DURALOY TECHNICAL PROCEDURE

NUMBER 9.101 PAGE 1 OF 3
DATE October 17, 1989
REVISION _____ PAGE _____ OF _____
DATE _____

TITLE: Radioactive Materials For Transport

ISSUED TO: MFG _____ P _____ MC _____ ENG _____ PLT _____
SCS _____ ADM _____ QA _____

APPROVED BY _____ APPROVED BY _____
DIRECTOR OF METALLURGY & QUALITY ASSURANCE

1. Organization

The final responsibility for the Quality Assurance Program for Part 71 of 10 CFR, U.S. Nuclear Regulatory Commission Rules and Regulations rests with Duraloy. Designing and fabrication of radioactive material shipping packages shall not be conducted under this Quality Assurance Program.

The attached chart shows the formal Quality Assurance organization. The Radiation Safety Officer is responsible for overall administration of the program, training and certification, document control and auditing. The radiographers are responsible for handling, storing, shipping, inspection, test, operating status and record keeping.

2. Quality Assurance Program

The management of Duraloy has established and implemented the Quality Assurance Program and attached it to the operating and emergency procedures as Section XII (3-13-81 revision date).

2.1 Training

Training in all the Quality Assurance functions must be completed prior to performing any of these functions according to written procedures.

2.2 Quality Assurance revisions will be made according to written procedures by the Radiation Safety Officer and management approval.

2.3 Quality Assurance Program includes documentation from the vendors stating that the necessary certification of engineering procedures and specific provisions of the package design approval are satisfied. The Radiation Safety Officer shall be responsible for obtaining necessary document from vendor.

2.4 Quality Assurance Program will emphasize control of the characteristics of the package which are critical to safety.

3. Document Control

3.1 All documents related to a specific shipment (shipping or receiving) will be reviewed by the Radiation Safety Officer for completeness.

3.2 The Radiation Safety Officer shall insure that all Quality Assurance functions are conducted in accordance with the latest applicable documents.

3.3 All document changes will be performed according to written procedures approved by management.

4. Handling Storage, Shipping and Receiving

4.1 Written safety procedures concerning the handling, storage, shipping and receiving of packages for applicable special form radioactive material will be followed.

4.2 Shipments will not be made unless all tests, certifications, acceptances, and final inspections have been completed.

4.3 Work instructions will be provided for handling, storage, shipping and receiving operations.

4.4 Radiography personnel shall perform the following:

4.4.1 Receiving, handling, and storage of all radioactive materials.

4.4.2 Necessary critical sealing and shipping preparations.

5. Inspection, Test and Operating Status

5.1 Inspection, test and operating status of packages for applicable special form radioactive material will be maintained on Appendix D-11 titled "Inspection and Preparation of Radioactive Materials for Shipment."

5.2 To verify conformance with the documented instructions .

5. Inspection, Test and Operating Status (cont.'d.)

5.3 Status of nonconforming packages will be positively maintained by written procedures.

5.4 Radiography personnel shall perform the required inspections and tests in accordance with written procedures. The Radiation Safety Officer shall insure that these functions are performed.

6. Quality Assurance Records

6.1 Records of package approvals, inspections, tests, operating logs, audit results, personnel training and qualifications and records of shipment will be maintained.

OPERATING AND EMERGENCY PROCEDURES

SECTION XII

Q. A. Program for Receiving and Shipment of Radiographic Materials

PART I

1.0 HANDLING, SHIPPING AND RECEIVING PROCEDURES

1.1 General Information

Radiographic exposure devices used by Duraloy Blaw-Knox are received and shipped in vendor-supplied Uranium-shielded storage container and outside packaging, meeting I.A.E.A. and USNRC specifications requirements for all modes of transportation.

1.2 Handling, Shipping and Receiving Procedures

The following instructions are common for all radiation sources shipped from Duraloy Blaw-Knox.

