

March 28, 2005

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

SUBJECT: NRC INSPECTION REPORT NO. 50-170/2005-201

Dear Colonel Jarrett:

This letter refers to the inspection conducted on March 14-17, 2005, at the Armed Forces Radiobiology Research Institute 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 concern or noncompliance to NRC requirements was 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 available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Craig Bassett at 404-562-4712.

Sincerely,

/RA/

Patrick M. Madden, Section Chief
Research and Test Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

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

Enclosure: NRC Inspection Report No.50-170/2005-201
cc w/enclosure: Please see next page

Armed Forces Radiobiology Research

Docket No. 50-170

cc:

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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: 50-170/2005-201

Licensee: Armed Forces Radiobiology Research Institute

Facility: AFRRRI Reactor Facility

Location: Bethesda, Maryland

Dates: March 14-17, 2005

Inspectors: Craig Bassett
Kevin Witt

Accompanied by: Lopchai Siripiom, Nuclear Engineer
Bureau of Nuclear Safety Regulation
Office of Atoms for Peace
Bangkok, Thailand

Approved by: Patrick M. Madden, Section Chief
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

Armed Forces Radiobiology Research Institute
AFRRI Research Reactor Facility
Inspection Report No. 50-170/2005-201

This routine, announced inspection included onsite review of selected aspects of programs and activities since the last NRC inspection including: organizational structure and staffing, review and audit and design control functions, reactor operations, operator requalification, maintenance and surveillance, fuel handling, experiments, procedural control, and emergency preparedness. The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

Organizational Structure and Staffing

- The organizational structure and staffing were consistent with Section 6.1 requirements in the Technical Specification.

Review and Audit and Design Control Functions

- The review and audit program satisfied the requirements in Section 6.2 of the Technical Specification and the Reactor and Radiation Facility Safety Committee was acceptably fulfilling its responsibilities.
- The design control program satisfied NRC requirements specified in 10 CFR 50.59.

Operations

- The operations program was acceptable, well documented, and satisfied Technical Specification Section 6.1 requirements.

Operator Requalification

- Operator requalification was being conducted in accordance with the Armed Forces Radiobiology Research Institute Reactor Operator Requalification Program.

Maintenance and Surveillance

- Maintenance records, performance, and reviews satisfied Technical Specification and procedure requirements.
- The program for tracking and completing surveillance checks and Limiting Conditions for Operation verifications satisfied Technical Specification requirements.

Fuel Handling

- Fuel handling activities and documentation were as required by the Technical Specification and facility procedures.

Experiments

- Conduct and control of experiments and irradiations met the requirements specified in Sections 3.6 and 6.4 of the Technical Specification and the applicable experiment authorizations and procedures.

Procedures

- Procedural review, revision, control, and implementation satisfied Technical Specification Section 6.3 requirements.

Emergency Preparedness

- The Emergency Plan and Implementing Procedures contained in the Emergency Response Guidebook were being audited and reviewed as required.
- The Memorandum of Agreement documenting emergency support to be provided by the National Naval Medical Center was being maintained and updated as required.
- Emergency facilities, instrumentation, and equipment were being maintained, controlled, and inventoried as required.
- Annual drills were being held as required and documentation was maintained concerning the follow-up critiques and subsequent corrective actions if needed.

REPORT DETAILS

Summary of Plant Status

The licensee's 1.1 megawatt research and test reactor (RTR) continued to be operated in support of service work, tours, training, and experiments. During the inspection, the RTR was started up, operated, and shutdown as required and in accordance with applicable procedures to support these ongoing activities.

1. Organizational Structure and Staffing

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

The inspectors reviewed the following regarding the licensee's organizational structure and functions to ensure that the requirements of Section 6.1 of the Technical Specification (TS), Amendment No. 24, dated September 18, 2001, were being met:

- Armed Forces Radiobiology Research Institute (AFRRI) Reactor Facility organization
- staffing and staff qualifications
- management responsibilities as delineated in the TS
- selected portions of the operations log for the past two years
- AFRRI TRIGA Reactor Facility Annual Reports for 2002 and 2003

b. Observations and Findings

The organizational structure had not changed since the last inspection in the area of reactor operations (refer to NRC Inspection Report No. 50-170/2003-201). Although routine rotation of military personnel occurred, replacement personnel with the appropriate qualifications or training were selected to fill any vacancies. The current organizational structure and staffing at the facility were as required by TS. The inspectors verified that qualifications of the staff met TS requirements. Review of records verified that management responsibilities were administered as required by TS and applicable procedures.

c. Conclusions

The organizational structure and staffing were consistent with TS Section 6.1 requirements.

