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Req. No. 971263

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16 December 1944

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OSTI

Mr. D. P. Mitchell
Post Office Box 1663
Santa Fe, New Mexico

Re: Protective Measures for Blasting Cap Operators
AR-060

Dear Mr. Mitchell:

Hercules Powder Company was contacted through Messrs. Cortie, Jappe, and Rochford. These men referred all questions to Mr. George Mestaparta, Safety Engineer at the Hercules Port Ewen plant.

The following information was obtained concerning protective clothing and personal equipment for powder workers with special reference to blasting cap loaders.

a. Coveralls: Each man handling explosives is given coveralls to wear while working. These coveralls are treated with a fireproofing agent such as DuPont fireproofing CR. Coveralls have no outside pockets, are equipped with a fly front and bone buttons, and have one inside pocket for a small notebook and pencil. Coveralls, known as "powder uniforms to manufacturers", are obtained by Hercules from:

1. A. Rifkin, Wilkes-Barre, Pennsylvania.
2. Starr Uniform, Brooklyn, New York

Operators are required to exchange dirty coveralls for clean coveralls at least once a week. Operators may obtain clean uniforms at any time at their discretion.

b. Safety Glasses, Goggles, and Face Shields: Two types of safety glasses were recommended, Bausch and Lomb and American Optical. If an operator wears glasses, safety lenses ground to the individual's prescription are obtained. Goggles are seldom used but any of the approved goggles may be worn. Face shields recommended are those made by Mine Safety Appliance Company and Clear Vue Company. These are also optional equipment to be worn.

c. Caps: Caps are provided the workers where dusting occurs.

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These may be any type of light weight cap. For certain workers, fireproof caps of fireproof chambray made by Clear Vue are used.

D. Hand and Arm Protectors: To prevent dermatitis on operators not wearing gloves, Mine Safety Appliance safety cream, known as Fend-O, is recommended as being most satisfactory. Also for handlers of dermatitic material arm protectors are used, especially since coveralls are usually short-sleeved. The recommended type of arm protector is the Clear Vue chambray firepsoof protector.

e. Shoes: Conductive rubber shoes are to be worn by all operators.

f. Respirator: For toxic dusts, the recommended respirator is the Mine Safety Appliance dust bowl with a knit gauze cloth (Munsing cloth) washable facelet. These latter are known as Facelets and are made by Mine Safety Appliance. For non-toxic dusts any type of respirator can be used. Extremely good results have been obtained at Hercules using Dr. Woods' respirator. This is not a Safety Council acceptable type but does cut down on the inhalation of dust by the operator.

g. Additional: Underwear is supplied each man handling powder and is to be worn during the time he is working.

Each man is required to shower before leaving the plant.

No metal, such as keys or badges, should appear on the operator in an exposed position.

Hercules does not depend upon safety uniforms to protect their workers. The only units of protective garments and equipment as listed above required to be worn by Hercules Powder workers throughout their plant is the powder uniform. Glasses are optional equipment but any operator who must wear corrective glasses is given protective or safety glasses ground to his requirements. Safety glasses are also required by all leaders in the experimental laboratory. Other than for toxic dusts where arespirator must be used, all other equipment is optional.

Hercules depends upon remote control and heavy barricades for protection of their workers from injuries due to explosions. Loading of blasting caps in quantities is done behind the barricades with the operator viewing the operations by means of a peep hole with a safety plug of optical glass about four inches long and one inch in diameter and loading by special remote control equipment.

Hercules feels that with proper handling of powder (see safety book

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attached), by keeping dust at a minimum which is claimed to be easy to do with proper training of operators, and also proper control of humidity temperature and other atmospheric conditions, most of the recommended procedures of the Safety Council for Powder Workers can be dispensed with. Feeling is also quite prevalent that some of the protective devices recommended by the Safety Council could produce more disasters in case of accident than if such protective devices were not used. This is particularly true with the wearing of glasses or face shields.

The inclosed safety handbook lists, on pages 18, 19 and 20, the special rules required to be followed by explosive operators.

This completes your request on AR-660

For the Area Engineer:

Yours very truly,

HAROLD E.S. BAER

1 Incl:
Safety Handbook

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