

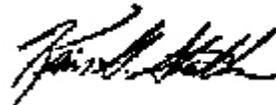
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PROGRAM INFORMATION BULLETIN NO. P11-51

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SUBJECT: De-energizing a Non-intrinsically Safe Automatic Fire Sensor  
and Warning Systems after a Main Mine Fan Stoppage

### **Scope**

This Program Information Bulletin (PIB) applies to underground mine operators, miners' representatives, mining equipment manufacturers, Mine Safety and Health Administration (MSHA) enforcement personnel and other interested parties.

### **Purpose**

The purpose of this PIB is to remind the mining community that a non-intrinsically safe automatic fire sensor and warning device system, whether or not connected to an Atmospheric Monitoring System (AMS), must be de-energized after a main mine fan stoppage.

### **Information**

Title 30, Code of Regulations (C.F.R.) § 75.313(c)(2) requires that underground electrically powered equipment be de-energized if ventilation is not restored within 15 minutes after a main mine fan stoppage. A non-intrinsically safe automatic fire sensor and warning device system, whether or not it is connected to an AMS is considered electrically powered equipment and must be de-energized after a main mine fan stoppage.

30 C.F.R. § 75.1103-4(e) requires that, except when power must be cut off in the mine under the provisions of § 75.313, automatic fire sensor and warning device systems shall be capable of giving warning of fire for a minimum of 4 hours after the electrical

power is cut off. This battery backup is not permitted after a main mine fan stoppage unless the system is intrinsically safe, thus the batteries must be disconnected.

In order to comply with §§ 75.313 and 75.1103-7, a system with battery backup power that cannot be disconnected remotely from the surface must be intrinsically safe or have a relay to automatically disconnect the battery power supply. A manually operated switch actuated by a miner leaving the section is not acceptable to de-energize individual batteries (MSHA Handbook Number PH-08-V-2, page 10, item 3).

After the entire area monitored by the automatic fire sensor and warning device system or AMS is examined, power can be restored to the system and the batteries reconnected. Depending on the system installed, a manual reconnect of the batteries may be needed at each individual unit.

### **Background**

MSHA became aware of an incident where a non-intrinsically safe Pyott-Boone CO Monitoring System was energized by battery power for several hours after a main mine fan stoppage. During the period of the mine fan stoppage, mine personnel were exposed to dangerous conditions by having energized non-intrinsically safe equipment in a potentially explosive atmosphere.

### **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. §§ 75.313, 75.1103-4(e), 75.1103-5(c) and 75.1103-7.

### **Internet Availability**

This information bulletin may be viewed on the Internet by accessing MSHA's home page at (<http://www.MSHA.gov>) and then choosing Compliance Info and Program Information Bulletins.

### **MSHA contact persons for this bulletin**

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**Distribution**

Underground Mine Operators

Mining Equipment Manufacturers

Miners' Representatives