2. Review and Audit and Design Control Functions

a. Inspection Scope (IP 69001)

In order to verify that the licensee had established and conducted reviews and audits as required in TS Section 6.5 and to determine whether modifications to the facility, if any, were consistent with 10 CFR 50.59, the inspectors reviewed selected aspects of:

- Reactor and Radiation Facility Safety Committee (RRFSC) meeting minutes from December 2003 to the present
- safety review and audit records for 2003 and 2004
- responses to the safety reviews and audits
- facility design changes and reviews for 2003 and 2004
- facility configuration and updated drawings
- AFRRRI Administrative Procedure A3, "Facility Modification," Revision (Rev.) dated February 26, 2001
- AFRRRI Administrative Procedure A3, "Facility Modification Worksheet 1 - No. 10 CFR 50.59 Analysis" Rev. dated February 26, 2001
- AFRRRI Administrative Procedure A3, "Facility Modification Worksheet 2 - No. 10 CFR 50.59 Analysis Required," Rev. dated February 26, 2001

b. Observations and Findings

(1) Review and Audit Functions

The RRFSC membership satisfied TS requirements and the Committee's procedural rules. The RRFSC had semiannual meetings as required and a quorum was present for each meeting. Review of the committee meeting minutes indicated the RRFSC provided appropriate guidance and direction for reactor operations, and ensured suitable use and oversight of the reactor.

The inspectors noted that each year a person, not affiliated with the reactor, was asked to conduct an audit of reactor facility under the cognizance of the RRFSC. The audits included reviewing activities, programs, procedures, equipment changes, and proposed tests or experiments. The audits and reviews also included reviews of the emergency and security plans as well. The inspectors determined that the audits and reviews had been completed and acceptably documented, were appropriate, and were reviewed by the RRFSC as required. The licensee responded to the audits and took corrective action as needed.

(2) Design Control

Records and observations showed that the changes made during 2003 and 2004 at the facility were acceptably completed in accordance with 10 CFR 50.59 and applicable administrative procedures and controls. The proposed changes were determined to be minor modifications and did not warrant extensive safety evaluations. The modifications were reviewed by the Reactor Facility Director, determined to be acceptable, and approved as required. The changes were subsequently presented to and reviewed by the RRFSC. None of the changes constituted a safety question or required a change to the TS.

c. Conclusions

The review and audit program satisfied TS Section 6.2 requirements and the RRFSC was acceptably fulfilling its responsibilities. The design control program satisfied NRC requirements specified in 10 CFR 50.59.

3. Operations

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to verify compliance with TS Section 6.1 and applicable procedure requirements for operation:

- staffing for reactor operations
- AFRRRI Malfunction Log, pages 108-111
- AFRRRI Reactor Logbook Number (No.) 127 (opened September 14, 2004 and not yet closed) and Logbook No. 126 (opened August 26, 2003 and closed September 8, 2004)
- Letter from AFRRRI notifying NRC of fuel temperature malfunction, dated January 3, 2005
- AFRRRI Operational Procedure 8, "Reactor Operations," Rev. dated May 1, 1998
- AFRRRI Operational Procedure 8, TAB A, "Logbook Entry Checklist," Rev. dated February 26, 2001
- AFRRRI Operational Procedure 8, TAB B, "Daily Operational Startup Checklist," AFRRRI Form 61a (R), Rev. dated October 7, 2002
- AFRRRI Operational Procedure 8, TAB B1, "Daily Safety Checklist," AFRRRI Form 61b (R), Rev. dated October 7, 2002
- AFRRRI Operational Procedure 8, TAB D, "K-Excess," Rev. dated January 16, 2002
- AFRRRI Operational Procedure 8, TAB E, "Steady State Operations," Rev. dated November 24, 1997
- AFRRRI Operational Procedure 8, TAB G1, "Pulse Operation (Critical)," Rev. dated March 16, 1998
- AFRRRI Operational Procedure 8, TAB G2 "Pulse Operation (Subcritical)," Rev. dated March 16, 1998
- AFRRRI Operational Procedure 8, TAB H, "Weekly Operational Instrument Checklist," AFRRRI Form 66 (R), Rev. dated September 1, 2004
- AFRRRI Operational Procedure 8, TAB I, "Daily Operational Shutdown Checklist," AFRRRI Form 62 (R), Rev. dated April 1, 2003
- AFRRRI Operational Procedure 9, "Reactor Room Safety," Rev. dated May 15, 1991

