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P1-137

71-0268

DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND DETACHMENT
USNRC RADIOLOGICAL AFFAIRS SUPPORT OFFICE (RASO)
YORKTOWN, VA 23691-5098

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IN REPLY REFER TO
5104/04628
Ser 11/ 01238
14 NOV 1989

US Nuclear Regulatory Commission
Division of Safeguards and Transportation
Transportation Branch
Washington, DC 20555

Gentlemen:

A six month extension of Quality Assurance Program Approval No. 0268 issued to the USS ORION is requested to allow for timely submittal of a renewal application.

Sincerely,

Roy H. Smith

ROY H. SMITH
BY DIRECTION

Enclosure:
(1) USS ORION ltr
Ser/40/R8/1783
of 8 Nov 89

Copy to:
CNO (OP-45)
COMSUBLANT (N442)
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USS ORION (AS-18)

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DEPARTMENT OF THE NAVY
USS ORION (AS-18)
FPO NEW YORK 09518-2570

QA Program
\# 268 Expires 11/30/89

5104
Ser/40/R8/1783
08 Nov 1989

From: Commanding Officer, USS ORION (AS 18)
To: Naval Sea Systems Command Detachment, RASO

Subj: QUALITY ASSURANCE PROGRAM APPROVAL FOR RADIOACTIVE MATERIAL PACKAGES

Ref: (a) 10CFR71

Encl: (1) USS ORION Repair Department Instruction 9930.5B

1. Enclosure (1) is forwarded for your review. Request renewal of USS ORION's Quality Assurance Program for radioactive Material Packages authorized for NRMP numbers 59-04628-A1NP and 59-04628-C1NP in accordance with reference (a).

A. J. MANCINI
By direction

Copy to:
COMSUBRON Twenty Two

DEPARTMENT OF THE NAVY
USS ORION (SS)
FPO NEW YORK 09550-2570

REPDEPTINST 9500.5E
40/R-10
3 November 1989

REPAIR DEPARTMENT INSTRUCTION 9500.5E

Subj: QUALITY ASSURANCE PROGRAM FOR ADMINISTRATIVE CONTROLS AND PROTECTION PROCEDURES ASSOCIATED WITH RADIOGRAPHY AND RADIAC CALIBRATION SOURCES

Ref: (a) ORION Repair Department Instruction 5100.13K Gamma Radiation Safety Program
(b) ORION Repair Department Instruction 5100.16L Radiac Calibration Radiation Protection Program
(c) ORION Instruction 9500.5 series, Controls of General Radioactive Material

Encl: (1) Internal Inspection Checklist for Radiography Program
(2) Inspector Checklist for Radiac Calibration Laboratory Operations

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 ensure compliance with current directives.

2. Cancellation. Repair Department Instruction 9500.5A.

3. Discussion. The instructions set forth herein, and in references (a) and (b) which were approved under Navy Radioactive Materials Permit numbers 59-04628-A1NP and 59-04628-C1NP respectively, define USS 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 (c). Situations not clearly defined in this instruction will be handled on a case basis by recommendations from USS ORION's Radiographic Safety Officer and approved by USS ORION's Repair Officer. Changes to this instruction will be routed to the NRC via NAVSEASYSCOM NAVSO for approval.

4. Responsibilities.

a. The Commanding Officer is directly responsible for the radioactive sealed sources on board USS ORION. He will be assisted by the personnel designated in references (a), (b), (c), and the Radiographic Safety Officer.

b. The Radiological Controls Officer is responsible for ensuring that handling, stowage, preparation for shipping, inspections, leak test and operational requirements relating to radiac calibration sources comply with references (b) and (c). The Radiographic Safety Officer is responsible for the preparations for shipping and leak test of radiographic sources to ensure compliance with references (a) and (c). The Repair Officer is responsible for ensuring that required audits are conducted as promulgated by this instruction.

c. The Radiographic Safety Officer is responsible for ensuring that the requirements and provisions of the U.S. Nuclear Regulatory Commission By-products Material License Permit for USS ORION are complied with. It will maintain adequate security and storage facilities for radiographic sources in compliance with NRC regulations. He will develop, promulgate, and conduct training and supervise casualty procedures involving radioactive sources authorize by the NRC By-product License Permit. He will assist the Radiological Controls Officer in conducting required audits promulgated by this instruction.

