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PROGRAM INFORMATION BULLETIN NO. P11-16

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SUBJECT: Reissue of P02-05 - Crushing Hazard on Mobile Bridge Conveyor (MBC)

Who needs this information?
Underground mine operators, miners' representatives, manufacturers of mobile bridge conveyors, mine equipment rebuild facilities, Mine Safety and Health Administration (MSHA) enforcement personnel and other interested parties should have this information.

What is the purpose of this bulletin?
This bulletin informs the mining community of a potential hazard created when the operator exits the operator's compartment of an energized MBC without activating the panic bar. It discusses ways to eliminate this hazard.

What is the hazard?
Sections of MBCs and attached continuous mining machines have the power to rapidly push or pull other sections of a continuous haulage system. When exiting the operator's compartment without activating the panic bar, the operator can be crushed between the equipment and rib. Over the last 10 years, more than 55 incidents occurred where personnel were crushed, pinched, or injured when operating near or on an underground MBC system. Two accidents resulted in fatalities. One fatal accident occurred in Wyoming County, West Virginia in October 2000 and the other occurred in

Boone County, West Virginia in August 1994. In each case, the operator had exited the operator's compartment while the MBC system was energized. Movement of the MBCs subsequently pinned the operators between the moving equipment and rib causing fatal crushing injuries.

These two fatalities could have been prevented had man-in-position switches been installed in the operator's compartment.

How can the hazard be prevented?

Under 30 Code of Federal Regulations (C.F.R.) 75.523, MSHA requires self-propelled electric face equipment to be provided with a device (often called a panic bar) to quickly de-energize the tramming motors of face equipment in an emergency. Although an engaged panic bar provides safety to equipment operators and mine personnel who work around MBCs and protects against material entering the cab, it does not protect equipment operators when they leave the machine if it is not activated. For this reason, the operator should never exit the MBC while the system is energized without activating the panic bar.

Installation of a position occupied (man-in-position) switch, however, does provide protection to equipment operators when they are outside the operator's compartment. This switch can be installed to deactivate all tram motors of a continuous mining and haulage system including those of the continuous mining machine. When an equipment operator exits the operator's compartment, the switch automatically de-energizes all the tram motors and prevents restarting the motors until the operator returns. Common places to install man-in-position switches include the seat, arm rest, or cab door where the entire system's tramming circuit remains de-energized until the man-in-position switch is reactivated upon the return of the operator to the cab. Many equipment manufacturers offer these switches as options on presently approved equipment.

MSHA encourages all applicants for MSHA approval of MBCs to include man-in-position switches as part of their design. MSHA recommends that man-in-position switches be installed and maintained on all MBCs currently in use. Installation of the switches could be done in-house when repair work is performed by the mine or by a rebuild facility. MSHA also recommends that equipment operator training always be provided when upgrading or modifying an MBC or other machine or system so that all personnel understand how the changes impact machine function and operation.

How can the switches be obtained?
There are currently three manufacturers of MBC systems: Oldenburg Stamler, Bucyrus America, Inc. (Bucyrus), and Fairchild International, Incorporated.

Information available indicates that all Oldenburg Stamler MBCs were originally shipped with man-in-position switches installed. Bucyrus provides man-in-position switches as an available option. Because the MBCs manufactured by Fairchild are walk beside units, man-in-position switches are not applicable to those systems.

Man-in-position switch components can be purchased from the appropriate machine manufacturer. These manufacturers can provide recommendations on proper installation and maintenance of the switches.

Contact Bill Breeding at (540) 921-2111 with Bucyrus or Steve Rudinec at (906) 774-1500 with Oldenburg Stamler for further information regarding retrofitting machines with man-in-position switches.

How much does it cost?
On a typical conveyor system consisting of 3 or 4 MBCs, the cost will be $3,000 to $4,800 for the system. This is based on the arm rest parts costing about $1,000 per conveyor and the gate switch parts costing about $1,200 per conveyor. This does not include the costs of installation.

Who are the contact persons for this bulletin?
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Is this bulletin on the internet?
This Program Information Bulletin may be viewed on the worldwide web by accessing the MSHA homepage at (www.msha.gov) and then choosing "Statutory and Regulatory Information" and "Compliance Assistance Information."

What is the authority for this bulletin?
The Federal Mine Safety Act of 1977; 30 CFR, Section 18.20(b) and 30 CFR, Section 75.523-2.

Who will receive this bulletin?
MSHA Program Policy Manual Holders
MSHA Special Interest Groups
Underground Mine Operators
Miners' Representatives
Manufacturers of Mobile Bridge Conveyors
Mine Equipment Rebuild Facilities