

July 24, 2006

Colonel David G. Jarrett, Director
Armed Forces Radiobiology
Research Institute
National Naval Medical Center
8901 Wisconsin Avenue
Bethesda, MD 20889-5603

SUBJECT: NRC ROUTINE, ANNOUNCED INSPECTION REPORT NO. 50-170/2006-201

Dear Colonel Jarrett:

This letter refers to the inspection conducted on July 10-12, 2006, at your Research Reactor Facility. The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress. Based on the results of this inspection, no safety concerns or noncompliance with NRC requirements were identified. No response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Mr. Kevin M. Witt at 301-415-4075.

Sincerely,

/RA/

Johnny Eads, Branch Chief
Research and Test Reactors Branch B
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-170
License No. R-84

Enclosure: NRC Inspection Report No. 50-170/2006-201
cc w/enclosure: See next page

Armed Forces Radiobiology Research

Docket No. 50-170

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Test, Research, and Training
Reactor Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

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U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No: 50-170

License No: R-84

Report No: 50-170/2006-201

Licensee: Armed Forces Radiobiology Research Institute

Facility: AFRRRI Reactor Facility

Location: Bethesda, Maryland

Dates: July 10-12, 2006

Inspectors: Kevin M. Witt
Marcus H. Voth

Approved by: Johnny Eads, Branch Chief
Research and Test Reactors Branch B
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

Armed Forces Radiobiology Research Institute
AFRRI Research Reactor Facility
NRC Inspection Report No.: 50-170/2006-201

The primary focus of this routine, announced inspection was the on-site review of selected aspects and activities since the last NRC inspection of the licensee's Class II non-power reactor safety programs including: organization and staffing, procedures, experiments, radiation protection program, design changes, committees, audits and reviews, fuel handling, and follow-up on previous open items.

The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

Organization and Staffing

- The organization and staffing were consistent with Technical Specification requirements.

Procedures

- Procedural control and implementation satisfied Technical Specification requirements.

Experiments

- The approval and control of experiments met Technical Specification and applicable regulatory requirements.

Radiation Protection Program

- Surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present.
- Postings met the regulatory requirements specified in 10 CFR Parts 19 and 20.
- Personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits.
- Radiation monitoring equipment was being maintained and calibrated as required.
- The Radiation Protection Program and ALARA Program satisfied regulatory requirements.
- Effluent releases and monitoring satisfied license and regulatory requirements.
- Appropriate training was being provided to all workers.

Design Changes

- Based on the records reviewed, the inspectors determined that the licensee's design change program was being implemented as required.

Committees, Audits and Reviews

- Review and oversight functions required by the Technical Specifications were acceptably completed by the Reactor Safety Committee and the Reactor and Radiation Facility Safety Subcommittee.

Fuel Handling

- Fuel handling and fuel inspection activities were completed and documented as required by the Technical Specifications and facility procedures.

Follow-up on Previous Open Items

- The issue regarding the licensee's missing extremity exposure records for 2003 was closed.

REPORT DETAILS

Summary of Plant Status

The licensee's 1 megawatt (MW) Training Research Isotope Production General Atomics (TRIGA) Mark II research reactor has been operated in support of educational demonstrations, experiments, reactor operator training, and periodic equipment surveillances. The licensee indicated that there has been no transportation of radioactive materials since the previous inspection.

1. Organization and Staffing

a. Inspection Scope (Inspection Procedure [IP] 69001)

The inspectors reviewed the following to verify compliance with the staffing requirements in Technical Specifications (TS) Sections 6.1 and 6.2:

