EFFECTIVE DATE: 07/22/2010 EXPIRATION DATE: 03/31/2012

PROGRAM POLICY LETTER NO. P10-V-04

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SUBJECT: Sampling Sealed Areas with Inert Gas Injection

Scope

This Program Policy Letter (PPL) applies to Mine Safety and Health Administration (MSHA) Coal Mine Safety and Health (CMS&H) personnel, coal mine operators, miners' representatives, and other interested parties.

Purpose

This PPL provides guidance for sampling sealed areas of mines where inert gas has been injected to maintain an inert atmosphere under 30 C.F.R. § 75.336.

Policy

If a mine operator chooses to inject inert gas into a sealed area to assist in maintaining an inert atmosphere, the mine operator must re-evaluate the adequacy of the sampling locations in determining if the atmosphere in the sealed area is inert under § 75.336(a)(2). MSHA has stated:

> Many variables affect the atmospheric composition of the sealed area, including size, methane liberation, leakage, ventilation pressures, and barometric changes. Mine operators must analyze each sealed area when determining appropriate sampling locations and frequencies. If the mine operator's analysis indicates that sampling through seal sampling pipes does not render an appropriate evaluation of the sealed atmosphere, the mine operator must establish additional sampling

locations and specify them in the ventilation plan for the District Manager's approval. 73 Fed. Reg. 21182, 21193 (2008).

Injection of inert gas is a variable that affects the atmospheric composition in the sealed area. When mine operators inject inert gas into a sealed area, the effectiveness of sampling locations cannot be compromised by the inert gas that is being injected. Therefore, sampling locations should not be in close proximity to inert gas injection points. In particular, injection of inert gas into a sealed area should not occur through the same seal where samples are collected to evaluate the atmosphere in the sealed area. When existing sampling pipes and injection pipes are limited or non-existent in older seals, the mine operator may inject inert gas through a borehole that is separated from the seal by an appropriate distance, or the mine operator may sample through boreholes located an appropriate distance from the inert gas injection in accordance with the approved ventilation plan under § 75.336(a)(2). Boreholes may be drilled from the surface, through pillars or through either the roof or floor using directional drilling methods. In any case, mine operators should observe the precautions listed in PIB No. 07-29 (2007) addressing "Breaching and Drilling into Sealed Areas." Inert gas injection locations and the information on the injection system, capacity and proposed operating schedule must be submitted to the District Manager with any request to approve different sampling locations and frequencies under § 75.336(a)(1)(ii) and (iii).

Background Information

MSHA has investigated several instances of ineffective sampling in conjunction with inert gas injection. In one case, a mine operator injected inert gas into a sealed area through a pipe and sampled the atmosphere in the sealed area through a smaller diameter pipe inside that injection pipe. The injected inert gas had no real effect on the composition of the several hundred thousand cubic feet volume of the sealed area; the localized concentration at the end of the sampling pipe only affected the validity of the gas sample. Similar problems have occurred where a mine operator injected inert gas through a water drainage pipe with the sampling tube inlet near the injection point.

Authority

The Federal Mine Safety and Health Act of 1977, as amended, 30 U.S.C. § 801 et seq.; 30 C.F.R. § 75.336.

Internet Availability

This PPL may be viewed on the Internet by accessing MSHA Home Page at http://www.msha.gov, choosing "Compliance Info," then choosing "Program Policy Letter."

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