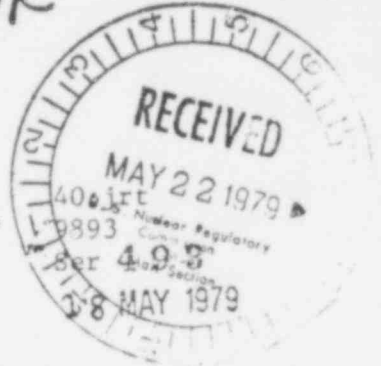


USS ORION (AS-18)
NEW YORK 09501

PDR

71-268



From: Commanding Officer, USS ORION (AS-18)
 To: Director, Office Of Nuclear Material Safety and Safeguards
 Nuclear Regulatory Commission, Washington, D.C. 20555

Subj: Quality Assurance Program for Shipping Packages for Radioactive
 Materials

Ref: (a) COMSUBLANT ltr FF4-12:N45, 9893, ser 6477 of 30 November 1978
 (b) Code of Federal Regulations, Title 10, Chapter 1, Part 71
 (NRC 10 CFR 71)
 (c) United States Nuclear Regulatory Commission ltr FCTR/RHO
 71-0268 of 20 April 1979
 (d) CO, USS ORION (AS-18) ltr 40:rbs, 9893 Ser 74 of 16 January 1979

Encl: (1) USS OF ORION Repair Department Instruction 9900.5A

1. Reference (a) directed the submission of a quality assurance plan for shipping and stowage containers meeting the criteria of reference (b) to the Nuclear Regulatory Commission (NRC) for approval.
2. Reference (c) specified that the proposed Quality Assurance program submitted by reference (d) does not meet the requirements of reference (b) and that a revised program should be submitted. Reference (c) provided a sample Quality Assurance program for industrial radiography licenses to assist in revising ORION's application.
3. The revisions required have been incorporated in enclosure (1) which is submitted for approval. Enclosure (1) provides a description of the Quality Assurance Program exercised by USS ORION for receipt, processing and transfer of radioactive materials handled under NRC license number 31-18096-01.
4. Enclosure (1) has been written utilizing the essential elements as described in the sample QA program provided by reference (c). This required that some of the verbiage and format be modified so as to comply with the Navy's prescribed method of preparing shipboard instruction or directive.
5. Enclosure (1) comprises a total program for the receipt, processing and transfer of radioactive materials handled under NRC License #31-18096-01, and the Quality Assurance controls associated with that program, and complies with reference (b).

S. S. Skorupski, Jr.
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 COMSUBLANT (N45)
 NAVSUPWRO, Port Hueneme, CA

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USS ORION (AS-18)

FPO NEW YORK 09501

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REPDEPTINST 9900.5A

18 MAY 1979

REPAIR DEPARTMENT INSTRUCTION 9900.5A

Subj: Quality Assurance Program for Administrative Controls and Protection Procedures Associated with Radiography and Radiac Calibration Sources

Ref: (a) Code of Federal Regulations, Title 10, Chapter 10, Chapter 1, Part 71 (NRC 10 CFR 71)
(b) ORION Repair Department Instruction 5100.10F; Administrative Control and Protection Procedures for Gamma Radiography and Radiac Calibration Source

Encl: (1) Organizational Structure of Quality Assurance Program for Radiographic and Radiac Calibration Source
(2) Audit Plan (#1 through 10) for the Evaluation of Administrative Controls and Protection Procedures for Gamma Radiography/Radiac Calibration Sources and Associated Quality Assurance Program

1. Purpose. To promulgate instructions to establish and define the quality assurance program for administrative controls and protection procedures for gamma radiography and radiac calibration sources and to establish an auditing program to insure compliance with current directives.

2. Cancellation. Repair Department Instruction 9900.5 of 15 January 1979.

3. Discussion. The final responsibility for the Quality Assurance program for reference (a) requirements rests with the USS ORION. Design and fabrication shall not be conducted under this Quality Assurance program. The instructions set forth herein, and in reference (b), which were approved under Nuclear Regulatory Commission (NRC) License #31-18096-01, define ORION's administrative controls and protection procedures for gamma radiography, radiac calibration sources and the associated quality assurance program. These instructions fulfill the requirements of reference (a). Situations not clearly defined in this instruction will be handled by recommendation from ORION's Radiographic Safety Officer and approved by ORION's Repair Officer. Changes to this instruction will be routed to the NRC for approval.