- administrative controls
- management responsibilities and staff qualifications
- staffing requirements for the safe operation of the facility
- Armed Forces Radiobiology Research Institute (AFRRI) Reactor Facility organization
- staffing and staff qualifications
- management responsibilities as delineated in the TS
- Minutes of the Reactor and Radiation Facilities Safety Subcommittee (RRFSS) meetings, dated June 29 and December 19, 2005 and May 6, 2006 (draft)
- 2004 and 2005 AFRRI TRIGA Reactor Audit, dated November 22, 2004 and January 5, 2006, respectively
- AFRRI TRIGA Reactor Facility Annual Reports for 2004 and 2005, dated March 28, 2005 and March 23, 2006, respectively
- AFRRI Reactor Logbook Number (No.) 128 (opened October 20, 2005 and not yet closed) and Logbook No. 127 (opened September 14, 2004 and closed October 19, 2005)
- TS for the AFRRI Reactor Facility, Amendment No. 24, dated June 27, 2001

b. Observations and Findings

The AFRRI Reactor Facility organizational structure and the responsibilities of the reactor management and staff had not changed since the last inspection (see NRC Inspection Report No. 50-170/2005-201). Current licensed staff consisted of three full time staff members. All of the AFRRI Reactor Facility staff are qualified Senior Reactor Operators (SROs), including the Reactor Facility Director (RFD) and the Reactor Operations Supervisor (ROS). The licensee is currently preparing for several staff members to become licensed operators and the inspectors verified that the licensee is conducting the appropriate training for the operators in training.

The AFRRI Reactor Facility staff's qualifications satisfied the training and experience requirements stipulated in the TS. The operations log and

associated records confirmed that shift staffing met the minimum requirements for duty personnel. Review of records verified that management responsibilities were administered as required by TS and applicable procedures.

c. Conclusion

The organization and staffing were consistent with TS requirements.

2. Procedures

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to verify that the licensee was complying with the requirements of TS Section 6.3:

- Minutes of the RRFSS meetings, dated June 29 and December 19, 2005 and May 6, 2006 (draft)
- Operational Procedure 8, Tab H, "Weekly Operational Instrument Checklist," dated September 1, 2004
- observation of procedure implementation
- selected administrative and operational procedures
- records for procedure changes and temporary changes
- related logs and records documenting procedure implementation
- AFRRRI Operational Procedure 0, "Procedure Changes," dated February 11, 1999

b. Observations and Findings

The inspectors determined that written procedures were available for the activities delineated in TS Section H.1 and were approved by the RRFSS before they were implemented. The clarity and detail in the procedures was acceptable. AFRRRI Reactor Facility staff conducted TS activities in accordance with applicable procedures. Review of procedures indicated that an existing procedure regarding the Weekly Operational Instrument Checklist had been modified and approved by the RRFSS and the RFD. The reason for this procedure change is to ensure that the new water treatment system for the secondary cooling system is functioning as intended. Further details regarding this design change are described in Section (5) below. The inspectors noted that the revision to the procedure lays out an effective method of ensuring functionality of a system intended to prevent corrosion of the pipes in the secondary cooling system.

c. Conclusions

Procedural control and implementation satisfied TS requirements.

3. Experiments

a. Inspection Scope (IP 69001)

To verify compliance with the licensee's program for conducting experiments and

irradiations as outlined in TS Sections 3.6 and 6.4, the inspectors reviewed selected aspects of:

- Routine Reactor Authorizations No. 1 - 5, dated July 2000
- AFRRRI Reactor Logbook No. 128 (opened October 20, 2005 and not yet closed) and Logbook No. 127 (opened September 14, 2004 and closed October 19, 2005)
- Reactor Use Request (RUR) forms (AFRRRI Form 2, dated July 1, 1994) Nos. 04-01 through 04-02 and Nos. 05-01 through 05-02
- CET Log, dated from January 11, 1995 to present
- 2004 and 2005 AFRRRI TRIGA Reactor Audit, dated November 22, 2004 and January 5, 2006, respectively
- AFRRRI Operational Procedure 1, "Conduct of Experiments," dated March 4, 1996
- AFRRRI Operational Procedure 1, TAB A, "Reactor Exposure Room Entry," dated June 29, 2000
- AFRRRI Operational Procedure 1, TAB B, "Core Experiment Tube (CET)," dated May 15, 1991

