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ASBESTOS HAZARDS IN NAVAL DOCKYARDS*

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Abstract—A brief description is given of the types of asbestos materials, and their uses in shipbuilding and ship repairing in Naval Dockyards. An outline of the problems to be faced and a description of preventive methods is followed by a series of questions intended to stimulate practical solutions to the problems of using asbestos materials safely in the industry.

SO MUCH has been written and spoken about asbestos in the last five years that it might seem irrelevant to add any more to the vast mountain of words, facts and figures already expounded.

I know that there is a keen awareness in Newcastle of the problems associated with asbestos in the shipbuilding industry and that a great deal of work has been, and is being done, by the Department of Occupational Medicine to further knowledge of the disease and to suggest a suitable code of practice for the use of asbestos in the industry.

With this knowledge in mind it was with great trepidation that I approached the preparation of this paper. After some thought I came to the conclusion that it would not be very much good trying to tell you anything, but that here was a wonderful opportunity to see if you could answer some of the questions that we face in the Royal Navy as we search for the current solutions to the problems associated with the use of asbestos in building, repairing and refitting ships.

I have come to Newcastle hoping to learn, and I hope to put specific questions to you, the answers to which we must know if we are to deal effectively with the problems of using asbestos safely.

I think it fair to begin by outlining the problems as I see them, to describe what the Navy is doing about them, and then to ask for your solutions to them.

THE INDUSTRY

There are four Royal Dockyards in this country, at Portsmouth, Devonport, Chatham and Rosyth, and a small amount of refitting work is done in Singapore and Gibraltar. These remarks are confined to the four home dockyards who between them employ some 50,000 civilians. About 17,000 men work afloat on the ships while the remainder work in the shops, factories and docksides. Less than 450 men are classed as asbestos workers and only the 50 men who work in the asbestos mattress shops are subject to the Asbestos Industry Regulations.

*This paper was originally presented at the 22nd Conference of the British Occupational Hygiene Society, Newcastle upon Tyne, September, 1967.

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TABLE 1. ASBESTOS MATERIALS USED IN NAVAL DOCKYARDS

Dusty	Non dusty
Asbestos: Blankets	Asbestos: Cloth (treated)
Cement	Condenser packing
Cloth (untreated)	Sheets (compressed fibre)
Cord	Gaskets
Fibre	Oilproof jointing
Millboard	Compressed fibre jointing
Packing fibre	Graphited packing
Rope	Rings
Soft sound insulation	Compressed sound insulation
	Jointing strips
	Tape
	Tubing
	Twine
	Webbing
	Washers
	Coated electric wire

Calcium silicate sectional lagging (up to 15 per cent asbestos)
 Amosite sectional lagging (over 90 per cent asbestos)
 Magnesia compound (up to 15 per cent asbestos)

Lagging. The application and removal of heat insulating materials is mainly concentrated in the machinery spaces aboard ships and present practice is to lag all hot faces above 150°F with calcium silicate sections covered with asbestos cloth. Cutting and fixing sections, rope and cloth does give rise to localized high dust concentrations, but the highest dust concentrations occur during removal of old lagging material.

Hot and cold water pipes and ventilation trunking throughout the ships have previously been covered with asbestos cloth, but this is now replaced by cork, felt and canvas.

Asbestos spraying. This process was extensively used for environmental insulation until 1963 when it was completely discontinued. The existing material is extensively removed during refits and is being replaced by glass fibre. The dust concentrations during removing the dry material are very high.

Application of sound insulation. Asbestos boards of various types and thicknesses have been sawn and fitted for sound insulation and removed during subsequent refits. This work is done by joiners, and again the highest dust concentrations occur during removal of the old material.

There are many other minor processes involving the fitting or removal of asbestos materials some of which do produce dust. Examples are the fitting and removal of asbestos in galley equipment; sawing and fitting friable asbestos board for ironing boards, cleaning with wire brushes, pipes and glands previously lagged with asbestos. Most of these procedures are carried out intermittently by men who are not considered to be "asbestos workers".

The

impressions of the problem would suggest that only those men continuously working with asbestos are at risk. In the dockyards these men would be the mattress