71-0578

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June 19, 2006

ATTN: E. William Brach
Director, Spent Fuel Project Office
MS O13-D13
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

University of Florida Training Reactor, Facility License R-56, Docket 50-83
Request to be Registered as a User of USNRC Package
ID Number USA/5957/B( )F – Model No. BMI-1 Cask
Shipping Quality Assurance Program for Type B Packages

The University of Florida Training Reactor (UFTR) previously requested to be registered as a user of U.S. Nuclear Regulatory Commission Package Identification Number USA/5957/B( )F, Model No. BMI-1 Cask, in accordance with 10 CFR 71.12 (3). The following is pertinent facility information:

- Licensee Name: University of Florida Training Reactor
- Docket Number: 50-83
- License Number: R-56
- USNRC Package ID No.: USA/5957/B( )F

Enclosed with this letter is the Shipping Quality Assurance Program for Type B Packages for your review and approval.

If there are any questions or concerns with this request, please contact me.

Sincerely,

William G. Vernetson
Director of Nuclear Facilities

WGV/dms
Enc.

cc: RSRS
A. Adams
M. Mendonca (letter only)

Sworn and subscribed this 19 day of June 2006

Diana L. Dampier
Notary Public

Diana L. Dampier
Commission # DD452982
Expires July 20, 2009
Bonded Troy Fain - Insurance, Inc. 800-385-7019

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UNIVERSITY OF FLORIDA
TRAINING REACTOR FACILITY

SHIPPING QUALITY ASSURANCE PROGRAM FOR TYPE B PACKAGES

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June 2006

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I. INTRODUCTION

By this document the University of Florida Training Reactor (UFTR) establishes a Shipping Quality Assurance (QA) Program in accordance with 10 CFR 71, Subpart H. The UFTR Shipping QA Program establishes requirements applicable to procurement, use, maintenance and repair of packaging used in transport of licensed material in excess of Type A quantity. The program includes the acquisition, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance and repair of Type B packages regulated by 10 CFR 71. The Shipping QA Program applies to those activities affecting the packages and their components, which are significant to safety. Quality assurance comprises those planned and systematic actions necessary to provide adequate confidence that a system or component will perform satisfactorily in service. Shipping packages regulated by 10 CFR 71 will be released for shipping only after they have satisfactorily met the requirements of the UFTR Shipping QA Program.

II. QUALITY ASSURANCE

1. Organization

The Director of Nuclear Facilities is responsible for the Shipping QA Program and shall assure the program complies with 10 CFR 71, Packaging and Transportation of Radioactive Material. The Director of Nuclear Facilities will have the following minimum qualifications: advanced degree in Engineering or related field, five years' experience with reactors, and general knowledge of all aspects of research reactor operation.

The Director of Nuclear Facilities shall be designated as the Shipping/Fuel Handling QA Supervisor who has the responsibility to ensure that all work in assigned areas complies with 10 CFR 71, Subpart H – Quality Assurance. This position is advised by the Reactor Safety Review Subcommittee. The Director of Nuclear Facilities shall designate, in writing, Shipping QA Inspectors, who have the responsibility to ensure that all requirements of Shipping QA

procedures have been performed and verified. The Shipping/Fuel Handling QA Supervisor and Shipping QA Inspector positions may be collateral duties of designated staff members.

All Shipping/Fuel Handling QA Supervisors, Inspectors and Performers have the authority to stop unsatisfactory work in order to comply with federal regulations and UFTR Shipping QA procedures. If a difference in opinion or a safety concern occurs between a Shipping QA Inspector and other Shipping QA personnel concerning compliance with the Shipping QA Program, the work evolution involved shall be stopped and put in a safe condition. The Shipping QA Inspector shall show the individual(s) the basis for the requirement. If the difference of opinion still exists, the appropriate Shipping/Fuel Handling QA Supervisor shall resolve the difference after consultation with the Director of Nuclear Facilities and/or Radiation Control Officer.

The UFTR is a small 100 kW reactor facility, the fuel is relatively low activity and little hazardous/radioactive waste is expected to be generated during shipping-related activities. The UFTR Shipping QA Program has a single responsible group designated for Fuel Handling/ Shipping. This group has a Fuel Handling/Shipping QA Supervisor to ensure that work in the assigned area meets the requirements of the Shipping QA Program.

The Shipping/Fuel Handling QA Supervisor is responsible for packaging and shipments of reactor spent fuel and/or fissile material in Type B packages.

The primary responsibility of the Director of Nuclear Facilities is the safe shipment of reactor spent fuel. The Director of Nuclear Facilities is designated as the Shipping/Fuel Handling QA Supervisor. The UF Radiation Control Officer is designated as an alternate Shipping/Fuel Handling QA Supervisor for spent fuel and/or fissile material shipments.