b. Observations and Findings

The Routine Authorization forms noted above had been approved by the RFD, the Chairman, Safety and Health Department (SHD), and the Chairman and members of the RRFSS as required by TS Section 6.4. The RUR forms that had been completed for conducting experiments during 2004 and 2005 contained the appropriate information, hazards analyses as applicable, and had been reviewed and approved as required by TS and procedure. The experiments that have been conducted at the AFRRRI Reactor Facility primarily utilize the CET and the Exposure Rooms. The inspectors determined that the ROS and the RFD determine which samples inserted into the core constitute an experiment. The licensee stated that any materials inserted into the core for use as a surveillance activity, calibration, or testing is not considered an experiment and is handled as specified in other procedures.

Through review of the experiment procedure, the Reactor Logbook, and interviews with staff, the inspectors verified that the experiments and irradiations that were completed were installed, constrained, conducted, and removed as outlined in the experiment authorizations and as required by the TS. The radioactive material produced was handled and controlled as required. The inspectors confirmed that all of the experiments conducted were in accordance with TS limits and procedural requirements.

c. Conclusions

The approval and control of experiments met TS and applicable regulatory requirements.

4. Radiation Protection Program

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to verify compliance with 10 CFR Parts 19 and 20 and TS Sections 3.5, 3.8, and 4.5 requirements:

- Radiation and contamination survey records documented on forms in accordance with the guidance contained in AFRRI SHD Health Physics (HP) Procedures
- Gaseous and liquid effluent release records
- Calibration and periodic check records for radiation monitoring instruments documented on the applicable forms
- Radiological signs and postings in the controlled areas of the facility
- AFRRI personnel dosimetry records for 2004 and 2005
- As Low As Reasonably Achievable (ALARA) Program
- Reactor Facility and other AFRRI personnel radiation protection training records
- Documentation of various types of training classes given for General Employees (non-radiation workers), Supervised Users (radiation workers), Principal/Scientific Investigators, and of specialized classes for Spanish-speaking personnel
- AFRRI SHD Health Physics Procedure 3-2.B, "Reactor Facility Health Physics," Rev. dated April 10, 2000
- AFRRI Instruction 6055.8E, "Radiation Protection Program," dated March 12, 2001

b. Observations and Findings

(1) Facility Tour

The inspectors toured the reactor facility, the radiation detector calibration room and accompanying facilities. Control of radioactive material and control of access to radiation and high radiation areas were observed to be acceptable. The postings and signs for these areas were appropriate. Permanently mounted radiation detectors were verified to have current calibration placards.

(2) Surveys

The inspectors witnessed the weekly gathering of smear samples for contamination in controlled areas pursuant to HP Procedure 3-2.B; the samples read at background levels. A more extensive survey including unrestricted areas is conducted on a bi-weekly basis. The number and location of survey points was adequate to characterize the radiological conditions.

In response to an inspector question of detecting potential contamination in the room housing the primary system pump, water filter,

demineralization system, and heat exchanger, the licensee noted that HP personnel monitor filter changes, demineralizer column replacement and maintenance activities exposing primary coolant. In addition, one of the weekly smear sample locations is at the entry into that room.

(3) Postings and Notices

The inspectors reviewed the postings required by 10 CFR Part 19 at the entrances to various controlled areas including the Reactor Bay, and radioactive material storage areas. The postings were acceptable and indicated the radiation and contamination hazards present. The facility's radioactive material storage areas were found to be properly posted. No unmarked radioactive material was found in the facility.

(4) Dosimetry

The licensee uses the Navy Laboratory which is accredited by the National Voluntary Laboratory Accreditation Program to process personnel dosimetry. Through direct observation, the inspectors determined that dosimetry was used in an acceptable manner by facility personnel. Individuals entering controlled areas of the facility were issued a direct reading pocket dosimeter. Records indicated that no abnormal readings were obtained.

An examination of the records for the inspection period showed that all exposures were well within NRC limits and within licensee action levels. The licensee has instituted an alert level of 50 millirem (mrem) per quarter at which it investigates activities of personnel. The 2005 records were reviewed; the maximum exposed individual on the received 22, 27, 22 and 37 mrem respectively for the four quarters.

