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Health in the Arts

LASER-CUTTING-SAFETY 3D PRINTING

Silicosis Among New Jersey Pottery Workers



Hanley Potteries, Staffordshire, in 1930 (Times)

In March 1985, two cases of silicosis in former employees of a sanitary-ware pottery were identified from death certificates by the New Jersey State Department of Health (NJSDH).

These cases were reported in Vol. 41, No. 23 of the Mortality and Morbidity Weekly Review by D. Valiante, P. Bost, M. Stanbury, and J. Szenics.

Actual visits to the pottery were conducted in January 1987, and revealed potential overexposure of employees to crystalline silica throughout the plant.

In June 1988, the CDC's National Institute for Occupational Safety and Health (NIOSH) and the NJSDH joined together to investigate the silica exposures and adequacy of control mechanisms. Results indicated that 47% of personal breathing-zone samples exceeded the Occupational Safety and Health Administration's (OSHA) permissible exposure limit (PEL) of 100 g/m, for crystalline silica; 53% exceeded the NIOSH recommended exposure limit (REL) of 50 g/m. Therefore, specific engineering controls and work practices were recommended to reduce exposure and prevent additional cases of silicosis.

An on-site medical screening of all 120 pottery employees was conducted by the NJSDH in October 1988. Radiographs of five (4%) current employees had positive readings for pneumoconiosis. Thus, the company agreed to institute a surveillance program to continue medical monitoring of all plant employees. Follow-up by the NJSDH took place in October 1988 to assess compliance. While recommended controls and work practices were implemented, certain problems remained. NJSDH noted that respirator use was sporadic despite substantial exposure to crystalline silica dust throughout the plant. It was suggested that a comprehensive respirator program should be strictly enforced until these exposure levels were reduced below the NIOSH REL.

An editorial comment notes that persons with silicosis are at substantially increased risk for other pulmonary diseases, particularly tuberculosis, bronchitis, and emphysema, and that in the United States, each year approximately 250

workers are reported with and 135 die from silicosis. Similar assessments of facilities have detected these types of problems, including: the use of raw materials high in crystalline silica content; poor or inadequate ventilation to control dust sources; poor housekeeping practices; and lack of effective respiratory protection programs for workers.

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