2. Quality Assurance Program

The UFTR Shipping QA Program establishes requirements applicable to procurement, use, maintenance, and repair of packaging used in transport of licensed material in excess of a Type A quantity. Where appropriate, procedures will be in place to ensure the implementation of the UFTR Shipping QA Program requirements. Any action or procedure that could significantly affect the ability of any structure, system, or component to perform safely and as specified falls within the scope of the UFTR Shipping QA Program.

The Shipping QA Program will be applied in a graded approach to an extent consistent with the importance to safety. Because the UFTR does not design or manufacture Type B packaging, the regulations in 10 CFR 71, Subpart D – Application for Package Approval; Subpart E – Package Approval Standards; and Subpart F – Package, Special Forms, and LSA-III Tests are not applicable to the UFTR Shipping QA Program.

Prior to use and shipment of Type B packages, it is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure that the UFTR is registered with the NRC as an authorized user of the package and the shipment shall be made in accordance with the conditions of the NRC Certificate of Compliance.

All Shipping/Fuel Handling QA Supervisors and Shipping QA Inspectors will have their training and experience documented by completion of the appropriate training records. The Shipping/Fuel Handling QA Supervisor shall ensure that all personnel who perform work in accordance with the Shipping QA procedures are adequately trained and qualified to perform the work.

3. Procurement Document Control

Prior to the acquisition of Type B shipping packages, it is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure that the supplier of the packaging supplies all appropriate certifications verifying the designated packaging (model and serial number) was manufactured

under the control of an NRC-approved QA program, identifies the type of verification activities required during use and maintenance, and designates other pertinent documentation to be furnished with the packaging (certificate of compliance, as-built drawings, use and maintenance manuals, photographs).

Prior to the purchase of replacement parts for Type B packaging, all parts important to safety will be reviewed by the Shipping/Fuel Handling QA Supervisor to ensure that all technical and QA requirements are included in purchase orders. When applicable, purchase orders shall be placed with suppliers/manufacturers previously qualified during fabrication of the packaging. For the purchase of replacement parts from suppliers/manufacturers not previously identified as qualified sources, it is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure that the replacement parts meet requirements at least as stringent as the original criteria.

4. Instructions, Procedures and Drawings

Administratively controlled procedures shall be established for the use, maintenance, repair and preparation for transport of all Type B packaging.

5. Document Control

Control will be exercised for Shipping QA documents. Shipping QA documents consist of procedures, manuals, audits, instructions, specifications, training records, and drawings used in the procurement, use, maintenance and repair of Type B packaging.

Prior to use, the Director of Nuclear Facilities and the Radiation Control Officer will review and approve all Shipping/Fuel Handling QA procedures and revisions for the preparation and shipment of Type B quantities. Prior to use, the Shipping/Fuel Handling QA Supervisor will review and approve all Shipping/Fuel Handling QA procedures and revisions for preparation and shipment of Type B quantities of irradiated fuel and fissile material.

Controlled copies of approved Shipping/Fuel Handling QA procedures will be made available to persons responsible for using those documents.

It is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure the accuracy of all Fuel Handling/Shipping QA documents, to ensure that all personnel performing QA work are adequately trained and qualified to perform this work, and to ensure that all personnel performing QA work are aware of any revisions to procedures. It is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure this training is completed and documented.

6. Control of Purchased Material, Equipment and Services

It is the responsibility of the Shipping/Fuel Handling QA Supervisor to ensure that purchased material, equipment, and services, whether purchased directly or through contractors, conform to the procurement documents. Source surveillance, audits of records, inspection and examination of products on delivery shall be performed as appropriate to ensure that the design and fabrication of Type B packaging was performed under the control of NRC-approved QA programs.

The Shipping/Fuel Handling QA Supervisor shall ensure that Type B packaging received at the UFTR is accompanied by appropriate documentation as identified in the purchase order. All documents that are referenced in the certificate of compliance, relate to the use and maintenance of the packaging, and identify necessary actions to be taken prior to the delivery of licensed material to a carrier for transport shall be present.

Contractors and suppliers are selected on the basis of references, past performance to the UFTR, reputation and other investigation. Appropriate credentials, and licenses if required by law, code or regulation, will be furnished and retained on file. No deviations from procurement documents are allowed without written request by the vendor and approval by the Director of Nuclear Facilities or designated representative.

7. Identification and Control of Materials, Parts and Components

The Shipping/Fuel Handling QA Supervisor shall ensure that materials, parts and components used for repair of Type B packaging are adequately identified and controlled to prevent use of incorrect or defective items. When replacement of limited-life items is specified, the Shipping/Fuel Handling QA Supervisor shall ensure that no materials, parts or components are used whose shelf life or operation times have expired.

