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MINING HEALTH HAZARD EVALUATION
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Evaluation of Welding Operations
Utilizing Asbestos in a Strip Mining Company

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DISCLAIMER

Mention of company names or products does not constitute endorsement by the National Institute for Occupational Safety and Health.

PURPOSE

The National Institute for Occupational Safety and Health performed a Health Hazard Evaluation at the Consolidation Coal Company, Egypt Valley Mine, Cadiz, Ohio, Mine I.D. Number 33-00934, strip mine operation on August 8 and 9, 1978. The purpose of the survey was to determine if there was an exposure to asbestos in the use of welding rods and insulation pads.

DISCUSSION

This company is engaged in strip coal mining with various support operations. Strip mining is performed by the use of large, electric stripping shovels. The top layers are removed exposing the coal seam. The coal is removed and the top layers are replaced and ultimately landscaped. Support for the shovels includes field repair welding operations and machine shop fabrication of new parts. Arc and shielded arc welding are performed on mostly tempered and mild steel. On large pieces, preheating is performed utilizing ceramic heaters surrounded by insulation pads. Until recently, asbestos pads were used for this preheating. However, substitutes exist for the pads that contain no asbestos and at the time of the visit such a substitute was used.

It has been alleged by a San Francisco-based union newspaper, publisher unknown, that welding rods with American Welding Society (AWS) numbers E-6010 and E-6011 contain 10-20% asbestos. However, in a telephone interview with Frank Speight, the Health and Safety Officer for AWS, he stated that the number designation only related to the metal deposit of the electrode. The composition of the electrode coating varies with different manufacturers. However, the toxicity of the coating can be obtained from the individual manufacturer by requesting a Materials Data Sheet. OSHA-20's were requested from Lincoln Electric and Hobart Corporation on the welding rods complying with AWS E-6010 and E-6011 specifications. None of the welding rods manufactured by these companies contained any asbestos. The coating is organic in nature. At the time of the visit, neither the asbestos insulation pads nor the aforementioned welding rods were in use or found in storage. A Seltem No. 188 cloth manufactured by Havey Industries, Inc. of Wilmington, Delaware, was used in place of the asbestos pads; and E70 welding rods were in use and found in storage.

CONCLUSION

Research over the past several years on the toxicity of asbestos has indicated that a significant increase of cancer paralleled the use of asbestos.

Because of the potential hazard associated with the use of materials containing asbestos, a safe substitute material should be used.

RECOMMENDATIONS

1. It is encouraged that a policy be established by the company, that, wherever possible, non-asbestos materials should be utilized.
2. A Materials Safety Data Sheet (OSHA-20) should be requested on all materials utilized to ascertain the composition and toxicity of the materials.