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PROGRAM INFORMATION BULLETIN NO. P07-08

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SUBJECT: Potential Hazard to Roof Bolting Machine Operators Due to
Inadvertent Control Actuation

Who needs this information?

Underground coal miners, operators of underground coal mines, manufacturers of roof bolting machines, and Coal Mine Safety and Health (CMS&H) personnel.

What is the purpose of this bulletin?

The purpose of this Program Information Bulletin (PIB) is to alert the coal mining industry and CMS&H personnel to a potential hazard to roof bolting machine operators due to the sudden movement of the machine or machine components caused by the inadvertent actuation of machine controls.

Information

The investigation of a fatal machinery accident revealed that a potential hazard exists on roof bolting machines with machine controls that are not protected against unintentional activation. This hazard is increased when an operator is at the drill station and, at the same time, controls at other operating stations on the same machine can unintentionally actuate machine functions. Although the fatality occurred when an Automated Temporary Roof Support (ATRS) control was inadvertently actuated on a bolting machine retrofitted with a Safe Shield ATRS system, potential hazards exist from other inadvertent control actuations as well. Likewise, inadvertent control actuations can occur at unattended controls on other bolting machines.

To prevent similar accidents, the following measures should be taken:

- ATRS and other machine controls should be protected from accidental activation that may result in the machine or machine components coming in contact with the operator. Unintentional control activation can be prevented through one or more of the following means:
 - The controls can be relocated to a protected position.
 - The controls can be guarded in their existing location.
 - The hydraulic system can be redesigned to prevent controls at other operating stations from being active while the operator is at the drill station. Diversion valves can be used to divert the hydraulic flow from one operating station to another to prevent controls from being active at more than one operation station.
- Proper storage areas for supplies and materials should be provided on the bolting machine. Care must be taken to avoid placing materials in locations where they could interfere with or fall on machine controls.

We have provided the district offices with additional information that addresses specific means of preventing inadvertent actuation of machine controls and other means of mitigating the safety hazards outlined in this bulletin. The local District Manager can be contacted to obtain this information.

What is the background for this PIB?

A roof bolting machine operator was fatally injured when the ATRS controls were inadvertently actuated, causing the ATRS system to unexpectedly retract and strike the operator at the drilling control location. Investigation findings support a conclusion that a box containing two resin cartridges fell from the top of the machine onto the ATRS controls situated in the operator's compartment at the side of the machine. The operator was crushed between the ATRS and the machine. In this accident, the ATRS system involved was retrofitted by Safe Shield Corporation of Richlands, Virginia, and featured a "tilt" jack which folded the ATRS onto the drill boom for tramming from place to place. The tilt jack control was accidentally struck and activated by the resin box. On the machine involved in the accident, the ATRS would fold onto the drill boom from the full upright position in approximately one second when the ATRS tilt control was fully activated. Following the fatal accident, the subject machine was retrofitted with diversion valves to deactivate all the controls in the operating compartment when the drilling controls were being operated. The retrofit work also included the addition

of a small orifice in the hydraulic line of the ATRS tilt jack to slow the speed of the ATRS while it folds onto the drill boom.

What is MSHA's authority for this PIB?

The Federal Mine Safety and Health Act of 1977, as amended, 30 U.S.C. § 801 et seq.; 30 C.F.R. part 75, subpart C.

Who is the MSHA contact person for this PIB?

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Is this PIB on the Internet?

This PIB may be viewed on the Internet by accessing the Mine Safety and Health Administration (MSHA) home page (www.msha.gov) and then choosing "Compliance Info" and "Program Information Bulletins."

Who will receive this PIB?

MSHA Program Policy Manual Holders
Underground Coal Mine Operators
Roof Bolting Machine Manufacturers
Coal Special Interest Groups