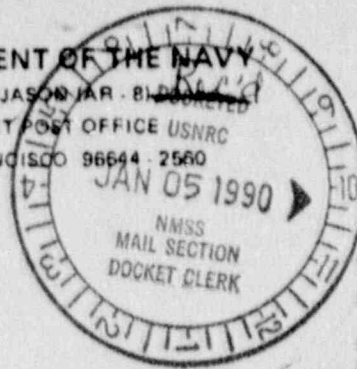


DEPARTMENT OF THE NAVY
USS JASON (AR-8) DOCKETED
FLEET POST OFFICE USNRC
SAN FRANCISCO 96644-2560



71-0089
C. Mac Donald
Transportation Branch
SG

9900
Ser 09/01297
20 DEC 1989

From: Commanding Officer, USS JASON (AR-8)
To: Director, Office of Nuclear Material Safety and Safeguards,
United States Nuclear Regulatory Commission, Washington, DC
20555
Via: Director, Naval Sea Systems Command Detachment, Radiological
Affairs Support Office, Yorktown, VA 23691-5098

Subj: QUALITY ASSURANCE PROGRAM FOR TRANSPORTATION OF RADIOACTIVE
MATERIAL

Ref: (a) 10 CFR 71.51

Encl: (1) Quality Assurance Program, Approval Number 0089, for
receipt, handling, storage, and transfer of special form
radioactive material
(2) Proposed revisions to enclosure (1)

1. In accordance with reference (a), enclosure (1) is submitted with revisions as indicated in enclosure (2).
2. Request authorization to continue this command's Quality Assurance Program to package and transport radioactive material.

[Signature]
R. W. TOBIN

U.S. NUCLEAR
COMMISSION

'90 JAN -8 P2:28

RECEIVED
DIVISION OF ADMINISTRATION

FEE EXEMPT

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QUALITY ASSURANCE PROGRAM

A. RESPONSIBILITY

1. The Radiographic Safety Officer will be responsible for establishing and implementing the Quality Assurance Program.
2. The Radiographic Safety Officer will ensure that all personnel involved in the program have received the required training and that they receive periodic training on any new material incorporated into the program.
3. The Radiographic Safety Officer will ensure that any changes or revisions found to be necessary in the Quality Assurance Program are incorporated into the program.
4. The Radiographic Safety Officer will ensure that all defined QA procedures, engineering procedures and specific provisions of the package design approval are satisfied.
5. The Senior Radiographer will be responsible for the actual performance of the QA operations under the guidance of the Radiographic Safety Officer.

ORGANIZATION

- A. Commanding Officer, USS Jason, is the licensee for this activity. The Commanding Officer has overall responsibility for matters concerning licensed radioisotopes.
- B. The Radiographic Safety Officer (RSO) shall be a graduate of the Radiographic Safety Officer Course (S-4J-0016) conducted by NAVSEADET RASC. The RSO shall be responsible for supervising the Senior Radiographer in the performance of his duties under this quality assurance program.
- C. The Assistant Radiographic Safety Officer (ARSO) shall have the same qualifications as the RSO. The ARSO shall perform the duties of the RSO in his absence.
- D. The Senior Radiographer shall be a qualified radiographer designated in writing by the RSO. The Senior Radiographer shall be a graduate of the Radiographic Operator Course (A-701-0032) conducted by Service School Command, San Diego and shall have a minimum of one year's experience as a radiographer. The Senior Radiographer shall be responsible for controlling and supervising radiographic operations conducted by this command. The Senior Radiographer is directly responsible to the RSO for coordination of all receipts, handling, (tests and inspections) transfers of radioactive material and all records of tests/inspections conducted IAW this procedure and NRMP No. 59-08810-A1NP. In the absence of the Senior Radiographer, the RSO shall appoint an alternate, who meets the same qualification requirements, to temporarily perform the duties of the Senior Radiographer.
- E. For all matters concerning this program, the Chain-of-Command shall be as follows:
 - 1. Commanding Officer
 - 2. Radiographic Safety Officer/Assistant Radiographic Safety Officer
 - 3. Senior Radiographer

NOTE: The Department Head shall be kept informed of all matters concerning this program.

