weather renders satellite linked Global Position System (GPS) surveying equipment data collection slow or inoperable.

Information

GPS surveying has greatly enhanced the accuracy and timeliness of surveying. However, mine accidents that trap miners may occur during inclement weather. During times of inclement weather, the GPS satellite link may be lost or the data collection system may be slow or inoperable. In these cases, conventional surveying methods must be used. In preparation for these circumstances, MSHA recommends that mine operators:

- Establish strategic surface stations or markers over the underground active working sections as a routine part of the mining advancement. These surface markers must be readily accessible and easily located in the event they need to be used to determine a miner's exact location.
- Protect markers from the elements and vandalism. Markers should be easily recognizable by any survey crew operating during times of an emergency.
- Show markers on a map that also depicts surface features such as roads, streams, powerlines, etc.
- Operators may consider including the surface marker's placement in the mine's emergency preparedness planning.
- Environmental permitting and property acquisitions should include access for the setting of surface markers during active mining.

Implementing these suggestions will aid in the rapid determination of surface borehole drilling locations in the event of an emergency.

What is the background for this PIB?

Recent incidents have highlighted potential problems associated with sole reliance on GPS surveying technology.

What is MSHA's authority for this PIB?

The Federal Mine Safety and Health Act of 1977; 30 U.S.C. § 801 et seq., as amended by the MINER Act, Pub. L. No. 109-236, June 15, 2006.

Is this PIB on the Internet?

This PIB may be viewed on the World Wide Web by accessing the MSHA home page (www.msha.gov) and choosing "Compliance Info" and "Program Information Bulletins."

Who is the MSHA contact person for this PIB?

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Who will receive this PIB?

Underground Mine Operators

Mine Equipment Manufacturers

Miners' Representatives

Special Interest Groups