

TRIDENT REFIT FACILITY  
OUTLINE FOR  
QUALITY ASSURANCE PROGRAM  
FOR SHIPPING RADIOACTIVE TYPE B MATERIAL PACKAGES

TITLE: QUALITY ASSURANCE PROGRAM FOR SHIPPING TYPE B RADIOACTIVE MATERIAL PACKAGES

REF: (a) TRFINST 9090.1; Gamma Radiography Operating and Emergency Procedures  
(b) Title 10 CRF Part 71

PURPOSE: To promulgate instructions for the establishment, implementation, and training and certification of personnel for shipping Type B radioactive packages. Design and fabrication activities (including modification) of industrial radiographic packages shall not be conducted under this Quality Assurance Program.

SCOPE: The instructions set forth herein are designed to control shipping of radioactive sealed sources used for gamma radiography utilized at TRIDENT Refit Facility (hereafter called TRF), Bangor. These instructions are based on requirements as specified in references (a) and (b) and shall be adhered to without exception. Where questions arise concerning these instructions, clarification will be obtained from or by the Radiation Safety Officer (hereafter called RSO). Any changes made to this instruction shall be routed through the chain of command, (paragraph 4.0 of this instruction).

INDEX OF PROGRAM BY PARAGRAPH:

1.0 ORGANIZATION AND RESPONSIBILITY

1.1 COMMANDING OFFICER

- 1.1.1 For establishment of the Quality Assurance Program for shipping Type B radioactive material packages.
- 1.1.2 Delegates the overall responsibility, implementation, and training and certification of personnel for the Quality Assurance Program to the RSO.

1.2 CODE 441, RADIATION SAFETY OFFICER

- 1.2.1 Implements the Quality Assurance Program and assures it is adhered to without exception.
- 1.2.2 Administers training and certification of personnel for the TRF Quality Assurance Program.
- 1.2.3 Provides detailed procedures for handling, inspection, and storage of containers for shipment.

- 1.2.4 Provides instructions for actions to be taken in case of container defect, damage, or non-compliance with this program.
- 1.2.5 Assures radiation surveys are promptly performed.
- 1.2.6 Maintains quality assurance records in an auditable fashion and readily retrievable.
- 1.3 CODE 532, TRAFFIC BRANCH, SUPPLY DEPARTMENT
  - 1.3.1 Assures all receipt/shipping records are complete.
  - 1.3.2 Assures that the Supply Department receipt and outgoing inspections of containers are promptly performed.
  - 1.3.3 Assures Code 430 radiation surveys are promptly performed.
  - 1.3.4 Reports immediately to Code 441 (RSO) any shipping damage or defects.
- 1.4 CODE 430, RADIOLOGICAL CONTROL DIVISION
  - 1.4.1 Prepares all shipping/receiving documentation.
  - 1.4.2 Assures that the radiation levels for shipping/receiving are complied with.
  - 1.4.3 Inspects shipping containers for damage prior to shipping and upon receipt.
  - 1.4.4 Ensures a certificate of compliance accompanies each shipping package upon receipt/shipping. This ensures TRF management that all radiographic packages designed after January 1, 1979, were designed and fabricated under the control of a Nuclear Regulatory Commission Quality Control Assurance Program.
  - 1.4.5 Maintains a log of all receipt/shipping activities.
  - 1.4.6 Reports any conditions of non-compliance immediately to Code 441 (RSO).
- 1.5 CODE 441.1, NON-DESTRUCTIVE TEST BRANCH
  - 1.5.1 Inspects radiographic source shipping containers on receipt at the non-destructive test (user) facility and notifies Code 441 immediately if any physical damage or deficiency is noted.
  - 1.5.2 Inspects containers before transportation to Code 532 for shipment out of TRF to ensure proper container integrity and proper packaging of the radioactive material. Also checks that container radiation levels are within the limits of 200mr/hr at the surface and 10mr/hr at 3 feet.
  - 1.5.3 Complete inspection/survey check list record and forward to Code 441 (RSO).

- 1.5.4 Caution tags shall be affixed to all containers the operating status of which is found to be discrepant by inspections and tests defined above. Caution tags will describe the deficiencies and state "not authorized for use."
- 1.5.5 Discrepant containers after tagging will be segregated to prevent inadvertent use.
- 1.6 CODE 400, PLANNING DEPARTMENT, QUALITY ASSURANCE DIVISION
  - 1.6.1 Ensures audits are performed on all requirements of reference (b).
  - 1.6.2 Audits will be performed using a written check list.
  - 1.6.3 Results of audits will be maintained and reported to responsible management.
  - 1.6.4 Audit reports will be evaluated and deficient areas corrected.
  - 1.6.5 Audit schedules will be dependent upon safety significance, but each activity will be audited at least once per year.
  - 1.6.6 Members of the audit team will have no responsibility in the activity being audited.

2.0 HANDLING, STORAGE, AND SHIPPING

- 2.1 Radiation safety and work procedures are written in reference (a) and will be listed in this paragraph.
- 2.2 Restrictions on shipping.
- 2.3 Inspections and test required for handling, storage, and shipping.

3.0 QUALITY ASSURANCE

- 3.1 Audits of the Quality Assurance Program conducted yearly will be supervised by the Quality Assurance Officer.
- 3.2 All of the following records for this Quality Assurance Program will be maintained for four years.

<u>Record Title</u>	<u>Maintained by</u>
(a) Personnel training and certification	Radiation Safety Officer Q. A. Office
(b) Receipt/Shipping	Radiological Control Div. RADCON Office
(c) Code 430 radiation surveys	Radiological Control Div. RADCON Office

(d) Receipt/Shipping Log	Radiological Control Div. RADCON Office
(e) Radiographic Shipping Container Non-Compliance	Radiation Safety Officer QA Office
(f) Radiographic Shipping Container Inspection/Survey Check List	NDT Branch QA Office
(g) Quality Assurance Program Audit	Radiation Safety Officer QA Office
(h) Receipt/Shipping Inspection	Radiation Safety Officer QA Office

#### 4.0 ORGANIZATIONAL STRUCTURE

##### 4.1 Organization Structure for Normal Radiographic Operations

Commanding Officer  
 Quality Assurance Officer  
 Radiation Safety Officer  
 Radiological Controls Officer  
 Radiation Health Officer  
 NDT Division Head  
 Senior Radiographer  
 Radiographers

- a. The Commanding Officer has overall responsibility for the safe conduct of radiographic operations.
- b. The Quality Assurance Officer is directly responsible for the use and stowage of radioactive sealed sources. He shall be assisted by the Radiation Safety Officer and Senior Radiographer.
- c. The Radiation Safety Officer is responsible to the Commanding Officer for matters related to industrial radiography. Should there exist an unsafe or potentially unsafe situation with regard to radiographic sources he shall have direct access to the Commanding Officer.
- d. Radiological Controls Officer is responsible for all radioactive material at TRIDENT Refit Facility and as such shall perform all inventory and accountability inspections and receipt and transfer evaluations of all radiographic sources.
- e. The Radiation Health Officer is responsible to the Commanding Officer for preparation of all personnel exposure reports required by the NRC and Code of Federal Regulations, Title 10 Parts 20 and 34.
- f. The Non-Destructive Testing Division Head is responsible to the QA Officer for all non-destructive testing and as such is the administrative supervisor of the radiographers.
- g. The Senior Radiographer and Radiographers are directly responsible to the Radiation Safety Officer for assuring that Radiography is at all times performed in accordance with NRC regulations and the conditions of this license.