A. A survey shall be made by a radiographer using a calibrated operative survey meter for determination of the following:

1. The survey shall ascertain that the radioactive isotope is in the shielded storage container or off position, secured properly by locking and safety wire where applicable.

2. The limits of radiation allowed during this survey are defined by Section 34.21, 10 CFR, Part 34.

3. When the shielded storage container is deemed safe, the radiographer will place this unit into the outside shipping package, making certain the shielded storage container is secure.

B. The radiographer shall bolt lid (cap) on outside package and seal (wire seal).

C. The radiographer shall ascertain proper shipping information on the shipping package for labels and tags.

1. To whom shipped, two places.

2. From whom shipped.

3. Proper NRC labels.

D. Final survey shall be made by the radiographer using a calibrated operative survey meter on the surface of the shipping package.

E. The results of the above six steps will be documented on Form D-11.

Receiving and Packaging for Shipment of Radiographic Materials

PART II

1.0 DBK Radiographers

2.0 The following NRC rules and regulations of Title 10, Chapter 1, Code of Federal Regulations, are attached and made part of these instructions. It is expected that the provisions of these NRC regulations will be observed and administered.

A. Part 20 - Standards for Protection Against Radiation

1. Particular emphasis on Sections 20.203, 20.205, 20.206, 20.207, 20.301, 20.302, 20.303, 20.304, and 20.305.

B. Part 34 - Licenses for Radiography and Radiation Safety

1. Emphasis on Sub Part B, starting with 34.21.

C. Part 71 - Packaging of Radioactive Material for Transport.

3.0 Preparing Radioactive Materials for Transport

A. Survey meter in hand, check radiation level. Survey the projector on all sides and the top. Limits not exceeding 200 Mr/Hr at outside surface of gamma ray projector (radiographic exposure device.)

B. Ascertain that gamma ray projector is locked and wire sealed. Each storage container shall be provided with a lock and kept locked when containing sealed sources, except when the container is under the direct surveillance of a radiographer "Part 34", "Sub B", 34.22.

C. Identify the Gamma Ray Projector

1. Serial Number
2. Model Number
3. Serial Number of Source

D. Place gamma ray projector into proper shipping barrel (package.)

E. Bolt lid (cap) and safety wire seal.

F. Survey shipping barrel (package) for radiation levels - limits not to exceed 200 Mr/Hr at outside surfaces.

G. The shipping barrel (package) must have the following labels:

1. Complete shipping address - two places.
2. Return address.
3. Proper NRC labels.

H. Documentation using Form D-11 titled "Inspection and Preparation of Radioactive Materials for Shipment" will be completed.

APPENDIX-11

INSPECTION AND PREPARATION OF RADIOACTIVE MATERIALS FOR SHIPMENT

Date of Inspection _____ Name of Radiographer _____

Gamma Ray Projector (Uranium Shielded Storage Container)
Serial Number _____ Model Number _____

Shipping Barrel (Package) Serial Number _____

Serial Number of Source IR-192 S/N _____ Activity of Source _____ (curies)

Date of External Leakage Test _____

Note: Stop if the leak test date is more than six months and notify the Radiation Safety Officer. Do Not Ship. Part 34, Sub. B-34.25(C)

The following procedure must be performed:

1. Survey gamma ray projector with meter. Surface reading should not exceed 200 Mr/Hr. Actual reading is _____

2. Secure properly by locking and safety wire seal.

3. When the gamma ray projector is deemed safe, the radiographer will place the unit into the shipping barrel (package) making certain the unit is secure.

4. The radiographer shall bolt lid (cap) on barrel and safety wire seal.

5. Survey shipping barrel (package) and do not ship if surface radiation levels exceed 200 Mr/Hr. Actual reading is _____

6. The radiographer shall check shipping barrel (package) for:

   a. To whom shipped and complete address _____

   b. From whom shipped and return address _____

   c. Proper NRC labels

Signature _____
DBK Radiography Department