DOCUMENT CONTROL

A. RESPONSIBLE INDIVIDUAL

1. The Senior Radiographer shall be responsible for all document control.

B. SCOPE OF RESPONSIBILITY

1. The Senior Radiographer shall maintain all pertinent certificates of compliance for the shipping packages used by this activity. These certificates shall be maintained in the files with all other records required by this part.
2. The Senior Radiographer shall be responsible for entering changes to the certificates of compliance immediately upon receipt.

RECEIVING, HANDLING, STORAGE AND SHIPMENT

A. PROCEDURES TO BE FOLLOWED UPON RECEIPT OF RADIOACTIVE MATERIAL

1. The shipping package shall be monitored for external radiation levels within three hours after receipt during normal working hours and within 18 hours after receipt outside of normal working hours. The RSO shall be present for this monitoring. If radiation levels exceed 200 mR/hr on contact or 10 mR/hr at one meter, see emergency reporting requirements, enclosure (17) of the NRMP. At this time the container shall be inspected for any damage that would impair its proper function.
2. Check the model number of the source changer to make sure it is the correct type to mate with the exposure device as authorized by the command's NRMP. No other type changer may be accepted.
3. Ensure that the source decay chart, source leak test certificate, return shipping labels, and the tamper-proof seals are included with the source changer.
4. The shipping package shall be delivered to the NDT Laboratory and placed inside the storage vault as soon as possible.
5. The RSO has the responsibility to ensure that the Senior Radiographer will perform a leak test of sealed sources not to exceed six month intervals. After receipt of a source, if a leak test certificate from the transferor cannot be obtained that shows a leak test within the last six months, a leak test shall be performed prior to use.

B. HANDLING OF SHIPPING CONTAINERS

1. While a shipping container is at this activity, it shall be handled by the Senior Radiographer or a radiographer under the supervision of the Senior Radiographer or the RSO.

C. STORAGE OF SHIPPING CONTAINERS

1. While a shipping container is at this activity, it shall be stored in the radioisotope vault.

D. SHIPMENT OF RADIOACTIVE MATERIAL

1. Prior to shipment of a radioactive source from this activity, the Senior Radiographer will cause accomplishment of the following:
 - a. If a leak test has not been conducted within the previous six month period, a leak test shall be performed on the special form radioactive material to be shipped. The leak test procedure is detailed in NRMP No. 59-08810-A1NP.

- b. The storage container shall be inspected to ensure there is no damage that would preclude its being used to transport special form radioactive material.
 - c. When the leak testing requirements have been satisfied, the radioactive material will be loaded into the shipping container.
 - d. A copy of the satisfactory leak test and decay chart will be included in the shipping container.
 - e. The shipping container will be monitored with a radiation detection instrument to determine that no exterior surface reading is above 200 mR/hr and that no reading at one meter is above 10 mR/hr.
2. Using information supplied to him by the Senior Radiographer, the RSO shall prepare a "Request for Transfer of Radioactive Material". A sample of this request is included as Appendix A.
 3. Upon receipt of the Government Bill of Lading for shipment of the shipping container, the Senior Radiographer will:
 - a. Affix to the shipping container any and all labels required.
 - b. Notify the transporting carrier that there is a radioactive shipment to be picked up and any information needed by the carrier to expedite pick-up.
 - c. Be available at the time appointed for pick-up, and expedite moving of the shipping container from the radioisotope storage vault to the carrier's vehicle.
 - d. Make certain that the carrier has signed all of the required documents necessary for proper pick-up of the shipping container. Deliver all copies of documents required by the carrier to the carrier's representative.