b. Observations and Findings

(1) Routine Operations

The operating logs and records were well maintained and provided a clear indication of operational activities, changes in reactivity, and maintenance actions or malfunctions that had occurred. The logs and records indicated that shift staffing, including on-call personnel, was as required by TS 6.1.3.2. Logs and records also showed that operational conditions and parameters were consistent with license and TS requirements and that TS operational limits had not been exceeded.

Through observations of reactor start-up, steady state, and shutdown operations carried out during the inspection, the inspectors noted that licensee personnel were following written procedures. Information on the operational status of the facility was recorded in log books and on checklists as required by procedure. Use of maintenance and malfunction logs satisfied procedural requirements. Significant problems and events noted in the operations log were reported, reviewed, and resolved as needed. Scrams were identified in the logs and records, reported, and their cause(s) resolved before the resumption of operations under the authorization of the Reactor Facility Director (RFD).

(2) Apparent Instrument Malfunction

TS Section 3.2.1 requires that the reactor shall not be operated unless the measuring channels listed in Table 1 are operable. (Table 1 indicates that the minimum number of operable fuel temperature safety channels shall be two for steady state operation.)

The inspectors reviewed an event that occurred in December 2004. On December 14, 2004, an operator trainee was operating the reactor as part of a licensing examination conducted by an NRC examiner. A licensed Senior Reactor Operator (SRO) was present in the Control Room during the exam while the trainee performed several power level changes and made appropriate entries in the operations logbook. After the examination ended, the licensed SRO reviewed the logbook for completeness. During the review, the SRO noticed that the recorded readings for fuel temperature Safety Channel #1 were significantly lower than expected for the power levels at which the reactor had been operated. The RFD was informed and the reactor was declared non-operational until the cause of the problem could be determined. It was noted that the recorded readings for fuel temperature Safety Channel #2 and a third instrumented element providing a signal to the chart recorder were as expected at the 900 kilowatt (kW) power level. It was also noted that the required electronic checks of the fuel temperature scrams and the required weekly fuel temperature channel test had been successfully performed shortly before the examination began.

The following day, December 15, the licensee took the following corrective actions. Fuel temperature Safety Channel #1 was again electronically checked. This included a check of all components except the thermocouple. All electronic and wiring components functioned normally as required. The channel scram function and set point were tested and found to be operational and correct. (The licensee concluded from the test that the problem was likely caused by a failed thermocouple within the instrumented fuel element.) The instrumented fuel element was replaced by an element from storage and the reactor was started up for testing. The reactor was stabilized at various power levels, through 900 kW, and the temperature readings were found to be correct at all tested power levels. At that point the RFD determined that both fuel temperature Safety Channels were functioning correctly and the reactor was returned to operational status. The RFD subsequently notified the NRC Project Manager of the reportable

occurrence as required by TS Section 1.21.b. The licensee also submitted a letter to the NRC on January 3, 2005, detailing the event as required by TS Section 6.5.2.

During this inspection on March 14-17, 2005, the fuel temperature Safety Channel #1 was observed to be functioning as required. The inspectors determined that the problem had been identified and reviewed by the licensee and reported to the NRC. Corrective actions had been identified and completed as well. As a result, the licensee was informed that this licensee-identified and corrected violation would be treated as a Non-Cited Violation (NCV), consistent with section VII.B.1 of the NRC Enforcement Policy (NCV 50-170/2005-201-01). This issue is considered closed.

c. Conclusions

The operations program was acceptable, well documented, and satisfied TS Section 6.1 requirements.

