



PLAINTIFF'S
EXHIBIT

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DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D. C. 20360

IN REPLY REFER TO
Ser OER-6601
22 September 1

MEMORANDUM FOR THE COMMANDER, NAVAL SHIP SYSTEMS COMMAND

Subj: Naval Nuclear Powered Ships - Elimination of Insulation Containing Asbestos

Ref: (a) NAVSECPHILADIV Report Ser 1584 of 24 September 1969
(b) BUMED ltr Ser 73-HEXamp of 14 November 1969
(c) Proposed NAVSHIPS Instruction 5100, "Control of Asbestos Hazards Issued by O7D ltr Ser 19 of 24 March 1970
(d) MIL-I-24244 (SHIPS) Military Specification - "Insulation Materials, Thermal, With Special Corrosion and Chloride Requirements"

1. I am concerned that asbestos continues to be used extensively by the Navy in the fabrication, installation, repair and renewal of pipe and boiler insulation. Many years of medical research have firmly established the serious effects of inhaled asbestos fibers reaching the lungs and resulting in lung cancer and asbestosis. Although alternate materials have been available for years, NAVSHIPS has not taken action to prohibit use of high asbestos content materials in insulation.

2. Reference (a) reported to NAVSEC the results of a study conducted by the Naval Ship Engineering Center, Philadelphia Division to determine actions necessary to minimize the health hazards to which insulation workers are exposed while working with asbestos. This study included inquiries to all Naval and private shipyards and visits to representative Naval and private shipyards on the East and West Coasts. In addition, some 20 manufacturers and vendors of thermal insulation were contacted. This report concluded (1) considerable asbestos-containing insulation material currently is being used in Naval applications and stringent handling precautions are not being enforced in all instances, and (2), the use of high-asbestos containing thermal insulating materials should be curtailed due to hazards to the health of insulation workers. BUMED stated in reference (b) that "the high asbestos content materials should be replaced where feasible from an engineering point of view by materials of lower asbestos content." Reference (c), which is a proposed NAVSHIPS instruction for control of asbestos hazards, requires safety controls to be taken by shipyards and merely provides a list of replacement materials for high asbestos content insulating materials.

3. An example of concern by other countries with this problem is a recent article in the Journal of Naval Engineering (copy attached) "The Elimination of Asbestos in H. M. Ships". This article indicates the British are taking aggressive action to eliminate high content asbestos materials; in fact use of high content asbestos in any hazardous situation was eliminated in 1963 and tests are nearing completion to eliminate all asbestos (including low content) in U. K. Ships. This article concludes that a ban on asbestos products

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4. The specifications for building new construction SSN688 Class and DLGN38 Class ships prohibit the use of high asbestos content insulation. In addition, I am working to discontinue use of high asbestos content insulation in the reactor plant systems for new construction ships DLGN DLGN37, SSN685, SSN637 Class and the CVAN 68 Class. I am also taking action to revise the insulation specification used for reactor plant pi reference (d), to delete high asbestos content insulation.

5. I recommend the following additional actions be taken promptly to eliminate further installation of high asbestos content insulation materials in Naval ships:

a. Discontinue use of high asbestos content insulation in the DLGN DLGN37, SSN685, SSN637 Class and CVAN 68 Class new construction ships outside the reactor plant.

b. Require that high asbestos content materials removed during nuclear powered ship overhauls be replaced with other materials. However, it may be desirable to re-install pre-formed asbestos materials in cases where no insulation re-work is required since minimal hazard results from such re-installation.

(c) Initiate action to eliminate high asbestos content insulation from all new construction ships and to discontinue use of high asbestos content insulation in ships in overhaul, where practicable,

I would appreciate being advised of action taken.

H. G. Rickover
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