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COMMENTS OF THE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ON THE
MINE SAFETY AND HEALTH ADMINISTRATION'S
PROPOSED RULES ON
MANDATORY SAFETY STANDARDS

30 CFR Parts 20, 75 and 77

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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The National Institute for Occupational Safety and Health (NIOSH) supports the Mine Safety and Health Administration (MSHA) in their proposal to revise certain sections of Parts 20, 75, and 77 of Title 30 of the Code of Federal Regulations (30 CFR 20, 75, 77).

NIOSH does have some comments about the approach to certain specific sections of the proposed modifications. We suggest modification to the following sections:

PART 20 - ELECTRIC MINE LAMPS OTHER THAN STANDARD CAP LAMPS

20.1(c)(2) [Proposed Rule: MSHA may approve electric lamps and flashlights that incorporate technology for which the requirements of this part are not applicable if MSHA determines by testing that the electric lamps or flashlights perform as safely as those which meet the requirements of this part.]

20.8(a)(1) [Proposed rule: Safety device or design. The lighting unit shall have a safety device to prevent the ignition of explosive mixtures of methane and air if the bulb glass surrounding the filament is broken. Alternatively, if the lamp is designed and constructed to prevent the ignition of explosive mixtures of methane and air by protecting the bulb from breakage and preventing exposure of the hot filament, no separate safety device is required.]

The present regulatory language used by MSHA in the existing Part 20 is performance related and specifies appropriate criteria for class 1 devices. The existing regulation has been successful in preventing explosions in mines due to failure of lamps. There is no reason to promulgate a standard that excludes specific testing requirements. The requirements of existing Part 20 are simple and specific and require that lamp filaments and their power sources should not be capable of being ignition sources in explosive atmospheres. The existing section 20.1(a) states, "The purpose of the investigation made under this part is to aid in the development and use of electric lamps, other than standard cap lamps, that may be used in mines, especially in mines that may contain dangerous proportions of methane." This language is still appropriate for any lamp used in underground mines and the concept of specific requirements should be retained.

NIOSH suggests that the proposed Section 20.8 should contain language specifying the conditions under which bulb protection is adequate to supplant the safety devices for preventing the exposure of the hot filament. For example, the present language in 20.9(a)(3) covering class 2 lamps describes performance criteria appropriate to underground mining:

"Glass-enclosed parts of such compartments must be guarded and be of extra-heavy glass to withstand pick blows, and be adequately protected by shrouds or by an automatic cut out that opens the lamp circuit if the enclosure is broken."

NIOSH supports MSHA with regard to the incorporation of new technology into class 1 lamps, but NIOSH does not support any testing standard that does not specify the parameters and purposes of the test to be performed. Both the mine workers and the manufacturers of lamps would benefit from a specific description of the testing proposed for any new type of lamp. The only criterion in the proposed regulation is that the lamp be designed to prevent ignition by "protecting the bulb from breakage and preventing exposure of the hot filament." This imprecise language could be used to approve any number of light designs, even including a standard auto mechanic's trouble lamp where the metal guard is designed to protect the bulb from breakage. New technology lamps should not be approved for use in potentially explosive atmospheres unless objective criteria and desired performance can be clearly stated to insure their safety in the hostile environment of underground mines where lamps with metal housing and 1/4-inch-thick polycarbonate lenses are broken daily.

PART 77 - MANDATORY SAFETY STANDARDS - SURFACE COAL MINES AND SURFACE AREAS OF UNDERGROUND COAL MINES

NIOSH suggests that the proposed language in subsection (a) be modified to require that pickup trucks with an unobstructed rear view be excepted from the automatic warning device provisions only if they are equipped with functioning backup lights.

NIOSH would further caution that the use of strobe lights may have certain detrimental effects on the human eye, such as temporary blinding, and certain strobe frequencies may cause disorientation in human subjects.

NIOSH believes the use of proximity equipment such as infrared, ultrasonic, and radar devices has merit. Caution should be exercised in the power emitted by such devices concerning possible interference with other electronic equipment, radio communication, and remote detonating devices.

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16. Abstract (Limit: 200 words) This testimony by NIOSH suggests certain modifications to sections of the Mine Safety and Health Administration proposal to revise certain sections of Title 30 of the Code of Federal Regulations. The modifications concern electric mine lamps other than standard cap lamps and mandatory safety standards for surface coal mine and surface areas of underground coal mines. NIOSH suggests that the proposed language in the latter section be modified to require that pickup trucks with an unobstructed rear view be excepted from the automatic warning device provision only if they are equipped with functioning back up lights. NIOSH further cautions that the use of strobe lights may have certain detrimental effects on the human eye, such as temporary blinding, and that certain strobe frequencies may cause disorientation in human subjects. The use of proximity equipment such as infrared, ultrasonic, and radar devices has merit and caution should be exercised in the power emitted by such devices concerning possible interference with other electronic equipment, radio communication and remote detonating devices.				
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