4. Operator Requalification

a. Inspection Scope (IP 69001)

To verify that the licensee was complying with the requirements of the operator requalification program, the inspectors reviewed selected aspects of:

- Reactor Operator Requalification Program for the Armed Forces Radiobiology Research Institute TRIGA Reactor Facility, revised June 27, 2001
- the effective dates of current operator licenses
- operator training records maintained on "Requalification Program Checklist" forms in individual folders for each operator
- operator physical examination records for the past two years
- operator competence evaluation and written examination records
- operator active duty status noted on "Quarterly SRO/RO Operating Requirements" forms located in the training folders
- AFRRRI Operator Drug Usage Log, effective date May 15, 1991
- AFRRRI Administrative Procedure A1, "Fitness For Duty," Rev. dated July 14, 1998
- AFRRRI Operational Procedure 2, "Reactor Staff Training," Rev. dated May 15, 1991

b. Observations and Findings

There were five qualified SROs on staff at the facility and two people were in training. The Requalification Program was maintained up-to-date and SRO licenses were current.

A review of the logs and records showed that training was being conducted in accordance with the licensee's NRC-approved requalification and training program. Requalification program data such as attendance at training sessions and completion

of examinations had been documented as required. Records of quarterly reactor operations, reactivity manipulations, other operations activities, and Reactor Supervisor activities were being maintained. Records indicating the completion of the annual operations tests and supervisory observations were also maintained. Biennial written examinations were being completed and documented as required as well. The inspectors also noted that operators were receiving the required biennial medical examinations.

c. Conclusions

Operator requalification was up-to-date and was being completed as required by the AFRRRI Reactor Operator Requalification Program.

5. Maintenance and Surveillance

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of:

- AFRRRI Malfunction Log, pages 108-111
- Annual Shutdown Maintenance Checklist conducted for 2003 and 2004
- AFRRRI Reactor Logbook No. 127 (opened September 14, 2004 and not yet closed) and Logbook No. 126 (opened August 26, 2003 and closed September 8, 2004)
- Calibration/Physics Log (New Console) containing calibration and test data sheets and records
- surveillance activities and equipment maintenance documented in the TRIGA Tracker System including Monthly Reports and Annual Maintenance Reports for 2003 through 2004
- Calibration Procedures for the AFRRRI Reactor Facility
- Maintenance Procedures for the AFRRRI Reactor Facility
- AFRRRI Operational Procedure 8, Tab B, "Daily Operational Startup Checklist," Rev. dated October 7, 2002
- AFRRRI Operational Procedure 8, Tab H, "Weekly Operational Instrument Checklist," Rev. dated September 1, 2004
- AFRRRI Operational Procedure 3, "Maintenance Procedures," Rev. dated December 1, 1994

b. Observations and Findings

(1) Maintenance

Routine and preventive maintenance was also controlled and documented in the TRIGA Tracking system through the Monthly TRIGA Tracker Report consistent with the TS and licensee procedures. Verifications and operational systems checks were performed to ensure system operability before return to service.

During facility tours, the inspectors noted that Control Room and Reactor Room equipment was operational.

(2) Surveillance Activities

Daily, weekly, monthly, quarterly, semiannual, and other periodic checks, tests, and verifications for TS required Limiting Conditions for Operation (LCOs) were being completed as required. All surveillance and LCO verifications reviewed were completed on schedule as required by TS and in accordance with licensee procedures. A computer-based system, the TRIGA Tracker system, was used to track completion of the various required surveillances and LCO verifications. A majority of the surveillance and maintenance activities were shown to be completed by a signature and date in the TRIGA Tracker logbook. Checklists and/or associated forms for calibration activities were completed and filed in the calibration/physics log to document the date those activities were completed and by whom. These checklists and forms provided acceptable documentation of the results and proper control of reactor operational tests and surveillances. The Annual Shutdown Maintenance Checklist documented all of the annual TS surveillance requirements. Daily and periodic checks of equipment operability were recorded by noting system parameters such as temperature, pressure, and flow. All written results observed by the inspectors were within prescribed TS and procedure parameters and in close agreement with the previous surveillance results.