4. Organization/Responsibilities. The Quality Assurance Program is implemented using the following organization:

a. The Repair Officer (as directed by the Commanding Officer) is directly responsible for the radioactive sealed sources onboard ORION. He will be assisted by the Radiological Controls Officer and the Radiographic Safety Officer. Enclosure (1) is attached to delineate the organizational structure.

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b. The Radiological Controls Officer is responsible:

(1) For ensuring that handling, stowage, preparation for shipping, inspections, leak tests and operational requirements relating to radiac calibration sources, and the preparation for shipping and leak test of radiographic sources comply with references (a) and (b) and paragraph 5 of this instruction.

(2) To the Repair Officer for ensuring that required audits are conducted as promulgated by this instruction.

c. Radiographic Safety Officer has overall responsibility for administering this program and for ensuring that the requirements and provisions of the U.S. Nuclear Regulatory Commission By-products Material License approved for the USS ORION are complied with. He will:

(1) Maintain adequate security and stowage facilities for radiographic sources in compliance with NRC regulations.

(2) Develop, promulgate, and conduct training, verify personnel qualifications, and supervise casualty procedures involving radioactive sources authorized by the NRC By-product License.

(3) Assist the Radiological Controls Officer in conducting required audits promulgated by this instruction.

(4) Be responsible for auditable record controls.

d. Radiographic, Radiac Calibration and Radiological Controls personnel are responsible for handling, storing, shipping, inspecting, testing, and operating evolutions, and record keeping.

5. Shipping Materials and Identification. The following shipping packages associated with by-product, source, and/or special nuclear material are approved by NRC License #31-18096-01 and are the sole shipping packages authorized to be used onboard ORION for radiography and radiac calibration sources:

- a. Automation Industries Model 200-520-008 Sealed Source (Ir-192)
- b. Oak Ridge National Laboratories Model A-4 Sealed Source (Cs-137)
- c. Automation Industries Model 520 Exposure Device
- d. Automation Industries Model 500-SU Source Changer
- e. TS-1216 A/UD Radiac Calibrator

6. Action. USS ORION establishes and implements the Quality Assurance Program described herein and in reference (b). Training and auditing procedures and specific provisions in package design will be in compliance with this instruction and those delineated by references (a) and (b). Emphasis will be placed on control of activities affecting the components of the packaging which are significant to safety.

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- a. Auditable Record Controls will be maintained to establish and verify compliance to the specifications outlined by references (a) and (b).
- b. Handling, Storage and Shipping shall be performed in accordance with established instructions and procedures of references (a) and (b), and only by those personnel authorized by reference (b).
- c. Inspections, Tests and Operations involving all radioactive material and storage containers shall be in compliance with references (a) and (b) and performed only by those personnel authorized by reference (b).
- d. Quality Assurance Records of tests, inspections, operating logs, audit results, personnel training and qualification, and records of shipments as well as descriptions of equipment and written procedures will be maintained as specified by reference (b).
- e. Audits shall be conducted as prescribed below:

(1) Enclosure (2) provides audit plans for use in monitoring and evaluating ORION's compliance with references (a) and (b) and this instruction. Audits shall be conducted using these audit plans at least semi-annually by an officer appointed as Audit Team Leader by the Repair Officer (officer appointed will not be directly responsible for source handling on ORION) and assisted by the Radiographic Safety Officer, Radiological Controls Officer and any additional officer as deemed necessary to perform an adequate and complete audit.

(2) A report of audit findings shall be submitted to the Repair Officer, by the Audit Team Leader, no later than five (5) working days after completion of the audit. Audit findings should include those recommendations/corrective actions that the audit team considers necessary to align ORION's administrative control and protection procedures for gamma radiography and radiac calibration sources and the associated Quality Assurance Program with the requirements of references (a) and (b) and this instruction.

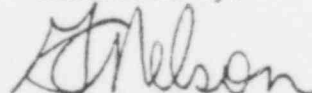
(3) The Repair Officer shall review and forward the audit report to the Commanding Officer when corrective actions have been completed. Audit reports, after the Commanding Officer's review, shall be retained on file for three (3) years.