INSPECTIONS, TESTS AND OPERATING STATUS

A. INSPECTIONS TO BE PERFORMED PRIOR TO SHIPMENT

1. The Senior Radiographer shall cause the inspection of the shipping container prior to loading for shipment to be certain that there is no damage that would cause a radiation hazard to be present.

B. TESTS TO BE PERFORMED PRIOR TO SHIPMENT

1. The Senior Radiographer shall cause a leak test on the special form radioactive material if necessary prior to its shipment.

C. OPERATING STATUS OF THE EQUIPMENT TO BE SHIPPED

1. The Senior Radiographer shall cause an operational test on the shipping container to be certain that there are no malfunctions.

D. CONFORMANCE TO INSPECTIONS AND TESTS ON EQUIPMENT

1. The RSO will ensure that the Nuclear Regulatory Commission required inspections and tests are performed.

CONTROL OF MEASURING AND TEST EQUIPMENT

A. CALIBRATION OF TEST INSTRUMENTS

1. Each radiation detection instrument that is utilized in this program is calibrated at intervals not to exceed three (3) months at the nearest Navy RADIAC Calibration Laboratory or RADIAC Repair Facility.
2. Each radiation detection instrument has a calibration sticker attached bearing the last calibration date and records are maintained to show calibration and servicing dates of all instruments.

B. PERIODIC TESTING OF TEST INSTRUMENTS

1. Each radiation detection instrument will be tested for proper operation once each month utilizing the procedure given in Appendix B.

QUALITY ASSURANCE RECORDS

- A. The Senior Radiographer shall maintain in his files:
 - 1. A signed copy of all leak test reports received.
 - 2. The shipping documents received from the shipper that arrived with shipping container.
 - 3. A copy of the Government Bill of Lading, signed by the carrier's representative, and any other pertinent documents relative to the shipment of the shipping container.

- B. The RSO shall maintain in his files:
 - 1. A detailed description of procedures used in the receipt and transfer of a radioactive materials shipping container.
 - 2. A summary of the qualifications of the Senior Radiographer.
 - 3. A list of all equipment utilized in the shipment of a radioactive materials shipping container.
 - 4. Copies of all audit reports and any correspondence dealing with audits of this QA program.

- C. Places where the above records are to be maintained:
 - 1. The records of the Senior Radiographer and the RSO shall be maintained in the Quality Assurance Office or the NDT Laboratory on board USS Jason.
 - 2. All QA records will be identified and retrievable.

AUDITS

A. Periodicity of audits

1. The audits of the QA program set forth in this procedure shall be conducted not less than once each year.

B. Personnel to conduct the audit

1. The audits specified by this procedure shall be performed by an individual having no responsibility in the activity he/she audits.

C. Areas to be covered in the audit shall include the responsibilities and records of:

1. Radiographic Safety Officer
2. Senior Radiographer
3. Training Activities
4. Records Keeping (general)
5. Compliance to operating and emergency instructions pertaining to compliance with Nuclear Regulatory Commission rules involving receipt, handling, storage and transfer of radioactive materials
6. Compliance to current Quality Assurance program for receipt, handling, storage and transfer of radioactive materials
7. Previous audit reports on file, with replies concerning necessary corrective action
8. Records of required periodic radiac test instrument calibration
9. Radiographic equipment/shipping containers certificates of compliance for containers used and letter of authorization from the Nuclear Regulatory Commission to use the container
10. Proper receipt and transfer documents
11. Adequate equipment for conducting leak tests
12. Leak test results signed by representative of the facility performing the test

D. Personnel to receive a copy of the audit

1. The auditor shall send the report of his audit to the RSO and a copy to the Senior Radiographer.

E. Reply to audit deficiencies

1. The Senior Radiographer shall reply in writing to the auditor, via the RSO, concerning any audit deficiency.

F. Maintenance of audit reports

1. The RSO shall maintain a copy of all audit reports.

DATE: _____

APPENDIX A

MEMORANDUM

From: Radiographic Safety Officer
To: Supply Officer

Subj: TRANSFER OF RADIOACTIVE MATERIAL, REQUEST FOR

Ref: (a) Title 10 CFR, NRC Rules and Regulations
(b) Title 49 CFR, DOT Rules and Regulations