(5) Radiation Monitoring Equipment

The calibration records of portable survey meters and fixed radiation detectors in use at the facility were reviewed. Data sheets for a random selection of portable survey meters, friskers and permanently mounted radiation monitors were reviewed and verified to match calibration stickers on the instruments. The inspectors verified compliance with a licensee policy that a meter, probe and interconnecting cable are considered a matched set; if any component required maintenance the entire set was recalibrated. Calibration frequencies met the requirements established in the procedures. Appropriate records were being maintained.

(6) Radiation Protection Program and ALARA

The licensee's Radiation Protection Program is documented in AFRRI Instruction 6055.8E which was reviewed along with numerous related procedures in the previous inspection. In the current inspection the inspectors verified that none of the referenced procedures had been

modified since the previous inspection. No issues related to the radiation protection program were identified.

The ALARA policy, as stated in AFRRI Instruction 6055.8E, "Radiation Protection Program," remains unchanged from the previous inspection. In accordance with the program, quarterly environmental and personnel exposure results are reported and reviewed. ALARA principles were promoted by reviewing lessons learned with Principle Investigators and were also included in the training programs for radiation workers.

The licensee has not implemented a respiratory protection program to limit the intake of radioactive material.

The licensee currently has not implemented a program for planned special exposures. However, the need for such a program may be considered as new projects are evaluated.

(7) Environmental Monitoring

The environmental monitoring program required analysis of quarterly samples of vegetation, soil and Thermoluminescent Dosimeter (TLD) monitors. The sample locations were strategically selected, centered at the reactor, in an array that monitored all sectors with emphasis given to nearest residents. Environmental TLD monitors were also placed in homes of selected employees living in the vicinity of the base. Records indicated that there was no measurable radiological impact on the environment.

The predominant gaseous effluent from the reactor is Argon-41. The amount generated, along with parameters such as the height of release, were inputs to the COMPLY computer code run with the Level 2 assumptions. The computation for 2005 data was reviewed and found to be well below the applicable limit.

The AFRRI facility potentially contaminated drains are piped to hold tanks in the building. After monitoring, the hold tanks are released to the sanitary sewer if found to be below release limits. Records for January through May of 2006 were reviewed and found to be 0.31% of the annual limit. The primary contribution was 0.014 Curies of Hydrogen-3, relative to a 5 Curie annual limit, from the cleanup of a terminated project in the facility that was performed under the broad isotope license, not under the reactor license.

(8) Training

The radiation procedures required that all personnel who work with radioactive materials receive training in radiation protection, policies, procedures, requirements, and the facilities prior to having unescorted access at the facility. Three levels of training were provided; General Employee Radiation Training (non-radiation workers), Supervised Users

(supervised radiation workers), and Principle/Scientific Investigator. A test was administered at the end of the training to verify that the individuals understood the material presented. Refresher training was required for all personnel on an annual basis. The training covered the topics required to be taught in 10 CFR Part 19 and the review of training materials and tests indicated that the staff were instructed on the appropriate subjects and received passing grades on tests.

The inspectors verified that instruction material given to all radiation workers addressed the declared pregnancy issue. The training file for a declared pregnant worker verified that special training was provided along with a copy of NRC Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Protection."

The inspectors noted that the individual responsible for the training program was pro-active in supplementing the required training material with ALARA lessons learned from both AFRRRI experience and external sources of information and also in the use of realistic scenarios for training and examinations.

c. Conclusions

The inspectors determined that: (1) surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present, (2) postings met the regulatory requirements specified in 10 CFR Parts 19 and 20, (3) personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits, (4) radiation monitoring equipment was being maintained and calibrated as required, (5) the radiation protection program and ALARA program satisfied regulatory requirements, (6) effluent releases and monitoring satisfied license and regulatory requirements, and (7) appropriate training was being provided to all workers.

