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IN REPLY REFER TO

5104
 Ser N455/9U595730
 9 Aug 99

From: Executive Secretary, Naval Radiation Safety Committee
 To: Commander, Pearl Harbor Naval Shipyard and Intermediate
 Maintenance Activity *NRMP 53-00311-AINP*
 Subj: GAMMA RADIOGRAPHY OCCURRENCE ON USS CHICAGO, 16 JUNE 1999
 Ref: (a) NAVSHIPYD&IMF Pearl ltr 6470 Ser 105/070 of 24 Jun 99
 Encl: (1) NAVSEADET RASO First End 5104/00311 Ser 02A/991035/
 of 15 Jul 99

1. Reference (a) forwarded a detailed report of the subject occurrence. Enclosure (1) forwarded an assessment of incident to the Chairman, Naval Radiation Safety Committee. While your director of Radiation Health exhibited initiative in identifying a situation with important consequences and reporting it to me as well as instigating comprehensive and timely corrective actions, there remains a significant concern for the safe conduct of radiographic operations.

2. Reference (a) identifies several violations of standard radiographic practices, most notable:

a. Lack of management oversight demonstrated by the failure to conduct radiographic operations in accordance with established procedures and Nuclear Regulatory Commission and Navy regulations.

b. Supervisory personnel intentionally assigning a Radiographer's Assistant as a Boundary Guard during radiographic operations without proper issuance of a thermoluminescent dosimeter and pocket dosimeter. This is a Severity Level III violation.

3. These violations demonstrate lack of proper planning, non-compliance with established procedures, and failure to assure all radiographic personnel are properly trained, briefed and equipped to perform their duties. It is imperative that actions continue to rectify these problems. If these conditions cannot be corrected, radiographic operations shall not be conducted.


4. I consider your corrective actions to prevent recurrence of similar events satisfactory. However, this will be verified by the Naval Sea Systems Command Detachment, Radiological Affairs

msf

GAMMA RADIOGRAPHY OCCURRENCE ON USS CHICAGO, 16 JUNE 1999

Support Office (NAVSEADET RASO) who will conduct an inspection of your gamma radiography operations within the next two weeks.

5. For further information or guidance on corrective actions, my point of contact is CDR S. W. Doremus, MSC, USN, OIC NAVSEADET RASO, DSN 953-4692, commercial (757) 887-4692.


G. A. HIGGINS
By direction

Copy to:
NAVSEASYSKOM (04N)
NAVSEADET RASO
NRC (REG II)



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND DETACHMENT
RADIOLOGICAL AFFAIRS SUPPORT OFFICE (RASO)
NWS P.O. DRAWER 260
YORKTOWN, VA 23691-0260

5104/00311
Ser 02A/991035/0554
15 July 1999

FIRST ENDORSEMENT on PHNSY&IMF ltr of Ser 105/070 of 24 Jun 99

From: Officer in Charge, Naval Sea Systems Command Detachment,
Radiological Affairs Support Office (RASO)
To: Chairman, Naval Radiation Safety Committee

Subj: REPORT OF GAMMA RADIOGRAPHY OCCURRENCE ON USS CHICAGO

Ref: (b) Naval Radioactive Material Permit (NRMP)
No. 53-00311-A1NP
(c) 10 CFR 34

1. Enclosure (1) reports serious events that occurred during radiography operations on USS CHICAGO at Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (PHNSY&IMF) on 16 June 99. RASO has reviewed enclosure (1) and numerous other communiqués and concurs with PHNSY&IMF's assessment that the events occurred because of failure to comply with reference (b). As a result, a Shutdown Roving Watch was improperly allowed inside the control boundary and a Radiographer's Assistant did not wear the required dosimetry, a TLD and pocket dosimeter, during radiography operations. Both these actions are violations of references (a), (b) and (c).
2. Upon notification, PHNSY&IMF instituted immediate corrective actions and completed a comprehensive, detailed review of this occurrence lead by the Director of Radiation Health (Code 105.5). All radiography operations were suspended until completion of the command review and until the Commander, PHNSY&IMF and Director of Radiation Health were fully satisfied that all appropriate corrective actions were enacted to safely resume operations. Ship's force department heads, COMSUBPAC representatives, and a NRRO representative were present during the initial critique of the incident. RASO was regularly consulted by PHNSY during this stand-down period. Radiographic operations resumed on 24 June 1999 with the concurrence of the Executive Secretary of the Naval Radiation Safety Committee, Naval Sea Systems Command (SEA 04N), and RASO.
3. A RASO inspector conducted an on-site review during the day following the occurrence to verify that the Shutdown Roving Watch did not receive exposure as a result of the boundary violation. He reviewed the dose calculations and dosimetry results for the

Enclosure (1)

Subj: REPORT OF GAMMA RADIOGRAPHY OCCURRENCE ON USS CHICAGO

Shutdown Roving Watch and visited the radiography job site to insure that the Shutdown Roving Watch did not have "unimpeded access to a high radiation area." If the watch had unimpeded access to a high radiation area, the situation would have been reportable to the Nuclear Regulatory Commission. The RASO inspector agreed with the PHNSY&IMF's conclusion that the Shutdown Roving Watch received no exposure and that he was physically prevented access to the high radiation area.

4. The Radiographer's Assistant was not properly monitored with a TLD and pocket dosimeters as required in references (a), (b) and (c). The Nuclear Regulatory Commission normally assigns a Severity Level III to this violation. RASO's investigation determined that the Radiographer's Assistant was denied a TLD and pocket dosimeter at a dosimetry issue station because his nuclear worker training (not radiography training) had expired. If the Radiographer's Assistant had pursued issue of the TLD and explained that his gamma radiography work was in an area where this training was not required, the TLD and pocket dosimeter would have been issued per established procedures. If the Radiography Supervisor had pursued the lack of dosimetry instead of assuming that the individual could be used in a capacity not requiring dosimetry, the situation should have been resolved. The Lead Radiographer, Radiography Supervisor and Radiographer's Assistant were aware that the Radiographer's Assistant was not wearing the required dosimetry. The Radiographer's Assistant did have a low-level radiation survey meter to monitor the boundary and an alarming ratemeter as required.

5. Radiography sources can create radiation fields in which permissible occupational dose standards can be exceeded in a short period of time. A person qualified as a Radiographer's Assistant present at a radiography job site, even under the premise of acting as boundary guard, could be required to directly handle the source or enter a radiation area at any time. Consequently using a Radiographer's Assistant as a boundary guard without proper dosimetry, even though he is very unlikely to encounter a radiation area, is not acceptable.

6. Enclosure (1) identifies dereliction of duty by two individuals and also improper radiography supervision as causes for this event. It also reports several of the workers were fatigued due to the last minute scheduling of third shift operations. All these along with inadequate planning were contributing factors in this occurrence. RASO has reviewed PHNSY&IMF gamma radiography operating and emergency procedures and determined that they were adequate to prevent this occurrence.

Subj: REPORT OF GAMMA RADIOGRAPHY OCCURRENCE ON USS CHICAGO

7. This situation demonstrates the importance of proper planning, compliance with established procedures and assuring that all radiographic personnel are properly trained, briefed and equipped to perform their assigned duties. Violations of Nuclear Regulatory Commission regulations and potentially hazardous conditions for personnel can easily result when procedures are not followed.

8. RASO will conduct an audit of radiography operations at PHNSY&IMF within two months of the date of this letter. At that time, RASO will reassess PHNSY&IMF short-term and long-term corrective actions to prevent recurrence of similar events.


S. W. DOREMUS

Copy to:
COMNAVSEASYS COM (SEA 04N)
PHNSY&IMF