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PROGRAM INFORMATION BULLETIN NO. P11-25

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SUBJECT: Reissue of P04-17 - Potential Fire Hazard of Diesel Particulate Matter (DPM) Collected on High Temperature Disposable Diesel Particulate Filters (HTDPF)

Who needs this information?

This Program Information Bulletin (PIB) affects underground coal and metal/nonmetal mine operators using diesel-powered equipment, manufacturers of diesel-powered underground mining equipment (including manufacturers of exhaust aftertreatment control devices and systems), miners' representatives, and Mine Safety and Health Administration (MSHA) personnel.

Why is MSHA issuing this bulletin?

MSHA is issuing this bulletin to alert the mining industry of a potential fire hazard associated with DPM collected on HTDPFs used on diesel-powered equipment. The HTDPF serves as an aftertreatment device to control DPM.

What problems are being associated with these HTDPFs?

MSHA is investigating several recent events in which a potential fire hazard has been reported to be associated with HTDPFs used on non-permissible diesel powered

equipment in underground coal mines. These events, which include glowing, sparking, and heating of the material collected on the filter media, have been reported on generators, air compressors, skid loaders, and tow vehicles.

MSHA is fully investigating these events and will provide more information as it becomes available. In addition, MSHA is performing additional laboratory tests and may make other recommendations once the test results are more conclusive. At this time, MSHA believes these events may be related to the HTDPFs being exposed to high exhaust gas temperatures greater than 650°F. The 650°F temperature is the maximum temperature the HTDPF can be exposed to and still maintain the DPM collection efficiency of 83 percent specified by the manufacturer. The filter media is not combusting, but the DPM collected and stored in the HTDPF combined with un-burnt diesel fuel and lubrication oils present on the filter media are being combusted when exposed to these exhaust gas temperatures.

The potential for fire can also increase when the filter becomes over loaded with DPM which is indicated by excessive exhaust backpressure. Mine operators should monitor the exhaust backpressure to minimize this fire potential. When the engine's exhaust backpressure limit is exceeded, the engine is considered to be out of compliance with the engine approval.

Mine operators should consider DPM control devices such as ceramic diesel particulate traps when the machine's exhaust gas temperatures operate above 650°F. Mine operators should verify that the machine's operating exhaust gas temperatures are within the DPM control device's operating limit as specified by the manufacturer.

Where can I find more information?

More information on diesel exhaust filters can be obtained from MSHA's Diesel Particulate Rules Single Source Page (http://www.msha.gov/01-995/dieselpart.htm) and the National Institute for Occupational Safety and Health's (NIOSH's) Mining Safety and Health Research Topics (http://www.cdc.gov/niosh/mining).

What is the background for this bulletin?

MSHA's final diesel particulate rules for underground coal mines and metal and nonmetal mines established new requirements for DPM over a phased-in schedule. This bulletin alerts miners and mine operators of a potential fire hazard associated with DPM material which collects on the HTDPF. MSHA provides recommendations for assisting mine operators in choosing the correct diesel particulate filter (DPF) for their specific machine application.

Who are the contact persons for this bulletin?

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What is the authority for this bulletin?
30 C.F.R. Part 72 Subparts D, 30 C.F.R. Part 75 Subpart T and 30 C.F.R. Part 57 Subpart D.

Who will receive this bulletin?
Program Policy Manual Holders
Miners' Representatives
Underground Mine Operators
Special Interest Groups