The inspectors observed the licensee performing a semiannual control rod drop time test as required by TS 4.2.1. The licensee followed all applicable procedures and the results were in accordance with TS requirements.

c. Conclusions

Maintenance records, performance, and reviews satisfied TS and procedure requirements. The program for tracking and completing surveillance checks and LCO verifications satisfied TS requirements.

6. 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. 127, 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," Rev. dated March 23, 2004

- AFRRRI Administrative Procedure A4, Appendix B “Fuel Inventory Sheet,” Rev. dated October 1, 2004
- AFRRRI Operational Procedure 7, “Reactor Core Loading and Unloading,” Rev. 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.

During the inspection, the serial numbers of two fuel elements in the reactor pool were verified.

c. Conclusions

Fuel handling activities and the documentation thereof were acceptable and in accordance with procedural and TS requirements.

7. 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
- Reactor Logbook No. 126 and irradiation records
- Reactor Use Request (RUR) forms (AFRRRI Form 2, dated July 1, 1994) Nos. 03-01 through 03-03 and Nos. 04-01 through 04-02
- annual reviews documented in RRFSC meeting minutes
- AFRRRI Operational Procedure 1, “Conduct of Experiments,” Rev. dated March 4, 1996
- AFRRRI Operational Procedure 1, TAB A, “Reactor Exposure Room Entry,” Rev. dated June 29, 2000
- AFRRRI Operational Procedure 1, TAB B, “Core Experiment Tube (CET),” Rev. 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 RRFSC as required by TS Section 6.4. The RUR forms that had been completed

for conducting experiments during 2003 and 2004 contained the appropriate information, hazards analyses as applicable, and had been reviewed and approved as required by TS and procedure. Two of the experiments conducted in 2003 utilized the reactor exposure rooms and one utilized the CET. Two routine irradiations were conducted in the CET in 2004.

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.

c. Conclusions

Conduct and control of experiments and irradiations met the requirements specified in the TS and the applicable experiment authorizations and procedures.

8. 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:

- 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," Rev. dated February 11, 1999

b. Observations and Findings

Operations procedures were available for those tasks and items required by the TS. Written changes were approved by the RFD and reviewed by the RRFSC as required. The inspectors verified that there were no temporary changes to procedures within the time frame of the inspection period. Administrative procedures allowed temporary changes that did not change the original intent of the procedure, which could be made by the Reactor Operations Supervisor so long as they were documented and subsequently reviewed and approved by the RFD as required by the TS.

Review of procedure changes by staff members was documented on a standard AFRRRI form for each procedure. Training of personnel on procedures and changes was acceptable. Through records review, the inspector verified that personnel conducted TS activities in accordance with applicable procedures.

c. Conclusions

Procedural review, revision, control, and implementation satisfied TS requirements.

9. Emergency Preparedness

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to ensure that the licensee was complying with the Armed Forces Radiobiology Research Institute and AFRRRI Reactor Facility Emergency Plan, latest revision dated December 2003:

- Armed Forces Radiobiology Research Institute and AFRRRI Reactor Facility Emergency Response Guidebook dated April 1996
- records of quarterly inventories of emergency caches
- emergency response facilities, supplies, equipment and instrumentation
- training records for licensee staff and support personnel, including the Emergency Response Team (ERT) Training Log
- offsite support as documented in the Memorandum of Agreement between AFRRRI and the National Naval Medical Center
- emergency drills and exercises for the past two years
- AFRRRI Operational Procedure 6, "Emergency Procedures," Rev. dated June 4, 1998

b. Observations and Findings

The Emergency Plan (E-Plan) in use at the reactor was the same as the latest version approved by the NRC and was in accordance with 10 CFR 50.54(q). The E-Plan was being audited annually as required by TS Section 6.2.5.d. Implementing procedures contained in the Emergency Response Guidebook were being reviewed and revised as needed to effectively implement the E-Plan. Facilities, supplies, instrumentation, and equipment were being maintained, controlled, and inventoried as required in the E-Plan. During the inspection, the contents of various emergency caches were inventoried and verified by the inspectors and a licensee representative.

The inspectors reviewed the Memorandum of Agreement between AFRRRI and the National Naval Medical Center (NNMC) dated February 17, 2000, concerning emergency response support. This agreement included NNMC support in case of fire, hazmat, and medical emergencies. Communications capabilities were acceptable with these NNMC support groups and were being checked biennially as required.