5. Design Changes

a. Inspection Scope (IP 69001)

In order to verify that any modifications to the facility were consistent with 10 CFR 50.59, the inspectors reviewed selected aspects of:

- Minutes of the RRFSS meetings, dated June 29 and December 19, 2005 and May 6, 2006 (draft)
- facility design changes and records
- facility configuration and associated records
- AFRRRI Administrative Procedure A3, "Facility Modification," dated February 26, 2001
- AFRRRI Administrative Procedure A3, "Facility Modification Worksheet 1 - 10 CFR 50.59 Analysis," dated February 26, 2001
- AFRRRI Administrative Procedure A3, "Facility Modification Worksheet 2 - No 10 CFR 50.59 Analysis Required," dated February 26, 2001

- Completed Facility Modification Worksheet 2 for the Change to the Cooling Tower Water Treatment System, dated September 2, 2004

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspectors determined that no changes requiring prior NRC approval had been initiated and/or completed at the facility since the last NRC operations inspection. One design change the licensee has initiated was the installation of a water treatment system for the secondary coolant loop. This design change for the secondary cooling system was analyzed by the licensee and determined to have no effect on the safety of the reactor. The licensee has stated that if there were to be a leak of chemicals from the secondary system to the primary system, the conductivity monitors in the primary cooling system would immediately detect a problem. The inspectors verified that future changes or modifications to the facility will be analyzed by the staff, presented to and reviewed by the RSC, determined to be acceptable, and approved as required.

c. Conclusions

Based on the records reviewed, the inspectors determined that the licensee's design change program was being implemented as required.

6. Committees, Audits, and Reviews

a. Inspection Scope (IP 69001)

The inspectors reviewed the following to ensure that the audits and reviews stipulated in TS Section 6.2 were being completed:

- TS 6.2, "Review and Audit - The Reactor and Radiation Facility Safety Committee (RRFSC)"
- Minutes of the RRFSS meetings, dated June 29 and December 19, 2005 and May 6, 2006 (draft)
- Safety audit records for 2004 and 2005
- Responses to the safety audits
- Charter for the AFRRRI Radiation Safety Committee, Rev. 10, March 2005

b. Observations and Findings

The inspectors verified that the TS 6.2 requirements for the RRFSC are being met through a recently modified committee structure. The March 2005 "Charter for the AFRRRI Radiation Safety Committee" created the Radiation Safety Committee (RSC) with two subcommittees, the RRFSS and the Radioisotope and X-ray Safety Subcommittee (RXSS). The charter specifies that the RSC is a subset of RRFSS members and reports to the AFRRRI Director. RRFSS proceedings are conducted, documented in minutes and forwarded to the AFRRRI Director in accordance with TS 6.2 requirements. Through review of the meeting minutes, the inspectors could not determine the effectiveness of the new committee structure due to the relatively short period of time it has been in

existence. The effectiveness of the new arrangement in meeting the intent of the TS will be monitored in future inspections. This issue will be considered by the NRC as an Inspector Follow-up Item (IFI) and will be reviewed during the next inspection at the facility (IFI 50-170/2006-201-01).

The RRFSS had semiannual meetings as required. Review of the minutes indicated the RRFSS provided guidance, direction and oversight. The minutes provided an acceptable record of RRFSS review functions and of RRFSS safety oversight of reactor operations.

Annual audits of reactor facility activities for 2004 and 2005 were reviewed and found to meet the requirements of TS 6.2.5. Written reports were submitted to the AFRRRI Director and reviewed by the RRFSS. No significant discrepancies were identified in the audits.

c. Conclusions

Review and oversight functions required by the TSs were acceptably completed by the RSC and the RRFSS.

