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U. S. NAVAL RADIOLOGICAL DEFENSE LABORATORY

[redacted] SAN FRANCISCO 24, CALIFORNIA

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From: Commanding Officer, U. S. Naval Radiological Defense Laboratory
To: Chief, Bureau of Ships
Chief, Bureau of Medicine and Surgery

Subj: Confidential Memorandum Report of Decontamination of USS PATAPSCO (AOG-1); comments on

Ref: (a) CONF Pearl Harbor NavShpYd ltr 223-083 ser S90 to COMSERVPAC of 4 June 1954

Encl: (1) Copy 16 of subject report with appendices A through E

1. Enclosure (1) is a report of decontamination operations carried out at the Pearl Harbor Naval Shipyard on the USS PATAPSCO (AOG-1). Personnel from the U.S. Naval Radiological Defense Laboratory lent technical advice and assistance for this operation. It is felt that many of the problems encountered are of special interest to the Bureaus. Particular points are discussed in the succeeding paragraphs.

2. Paragraph 2 of enclosure (1) points out that even though the ship was 300 miles from the point of detonation and leaving the area, it still received enough fall-out to require industrial decontamination. This fall-out occurred roughly 13 hours after the burst.

3. Paragraphs 3, 4, and 5 point out that even though a fairly wide selection of radiac instruments was available, no complete knowledge of the extent of the contamination was obtained until the ship reached Pearl Harbor. This was due to a combination of circumstances including battery failures. Some failures of complex radiac instruments should be expected and allowance therefore made if possible. The instruments are in storage for considerable periods, and the normal workload may be so high as to preclude a high level of routine maintenance.

4. Paragraph 7 shows how, by taking advantage of radioactive decay, it was possible to postpone drydocking and expensive decontamination measures until the regular overhaul period. This procedure can also be of great importance to shore installations. By effecting a compromise between decay * time and mission entry time, the required countermeasures are often * greatly reduced.

5. The remainder of the report contains recommendations which are made by an engineer who has a great deal of experience in this field. They may be summarized by saying that a considerable amount of experience and

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training is required before field activities will be properly prepared to cope with the problem of radioactive contamination.

6. The appendices contain the actual instructions to the shipyard work force. Attention is invited to the fact that no particular detergent was specified. Proprietary items such as "Tide," "Orvus," and "Alconox" were used interchangeably with Navy cleaning compound C-120. This reflects the Laboratory view that the differences between detergents for decontamination purposes are not significant. Special detergents were used only for grease or rust covered surfaces where the entire coating had to be removed.

7. It is felt that this report may be of value to the Bureau as a step by step account of problems encountered and decontamination measures taken as a result of a contaminating nuclear event. In this connection, the Laboratory has noted that the Bureaus have received reference (a), which was an excellent report prepared by the Naval Shipyard Pearl Harbor on this subject.

R. A. HINNERS
Director

Copy to:
Chief, BuDocks (with enclosure)

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Reviewed by	RAH MW		
Date	6/18/54		

Initials hereon indicates that the person initialing has read and approved the correspondence and has no recommendation to make as to change therein.