Emergency drills had been conducted every year as required by the E-Plan. NNMC participation was also as required by the E-Plan. Critiques were held following the drills to discuss the strengths and weaknesses identified during the exercise and to develop possible solutions to any problems identified. The results of these critiques were documented and filed. Emergency preparedness and response training was being conducted quarterly for reactor staff personnel and the ERT as required. Orientation and training for NNMC fire department, as well as for NNMC Police and

the contract security guards, was conducted annually and documented as stipulated by the E-Plan.

c. Conclusions

The emergency preparedness program was conducted in accordance with the Emergency Plan.

10. Follow-up on Previously Identified Items

a. Inspection Scope (IP 69001)

The inspectors reviewed the licensee's actions taken following identification of an Inspector Follow-up Item noted in NRC Inspection Report No. 50-170/2003-201:

- IFI - 50-170/2003-201-01 - Follow-up on the completion of the RRFSC audit for 2002.

b. Observations and Findings

During the inspection in 2003, the inspector noted that the facility safety audit for 2002 was originally scheduled to be completed in January 2003. Because the person selected to conduct the audit was subsequently deployed to the Middle East, a second person had to be selected. That person was not going to be available to conduct an audit until the third week in February 2003.

As noted above, part of the current inspection included a review of the annual audits conducted by a designated individual under the cognizance of the RRFSC. The inspector noted that the audit had been completed on February 21, 2003, and that the audit was comprehensive and included those topics stipulated by the TS. This item is considered closed.

c. Conclusions

One previously identified Inspector Follow-up Item was reviewed and closed.

11. Exit

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on March 17, 2005. The licensee acknowledged the findings presented 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 Personnel

D. Jarrett, COL, MS, USA, Director, AFRRRI
S. Miller, Reactor Facility Director
J. Nguyen, Maintenance Specialist and Training Coordinator
J. Ribaya, SFC, USA, Reactor Operator Candidate
H. Spence, Reactor Operations Supervisor
S. Vaughn, MAJ, USA, Senior Staff Engineer
C. Whicker, SSGT, USA, Senior Reactor Operator

Other Personnel

E. Byre, MSG, USA, Security Manager, AFRRRI
P. Flemming, Assistant Fire Chief, NNMC Fire Department
J. Ganz, HM1 (SW), Radiation Health Technician, Safety and Health Department, AFRRRI
R. Jenkins, LtC, USAF, Director for Administration, AFRRRI
G. McGrew, Lieutenant, NNMC Police Department
R. Moreland, Fire Chief, NNMC Fire Department
D. Simpson, LCDR, USN, Radiation Protection Officer, AFRRRI
D. White, Security Guard, TW & Company, Inc. (Security Contractor for AFRRRI)
T. Wilson, Captain, Security Guard Force, TW & Company, Inc. (Security Contractor for AFRRRI)

INSPECTION PROCEDURES USED

IP 69001 Class II Research and Test Reactors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-170/2005-201-01	NCV	The reactor was operated with only one operable fuel temperature Safety Channel instead of two as required by TS Section 3.2.1.
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Closed

50-170/2005-201-01	NCV	The reactor was operated with only one operable fuel temperature Safety Channel instead of two as required by TS Section 3.2.1.
50-170/2003-201-01	IFI	Follow-up on completion of the facility safety audit for 2002, including review of the Emergency Plan and review of the Security Plan, scheduled for the third week of February 2003.

LIST OF ACRONYMS USED

AFRRI	Armed Forces Radiobiology Research Institute
CET	Central Experiment Tube
CFR	Code of Federal Regulations
E-Plan	Emergency Plan
ERT	Emergency Response Team
IFI	Inspector Follow up Item
IP	Inspection Procedure
LCO	Limiting Conditions for Operation
NNMC	National Naval Medical Center
NRC	Nuclear Regulatory Commission
Rev.	Revision/Revised
RFD	Reactor Facility Director
ROS	Reactor Operations Supervisor
RRFSC	Reactor and Radiation Facility Safety Committee
RTR	Research and Test Reactor
RUR	Reactor Utilization Request
SHD	Safety and Health Department
SNM	Special Nuclear Material
TS	Technical Specifications