8. Control of Special Processes

The Shipping/Fuel Handling QA Supervisor shall ensure that all major repairs of Type B packaging requiring special processes such as welding or non-destructive testing be performed in accordance with the following criteria: all procedures, equipment and personnel are qualified in accordance with applicable codes, standards, and specifications; the operations are performed by qualified personnel and accomplished in accordance with written process sheets with recorded evidence of verification; and qualification records of procedures, equipment and personnel are established, filed and kept current.

9. Inspection Control

The Shipping/Fuel Handling QA Supervisor or Shipping QA Inspector will perform a visual inspection of all Type B packaging upon receipt at the UFTR to ensure compliance with procurement documents. These visual inspections should include inspection of surface conditions; weld and structural integrity; the condition of flange faces or sealing areas, gaskets, seals, gauges, rupture disks, valves, and pressure relief devices; the condition of tie-down members; labeling and marking; and leak-tightness; and leak-tightness of the packaging. Any Type B packaging that does not comply with the procurement specifications or fails the visual QA inspection will be in non-compliance and immediately reported to the Shipping/Fuel Handling QA Supervisor, the Director of Nuclear Facilities, and the Radiation Control Officer.

Procedures shall ensure adequate maintenance of Type B packaging. They shall identify the items to be maintained, the criteria for acceptability or replacement, and the frequencies of inspection assigned to each item.

The appropriate Shipping/Fuel Handling QA Supervisor shall establish checklists to ensure that inspections are performed to verify compliance with the following items prior to each use:

1. Type B packages are properly assembled.
2. Valves are set to specifications.
3. All shipping papers are properly completed.
4. Type B packages are conspicuously and durably marked as required by DOT regulations.
5. Authorized individuals shall sign the shipping paperwork prior to release for shipment.

Procedural steps which require an independent QA inspection will be completed by a Shipping QA Inspector or a Shipping/Fuel Handling QA Supervisor who is not performing the activity being inspected.

10. Control of Measurement and Test Equipment

The Shipping/Fuel Handling QA Supervisor shall ensure that measurement and test equipment (gauges, fixtures, reference standards, and devices used to measure product characteristics of Type B packages) will be calibrated, adjusted and maintained at established intervals. Measurement and test equipment should be labeled or tagged to indicate the planned date of its next calibration and the calibration records should be identified and traceable. Calibration shall be traceable to nationally recognized standards; or, where nationally recognized standards do not exist, provisions shall be established to document the basis for calibration.

Measurement and test equipment that fail calibration will be removed from service and tagged as out of calibration equipment until repaired or replaced.

11. Handling, Storage and Shipping

The handling, storage and shipping of Type B packaging will be controlled to assure safety, minimize degradation, damage and/or loss.

12. Inspection, Test and Operating Status

A tag, label, marking, log entry or other documentation will indicate the status of Type B packaging. The records will indicate when periodic surveillance tests have been performed. No deviations from required inspection, test or other critical operations are authorized without the approval of the Director of Nuclear Facilities and the Radiation Control Officer.

13. Non-Conforming Materials, Parts and Components

The Shipping/Fuel Handling QA Supervisor shall ensure that non-conforming items for completed packaging, replacement parts or components shall include the following principal elements:

(1) proper identification,
(2) segregation of discrepant or non-conforming items,
(3) disposition of the items on non-conformance, and
(4) evaluation of the items of non-conformance.

All items or components found to be in non-conformance by procedure, inspection, testing or operations is to be immediately reported to the Shipping/Fuel Handling QA Supervisor. Non-conforming items will be quarantined or placed in a controlled hold area until disposition is completed. After designated repair, the Shipping/Fuel Handling QA Supervisor shall ensure that the acceptance of non-conforming items is verified by re-inspection or re-test against the original specifications. Final disposition of non-conformances shall be identified and documented. Non-conformance reports should be analyzed by QA personnel to determine quality trends for appropriate management review and assessment.

14. Corrective Action

For activities important to safety concerning use, maintenance and repair of Type B packaging, the Shipping/Fuel Handling QA Supervisor shall ensure that conditions adverse to quality (e.g., those resulting from failures, malfunctions, deficiencies, deviations and defective material and equipment) are promptly identified and reported to appropriate levels of management. In the case of a significant condition adverse to quality, a root cause of the condition will be determined and corrective actions taken to preclude recurrence.

15. Quality Assurance Records

The Shipping/Fuel Handling QA Supervisor shall ensure the maintenance of QA records that are to be retained for the lifetime of packaging. These records include appropriate design and production-related records that are generated throughout manufacturing and furnished with packaging; records demonstrating evidence of operational capability; records verifying repair, rework and replacement; and audit plans, audit reports, corrective actions and records that are used as a baseline for maintenance. Records showing evidence of delivery of packages to a carrier and proof that all NRC and DOT requirements have been satisfied should also be retained with their retention times identified.