1. It is requested that a shipping container containing a radioactive source be shipped to:

Amersham Corporation
Radiation Products Division
40 North Avenue
Burlington, MA 01803

2. When the GBL is ready, please contact _____ at ext. 7448/7449. _____ will pick up the GBL and prepare the shipping container for pick-up by the carrier.

3. The following information is submitted for the container:

- a. Radioactive Material, Special Form; N.O.S.
- b. Shipping container, TECH/OPS Model _____, Serial No. _____
- c. Certificate of Compliance, TECH/OPS Cert. No. 9032
- d. Amersham Corporation's Materials License No. 20-12836-01
- e. USS Jason's NRMP No. 59-08810-A1NP
- f. Isotope - IRIDIUM 192
- g. Source Serial No. _____
- h. Surface Reading of Container; _____, at one meter; _____
- i. Transportation Index _____
- j. Source Activity _____ Curies
- k. Labeling - YELLOW _____
- l. Cubic Feet _____
- m. Weight _____

4. The following two statements are required to be on the shipping documents:

"THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION"

"ALL APPLICABLE PROVISIONS OF TITLE 10 CFR, PART 21, HAVE BEEN COMPLIED WITH"

RADIOGRAPHIC SAFETY OFFICER

Interior Communications 430	RADIAC Monitoring Equipment 4362	4362	M-50
Alarm, Safety, and Warning Systems 436	EQUIPMENT RADIAC Survey Meter, 7M-231A/PD 4362 32	HT3	0.3
MAINTENANCE REQUIREMENT DESCRIPTION		TOTAL MAN 0.3 PLANNED TIME 0.3	
1. Inspect survey meter. 2. Test operate survey meter.			
SAFETY PRECAUTIONS			
1. Forces afloat comply with Navy Safety Precautions for Forces Afloat, OPNAVINST 5100 series; Shore activities comply with Safety Precautions for Shore Activities, OPNAVINST 5100.23 series.			
TOOL, PARTS, MATERIALS, TEST EQUIPMENT			
None			
PROCEDURE			
Preliminary			
a. Remove survey meter from RADIAC set case.			
b. Ensure the positive-lock beta shield is closed.			
c. Ensure range selector switch is set to "off".			
1. Inspect Survey Meter.			
a. Slide the positive-lock beta shield open. Inspect mylar window for damage.			
b. Slide the positive-lock beta shield closed.			
c. Release snap fasteners and remove meter assembly from meter case.			
d. Remove battery(s); inspect battery(s) for leaks and corrosion.			
e. Inspect meter assembly for:			
(1) Damage to mylar window			
(2) Loose connections			
(3) Cracked or frayed insulation			
(4) Loose or missing hardware			
(5) Corrosion. If corroded, deliver survey meter to nearest RADIAC calibration laboratory for corrective maintenance.			
f. Inspect desiccant crystals. Crystals should be blue. If pink, replace crystals with SPNIG 0359.			
g. Reinstall battery(s).			
h. Reinstall meter assembly into meter case and fasten snap fasteners.			
2. Test Operate Survey Meter.			
a. Set range selector switch to "zero". Meter should indicate zero. If not, adjust zero adjust control.			
b. Set range selector switch to "bat."			
(1) Meter should indicate in "bat. OK" area. If not, replace 9-volt battery(s).			
LOCAL SW	DATE	N	
EG2 ATTACHED	April 1989		

MAINTENANCE REQUIREMENT CARD (MRC)
OPNAV 4790-02 (REV. 2-82)

- PROCEDURE (Cont)
- (2) Meter indication should be steady. If not, deliver survey meter to nearest RADIAC calibration laboratory for corrective maintenance.
 - c. Set range selector switch to "off".
 - d. Reinstall survey meter in RADIAC set case; ensure that mylar window is not positioned over CS-137 check source.
 - e. Return equipment to readiness condition.