7. Fuel Handling

a. Inspection Scope (IP 69001)

To verify compliance with TS Sections 4.2.5 and 5.2.2, the inspectors reviewed selected aspects of:

- fuel handling equipment, instrumentation, and storage locations
- fuel handling and examination records contained in the Reactor Logbook No. 128, pages 2 - 9
- fuel movement and location records contained in the AFRRRI Records for Stainless Steel Fuel Elements binder and on the fuel element board located in the Control Room
- AFRRRI Administrative Procedure A4, "Special Nuclear Material Accountability," dated March 24, 2003
- AFRRRI Administrative Procedure A4, Appendix B "Fuel Inventory Sheet," dated October 1, 2005
- AFRRRI Operational Procedure 7, "Reactor Core Loading and Unloading," dated May 15, 1991

b. Observations and Findings

Fuel movement, inspection, log keeping, and data recording was being completed as required by procedure and in accordance with TS Sections 4.2.5 and 5.2.2 requirements. Data recorded for fuel movement were clear and cross referenced on fuel inventory sheets and in operations logs. The final, actual location of the fuel was consistent with that specified in the records. The inspectors verified that half of the fuel elements present in the core were being inspected for damage or deterioration and measured for length and bow annually as required by TS 4.2.5.

c. Conclusions

Fuel handling and fuel inspection activities were completed and documented as required by the TSs and facility procedures.

8. Follow-up on Previous Open Items

a. Inspection Scope (IP 69001)

The inspectors reviewed the actions taken by the licensee following identification of one Unresolved Item (URI) during previous inspections.

b. Observations and Findings

- (1) URI 50-170/2004-201-01 - Review the extremity exposure results for 2003 that were not available during the NRC inspection in March 2004 due to a processing problem.

NRC Inspection Report No. 50-170/2004-201, dated April 2, 2004, addressed the situation. During that inspection, the inspector noted that the extremity exposure records for 2003 were not available due to a processing problem. The licensee indicated that the extremity exposure data would be available when they received the results from the Naval Dosimetry Center.

During this inspection, the inspectors determined that the licensee had received the extremity exposure records for 2003. These records were reviewed and found acceptable. This issue is considered closed.

c. Conclusions

The issue regarding the licensee's missing extremity exposure records for 2003 was closed.

9. Exit Meeting

The inspectors presented the inspection results to licensee management at the conclusion of the inspection on July 12, 2006. The inspectors discussed the observations for each area reviewed. The licensee acknowledged the findings and did not identify as proprietary any of the material provided to or reviewed by the inspectors during the inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Adams, CAPT, Radiation Sciences Department Head
J. Ganz, HM1, Health Physicist, SHD
D. Jarrett, COL, MC, USA, Director, AFRRI
S. Miller, Reactor Facility Director
T. Pellmar, Scientific Director
D. Simpson, Radiation Safety Officer, SHD
H. Spence, Reactor Operations Supervisor
K. Tracy, SFC, Health Physicist, SHD
B. Wampler, Health Physicist, SHD

INSPECTION PROCEDURES USED

IP 69001 CLASS II NON-POWER REACTORS

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED:

50-170/2006-201-01	IFI	Follow-up to verify the licensee organizes and controls the RRFSS to effectively oversee the facility operations to ensure the public health and safety.
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CLOSED

50-170/2004-201-01	URI	Review the extremity exposure results for 2003 that were not available during the NRC inspection in March 2004 due to a processing problem.
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DISCUSSED:

None

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
AFRRI	Armed Forces Radiobiology Research Institute
ALARA	As Low As Reasonably Achievable
CET	Core Experiment Tube
CFR	Code of Federal Regulations
HP	Health Physics
IFI	Inspector Follow-up Item
IP	Inspection Procedure
MREM	Millirem
MW	megawatt
NRC	Nuclear Regulatory Commission

RFD	Reactor Facility Director
RO	Reactor Operator
ROS	Reactor Operations Supervisor
RRFSC	Reactor and Radiation Facility Safety Committee
RRFSS	Reactor and Radiation Facility Safety Subcommittee
RSC	Radiation Safety Committee
RUR	Reactor Use Request
RXSS	Radioisotope and X-ray Subcommittee
SHD	Safety and Health Department
SRO	Senior Reactor Operator
TLD	Thermoluminescent Dosimeter
TS	Technical Specifications
TRIGA	Training Research Isotope Production General Atomics
URI	Unresolved Item