3. Shipping Materials Identification. The following shipping packages associated with by-product, source, and/or special nuclear material are involved in this program aboard USS ORION:

a. Amersham - Tech/Ops Source Model #R-424-4 Sealed Source (IR-192)
b. Amersham - Tech/Ops Source Model #656 Sealed Source (Ir-192)
c. Amersham Model 660 Exposure Device
d. Amersham Model 20 Exposure Device
e. Amersham Model 61 Source Changer
f. Amersham - Tech/Ops Model 5013 Source Changer
g. Oak Ridge National Lab Sealed Source (Cesium-137)
h. New England Nuclear Model NEN-50 Sealed Source Americium-241

4. Action.

a. Enclosures (1) and (2) provide audit plans for use in monitoring and evaluating USS ORION's compliance with references (a) through (c) 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. The officer appointed will not be directly responsible for source handling on USS ORION and assisted by the Radiographic Safety Officer and the Radiological Controls Officer.

b. 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 the completion of the audit. Audit findings should include those recommendations/administrative control and protection procedures for gamma radiography and radiac calibration sources and the associated quality assurance program with the requirements of references (a) through (c) and this instruction.

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l on file

5. 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.

A. J. MANCINI

FIGURE 1

INTERNAL INSPECTION CHECKLIST FOR RADIOGRAPHY PROGRAM

(Circle One)

YES NO 1. Is a training record available which lists RSO and ARSO training and experience to meet the requirements of enclosure (13)?

YES NO 2. Do training records show each radiographer:

a) Is a graduate of Radiographic Operators course (A-703-0032)?

b) Has passed a written exam on local operating procedures?

c) Has been qualified by the Senior Radiographer on operation of local equipment?

YES NO 3. Are records of refresher training maintained and complete per enclosures (12) and (13)?

YES NO 4. Is a complete and accurate utilization log maintained for each sealed source?

YES NO 5. Are radiation survey records complete and accurate?

YES NO 6. Is inspection/evaluation of each radiographer conducted at intervals not exceeding three months if he/she worked in that period or during the first resumption of radiographic duties?

YES NO 7. Are copies of quarterly inspection/evaluation checklists for radiographer's inspections on file and retained for at least three (3) years?

YES NO 8. Have records of personnel monitoring on termination of employment or transfer been made to the individual, NAVSEADET RSO, and the Nuclear Regulatory Commission?

YES NO 9. Are exposure devices, source changers, and radiographic equipment inspected prior to use, and quarterly?

YES NO 10. Are sealed sources leak tested at intervals not to exceed six months or in accordance with NRMP conditions?

YES NO 11. Are records of leak test results maintained in units of microcuries and retained for three years?

YES NO 12. Is a complete and accurate inventory of sealed sources conducted quarterly?

YES NO 13. When receipt of a sealed source is expected, were proper arrangements made for notification, pickup, and receipt of the source?

YES NO 15. Are instruments calibrated using established procedures?

YES NO 16. Do RADIAC calibration personnel know how to determine if there is leakage from the mercury reservoir in the RADIAC calibrator.

YES NO 17. Are leak tests performed on the RADIAC calibrators using established procedures?

YES NO 18. Are leak tests conducted at least every six months?

YES NO 19. Is the leak test capable of detecting the presence of 0.005 microcuries of removable contamination on a sealed source.

YES NO 20. Does the TS-1216 interlock system function properly?

YES NO 21. Are all safety devices (warning signs, lights) inspected by a qualified individual at least every six months and a record maintained?

TOTAL P.08

_____ _____

Signature Date

REMARKS/CORRECTIVE ACTIONS.

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INSPECTION CHECKLIST FOR
RADIAC CALIBRATION LABORATORY OPERATIONS

Is the RADIAC calibration room locked at all times when not in use?

Is key control established and maintained?

Is a current NRC Form 3 posted adjacent to or inside the entrance of the RADIAC calibration room?

Are "CAUTION - RADIOACTIVE MATERIAL" signs posted at the entrance of the RADIAC calibration room?

Is the TS-.216/UD RADIAC calibrator source locked when not in use?

Do RADIAC calibration technicians wear proper TLDs?

Are all RADIAC calibration technicians graduates of the RADIAC Instrument Maintenance Course (A-601-0020), Naval Technical Training Center, Treasure Island?