B-1

Enclosure (2)

Appendix B

PAGE 2 OF 2

NM6

MAINTENANCE REQUIREMENT CARD (MRC)
OPNAV 4790-02 (REV. 2-82)

SHIP SYSTEMS Interior Communications 430		SUBSYSTEM RADIAC Monitoring Equipment 4362		MRC CODE 4362 N-44	
SYSTEM Alarm, Safety, and Warning Systems 436		EQUIPMENT IM-256/PD Geiger Counter 4362 3Z		RATES DC3	M-H 0.3
MAINTENANCE REQUIREMENT DESCRIPTION 1. Perform battery test.				TOTAL M-H 0.3	
SAFETY PRECAUTIONS 1. Forces afloat comply with Navy Safety Precautions for Forces Afloat, OPNAVINST 5100 series; Shore activities comply with Safety Precautions for Shore Activities, OPNAVINST 5100.23 series.				ELAPSED TIME 0.3	
TOOLS, PARTS, MATERIALS, TEST EQUIPMENT None					
PROCEDURE NOTE: If MRC cannot be completed due to equipment failure, transfer equipment to nearest RADIAC calibration laboratory for corrective maintenance.					
1. Perform Battery Test.					
a. Set selector switch to BATT. Meter should indicate within BAT OK area. If not:					
(1) Replace batteries.					
(a) Set selector switch to OFF.					
(b) Release snap fasteners and remove instrument from case.					
(c) Remove batteries from captive holders.					
(d) Install new batteries by sliding the batteries into the holders. Ensure batteries are centered and polarity markings are observed.					
(e) Reinstall instrument in case with the meter at the case end that has DETECTOR CENTER mark.					
(f) Fasten case snap fasteners.					
(g) Set selector switch to BATT. Meter should indicate within BAT OK area.					
b. Set selector switch to OFF.					
c. Return equipment to readiness condition.					
LOCATION EGL ATTACHED				DATE May 1989	

PAGE 1 OF 1

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MAINTENANCE REQUIREMENT CARD (MRC)
OPNAV 4790-R2 (REV. 2-82)

B-2

Enclosure (2)

QUALITY ASSURANCE PROGRAM APPROVAL
FOR RADIOACTIVE MATERIAL PACKAGES

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Title 10, Code of Federal Regulations, Chapter 1, Part 71, and in reliance on statements and representations heretofore made in Item 5 by the person named in Item 2, the Quality Assurance Program identified in Item 5 is hereby approved. This approval is issued to satisfy the requirements of Section 71.101 of 10 CFR Part 71. This approval is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

2 NAME Department of the Navy			3 EXPIRATION DATE January 31, 1990	
STREET ADDRESS USS Jason (AR-8)			4 DOCKET NUMBER 71-0089	
CITY FPO San Francisco	STATE CA	ZIP CODE 96601		

5. QUALITY ASSURANCE PROGRAM APPLICATION DATE(S)
January 5, 1985

6. CONDITIONS

Activities authorized by this approval: procurement, maintenance, repair and use to be executed with regard to transportation packages in special form. All other shipping activities (i.e., design, fabrication, assembly, testing, and modification) shall be satisfied by obtaining certifications from package suppliers that these activities were conducted in accordance with an NRC-approved QA program. It shall remain the responsibility of the licensee-user that all transportation activities meet the requirements of 10 CFR §71.101.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Charles E. MacDonald
Charles E. MacDonald

JAN 23 1985

CHIEF, TRANSPORTATION CERTIFICATION BRANCH
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

DATE
Enclosure (1)

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