Prepared by:



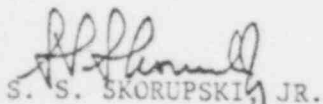
D. J. HALL
CWO2 USN

Submitted by:



G. A. NELSON
CDR USN

Approved by:



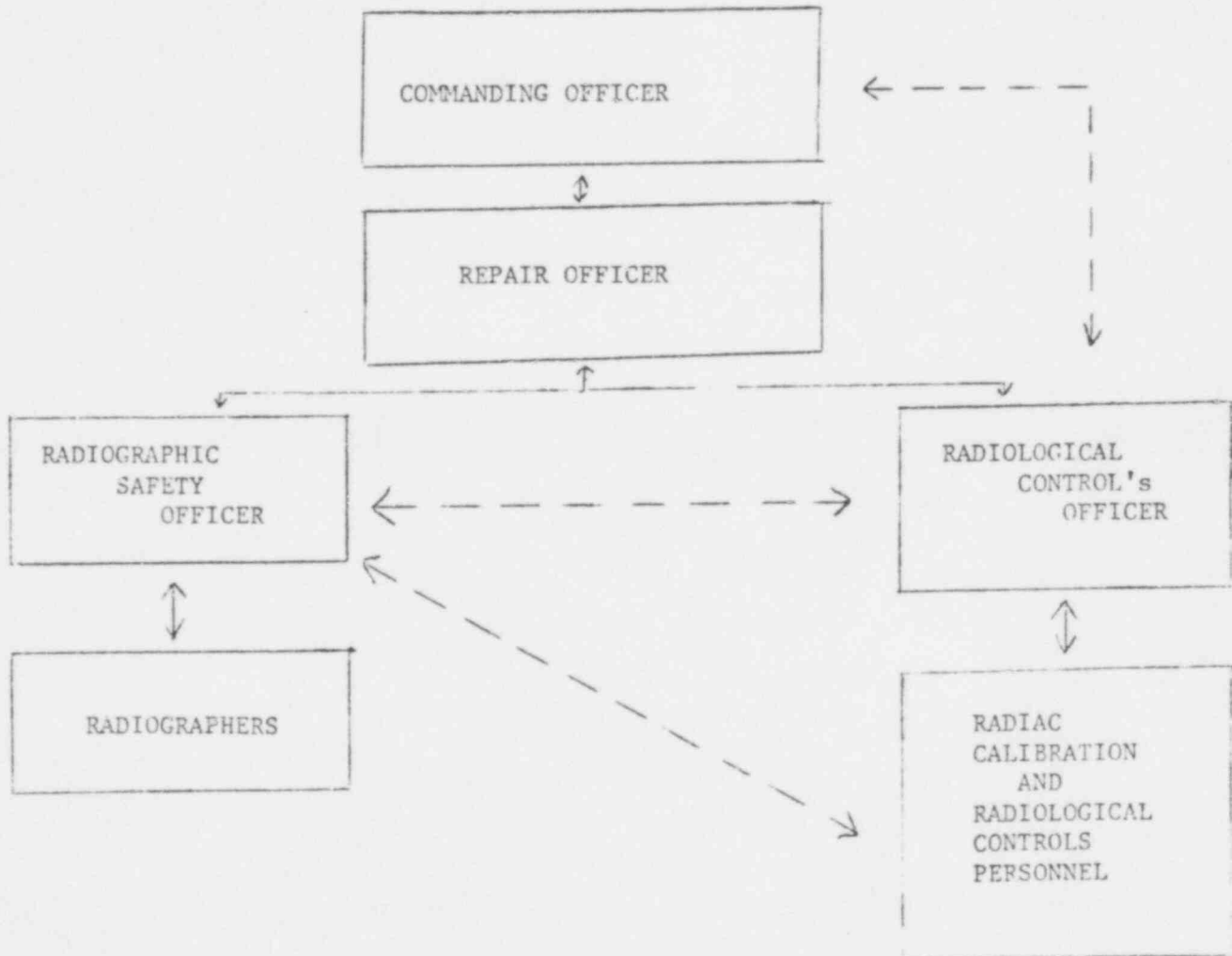
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ORGANIZATION STRUCTURE OF QUALITY ASSURANCE PROGRAM
FOR RADIOGRAPHIC AND RADIAC CALIBRATION SOURCE

1. The Chain of Command as referred to in this instruction is depicted below as it relates to radiographic and Radiac Calibration. The dotted lines indicate a provision for direct access up the Chain of Command in matters involving safety.



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Enclosure (1)

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