Is there a qualified RADIAC calibration technician aboard when unattended, overnight calibrations are in progress?

Are RADIAC calibration courses operated only by qualified RADIAC calibration technicians?

. Are copies of Title 10, Code of Federal Regulations, Parts 19 and 20; the operating and emergency procedures; and a current copy of the NRMP posted in the RADIAC calibration laboratory or is a notice posted which states their location where they are available for examination?

. Are training records maintained in the format and retained for the appropriate time periods specified in enclosure (1)?

. Are radiation survey records, utilization logs, and RADIAC calibration records maintained in the format and retained for the appropriate time periods specified in enclosure (1)?

. Are all exposure results recorded on the individual's DD-114 at least quarterly?

. Are all RADIAC calibration technicians familiar with the operating and emergency procedures for calibration equipment?

YES NO 29. Are the pocket dosimeters recharged (zeroed) at the start of each shift or operation?

YES NO 30. Are pocket dosimeters read and exposures recorded daily or at the end of each shift when the exposure device is used?

YES NO 31. Are pocket dosimeters calibrated semi-annually?

YES NO 32. Do radiography personnel know what action to take if pocket dosimeters go 'OFF SCALE' during a radiographic operation?

YES NO 33. Do radiography personnel know what action should be taken if a TLD is lost?

YES NO 34. Is there a proper radiation response test performed on RADIAC instruments prior to use?

YES NO 35. Are RADIAC instruments turned off prior to storage?

YES NO 36. Have all RADIAC instruments in use been calibrated within the last 90 days?

YES NO 37. Is there at least two operable low-range RADIAC instruments available at temporary job sites?

YES NO 38. Is a radiographer present during all transport operations?

YES NO 39. Does the radiographer ensure the storage plugs are in the exposure device and ensure that it is locked prior to any transport operations?

YES NO 40. Are all survey meters and pocket dosimeters in use on the CARP listing their date of calibration?

YES NO 41. Is the Senior Radiographer maintaining a record to show calibration and servicing dates of all radiation detection instruments used in radiographic operations?

YES NO 42. Is there a source leak test kit onboard?

YES NO 43. Has the RSO been properly designated by the Commanding Officer.

YES NO 44. Were there any items of non-compliance other than those listed on this checklist? Explain on attached sheets.

_____ _____

Signature Date

Enclosure (1)

YES NO 14. Are records of the receipt of sealed radiography sources maintained as long as the material is held by the activity and for at least three years following transfer of the material?

YES NO 15. Was the activity of all sources within 20 percent of the maximum quantity specified by the permit and the permit condition when received?

YES NO 16. Is a written statement or copy of an NRMC or NRC license on file that verifies prior to transfer that an activity was authorized to receive the type, form, and quantity of radioactive material to be transferred?

YES NO 17. Are records of transfer of sealed sources maintained for at least three years after such transfer?

YES NO 18. Are shipping papers prepared for each shipment to the manufacturer and transport to temporary job site outside the boundries of the military installation?

YES NO 19. Is a current NRC Form 3 "Notice to Employees" posted in the NDT Laboratory?

YES NO 20. Are copies of 10 CFR 19, 20 the SEMP, and the IRMP application posted or a notice posted stating where these documents are located?

YES NO 21. Are current operating and emergency procedures posted in the NDT laboratory?

YES NO 22. Are "Caution - Radioactive Material" signs posted at the entrance to the storage vault?

YES NO 23. Are "Caution - High Radiation Area" signs posted inside the vault?

YES NO 24. Is the sealed source vault kept locked at all times when not in use?

YES NO 25. Are keys to the vault controlled or secured in a key locker when the vault is not in use?

YES NO 26. Is key security maintained? (Keys are available only to authorized personnel.)

YES NO 27. Do all radiographers wear required TLDs when working with radiographic sources?

YES NO 28. Do all radiographic personnel wear two low-range (0-200mR) pocket dosimeters in addition to a TLD while performing radiographic operations?

DOCKET NO. 71-0268
CONTROL NO. 26093
DATE OF DOC November 14, 1989
DATE RCVD. November 29, 1989
FCUF _____ PDR ✓
FCAF _____ LPDR _____
I&E REF. ✓
SAFEGUARDS _____
FCTC ✓ OTHER _____
DATE 11/20/89 INITIAL AC