The Director of Nuclear Facilities, with guidance from the Radiation Control Officer, is responsible for the prompt replacement of a QA record that is lost or damaged and for assessing and controlling records in the UFTR's possession.

QA records shall be maintained in storage locations that minimize the risk of damage.

16. Audits

The Director of Nuclear Facilities shall ensure that audits are performed in accordance with pre-established written procedures or checklists and are conducted by qualified personnel not having direct responsibility in the areas being audited. The audit shall verify compliance with all aspects of the Shipping QA Program and determine the effectiveness of the program.

The procedures or checklists shall list activities to be audited and the frequency at which each activity is to be audited. The frequency of audits should be based on the importance of the activity to safety; however, each activity should be audited at least once each year.

It is the responsibility of the Director of Nuclear Facilities to ensure that corrective actions resulting from audits are completed and documented on a timely basis. Deficient areas shall be re-audited on a timely basis to verify implementation of corrective action.

APPENDICES

A. Personnel Responsibilities

B. References

C. Shipping QA Organization

QA PERSONNEL RESPONSIBILITIES

Director of Nuclear Facilities

The Director of Nuclear Facilities is responsible for the development and implementation of the UFTR Shipping QA Program.

The Director of Nuclear Facilities is responsible for Type B shipments of reactor spent fuel and/or fissile material and shall annually review and approve all applicable procedures for preparation and shipment of Type B radioactive materials of reactor spent fuel and/or fissile material.

The Director of Nuclear Facilities, with guidance from the Radiation Control Officer, is responsible for the prompt replacement of a QA record that is lost or damaged and for assessing and controlling records in the UFTR's possession.

Radiation Control Officer

The Radiation Control Officer shall annually review and approve the procedures for preparation of radioactive materials for shipping and the shipping of spent fuel and/or fissile material.

The UF Radiation Control Officer is designated as an alternate Shipping/Fuel Handling QA Supervisor for spent fuel and/or fissile material shipments.

The UF Radiation Control Officer provides guidance to the Director of Nuclear Facilities to assure prompt replacement of any QA record that is lost or damaged and for assessing and controlling records in the UFTR's possession related to the Shipping QA Program.

Supervisor, Fuel Handling/Shipping

The Shipping/Fuel Handling QA Supervisor is responsible for the packaging of Type B materials and their preparation for shipment.

The Shipping/Fuel Handling QA Supervisor is responsible for ensuring that work in the assigned area meets the requirements of the Shipping QA Program.

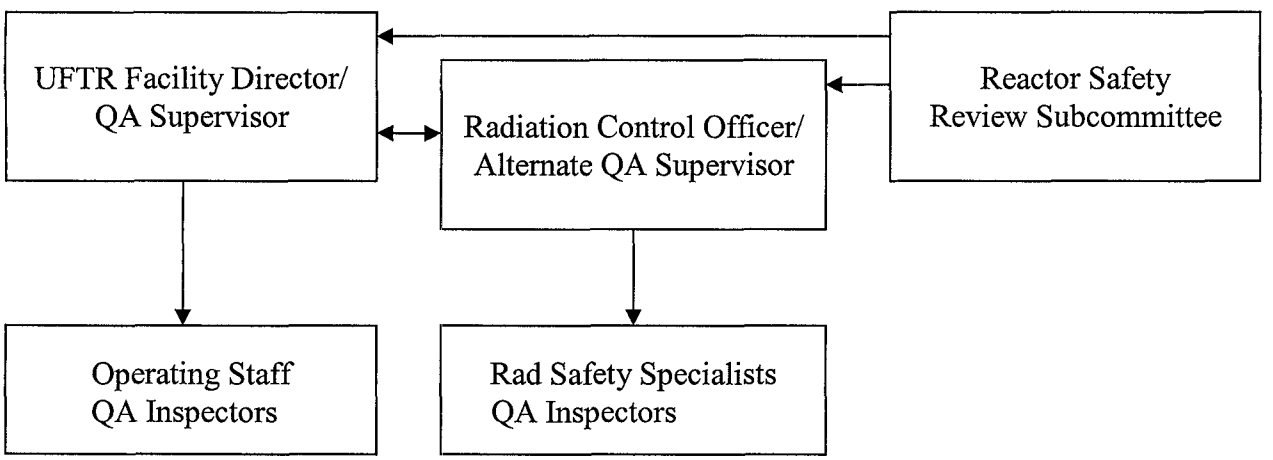
Shipping QA Inspectors

Shipping QA Inspectors shall perform the required QA inspection and have the authority to stop work not meeting the requirements of the Shipping QA Program.

REFERENCES

1. 10 CFR 71

2. Regulatory Guide 7.10 (Rev. 1), June 1986, "Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material"

3. ANS-15.8 (N402) – 1976, "Quality Assurance Program Requirements for Research Reactors" (Reaffirmed December 15, 1986)

UFTR SHIPPING QA ORGANIZATION