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PROGRAM INFORMATION BULLETIN NO. P06-16

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Coal Mine Safety and Health

SUBJECT: Use of Alternative Seal Methods and Materials Pursuant to 30 CFR 75.335(a)(2).

Who needs this information?
Underground bituminous coal mine operators, miners' representatives, independent contractors, Coal Mine Safety and Health (CMS&H) enforcement and Technical Support personnel, manufacturers of seal materials, and other interested parties need this information.

What is the purpose of this PIB?
This Program Information Bulletin (PIB) informs the mining industry about the status of section 75.335(a)(2), of Title 30 Code of Federal Regulations (30 CFR), and that MSHA is still examining issues associated with this regulation. This PIB supercedes PIB No. P06-14 issued June 21, 2006, "Use of Alternative Seal Methods and Materials Pursuant to 30 CFR 75.335(a)(2)." This PIB establishes criteria to guide the District Managers' approval of ventilation plans relative to alternative seals. The PIB addresses minimum strength criteria for new construction of alternative seal design, outlines assessment, and monitoring strategies for existing alternative seals including those with poor performance histories.

Information
MSHA has reviewed information on mine accidents with reported failures of alternative seals. The Agency is also conducting in-mine evaluations of existing alternative seals. Based on its review of the preliminary mine accident information, in-mine seal evaluations, meetings with subject matter experts and research and review of technical literature, MSHA has identified a number of issues pertinent to the construction and efficacy of current alternative seals, including whether existing

alternative seals can reliably withstand an overpressure resulting from an explosion in a sealed area. MSHA has closely reviewed the history of seals in the United States and

abroad. Presently most coal producing countries have coal mine seal requirements that are in excess of 20 psig.

Interim Action

Construction of new alternative seals must be designed and built to reliably withstand an overpressure of at least 50 psig. MSHA has determined that this pressure value provides an additional safety measure that will enhance the capability of alternative seals to mitigate the propagation of explosions from sealed areas of underground coal mines. To receive MSHA approval, ventilation plans must demonstrate by well-defined and certified engineering designs that the seal will reliably withstand an overpressure of at least 50 psig in the conditions in which it will be installed. Alternative seal designs may also be approved based on actual testing. To be considered for approval, designs and supporting data must be certified by a professional engineer (PE) who is knowledgeable in structural engineering. In addition, the proposed ventilation plan must provide that a senior mine management official (e.g., mine manager, superintendent, etc.) certify that the construction, installation, and materials used were in accordance with the approved ventilation plan.

Existing seals will be inspected by MSHA to verify that correct construction practices were followed. Additionally, the mine operator will conduct an assessment of the atmosphere behind existing alternative seals to determine the potential for an explosion and to assess seal integrity. If the atmosphere behind the alternative seals contains from 3 percent to 20 percent methane, the operator must take remedial actions which may include inerting this atmosphere, increasing the capacity of the existing seal to withstand at least 50 psig overpressure, constructing an additional alternative seal having this capacity or constructing a seal in compliance with 30 CFR 75.335(a)(1). MSHA will review the operator's hazard assessment to assure that the appropriate remedial actions are put in place by the mine operator. High risk seals, (e.g., if failure could adversely affect miners' safety) and seals with a poor performance history will require additional actions to better protect miners, including periodic monitoring of the atmosphere behind the seals.

Due Date

By September 1, 2006, mine operators affected by this PIB should submit the revised ventilation plan to the appropriate MSHA District Manager for approval.

What is the background for this PIB?

Recent mine explosions indicate that there are problems with some alternative seals. Adequate seals are crucial to contain explosions and prevent potentially explosive or toxic gasses from migrating into active working areas of underground coal mines.

What is MSHA's authority for this PIB?

The Federal Mine Safety and Health Act of 1977, as amended and 30 CFR 75.335, 75.370, and 75.371.

Where is this PIB on the Internet?
This information may be viewed on the World Wide Web by accessing MSHA's home page (http://www.msha.gov), choosing "Compliance Info" and "Program Information Bulletins."

Who are the MSHA contact persons for this PIB?
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Who will receive this PIB?
MSHA PPM Holders
Underground Bituminous Coal Operators
Miners' Representatives
Independent Contractors
Special Interest Groups