UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 22, 2019

Dr. William Charlton, Director
Nuclear Engineering Teaching Laboratory
The University of Texas at Austin
Pickle Research Campus, Building 159
10100 Burnet Road
Austin, TX 78758

SUBJECT: UNIVERSITY OF TEXAS AT AUSTIN – U.S. NUCLEAR REGULATORY COMMISSION ROUTINE INSPECTION REPORT NO. 50-602/2018-201

Dear Dr. Charlton:

From November 6-8, 2018, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the University of Texas at Austin Nuclear Engineering Teaching Laboratory facility. The enclosed report presents the results of that inspection, which were discussed on November 8, 2018, with members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspector reviewed selective procedures and records, observed various activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified. No response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390, "Public inspections, exemptions, requests for withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's document system (Agencywide Documents Access and Management System (ADAMS)). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, please contact Mr. Johnny H. Eads at (301) 415-0136 or by electronic mail at Johnny.Eads@nrc.gov.

Sincerely,

/RA/

Anthony J. Mendiola, Chief
Research and Test Reactors Oversight Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

Docket No. 50-602
License No. R-129

Enclosure:
As stated

cc: w/enclosure: See next page

cc:

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Test, Research and Training
Reactor Newsletter
Attention: Amber Johnson
Dept of Materials Science and Engineering
University of Maryland
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College Park, MD 20742-2115

SUBJECT: UNIVERSITY OF TEXAS AT AUSTIN – U.S. NUCLEAR REGULATORY COMMISSION ROUTINE INSPECTION REPORT NO. 50-602/2018-201 DATE: MAY 22, 2019

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

Docket No.:	50-602
License No.:	R-129
Report No:	50-602/2018-201
Licensee:	The University of Texas at Austin
Facility:	Nuclear Engineering Teaching Laboratory
Location:	Austin, TX
Dates:	November 6-8, 2018
Inspector:	Johnny Eads
Approved by:	Anthony J. Mendiola, Chief Research and Test Reactors Oversight Branch Division of Licensing Projects Office of Nuclear Reactor Regulation

Enclosure

EXECUTIVE SUMMARY

The University of Texas at Austin
Nuclear Engineering Teaching Laboratory
NRC Report No. 50-602/2018-201

The primary focus of this routine, announced inspection was the onsite review of selected aspects of the University of Texas at Austin (UTA, or the licensee's) Class II research reactor safety programs including: (1) organization and staffing; (2) operations logs and records; (3) procedures; (4) requalification training; (5) surveillance and limiting conditions for operation (LCO); (6) experiments; (7) health physics; (8) design changes; (9) committees, audits and reviews; (10) emergency planning; (11) maintenance logs and records; (12) fuel handling logs and records; and (13) transportation of radioactive materials procedures. The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with the U.S. Nuclear Regulatory Commission (NRC) requirements.

Organization and staffing

- Organizational structure and staffing were consistent with technical specification (TS) requirements.

Operations Logs and Records

- Operations Logs and records were maintained in accordance with procedures and TSs.

Procedures

- The program for changing, controlling, and implementing facility procedures was acceptably maintained as required by the TSs and the applicable procedures.

Requalification Training

- Operator requalification was conducted as required by the Operator Requalification Plan

Surveillance and Limiting Conditions for Operation

- The inspector found that the surveillance program and supporting procedures met TS requirements.

- Operations met the TS LCO and surveillance requirements.

Experiments

- Experiments were reviewed and approved as required by TS.

Health Physics

- Surveys were being completed and documented as required.

- Postings met regulatory requirements.
- Personnel dosimetry was being worn and recorded doses were within the NRC's regulatory limits.
- Radiation monitoring equipment was being maintained and calibrated as required.
- The radiation protection program satisfied regulatory requirements.
- The radiation protection training program was being administered as required.
- Environmental monitoring satisfied license and regulatory requirements.

Design Changes

- The review, evaluation, and documentation of changes to the facility satisfied the NRC requirements.

Committee Audits and Reviews

- The review and audit program was being conducted acceptably as stipulated in TS.

Emergency Planning

- The emergency preparedness program was conducted in accordance with the emergency plan (EP).

Maintenance Logs and Records

- Maintenance logs, records, reviews, and performance satisfied TS and procedure requirements.

Fuel Handling Logs and Records

- Fuel handling and inspection activities were completed and documented as required by TS and facility procedures.

Transportation of Radioactive Materials

- The program for shipping radioactive material satisfied regulatory requirements.

REPORT DETAILS

Summary of Facility Status

The UTA's 1.1 megawatt TRIGA (Training, Research, Isotopes, General Atomics) Mark II research reactor continued routine operations. The reactor was operated in support of laboratory experiments, maintenance and surveillance testing, and operator training. During the inspection, the reactor was operated to support laboratory experiments and operator training.

1. Organization and Staffing

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

The inspector reviewed the following regarding the licensee's organizational structure and staffing to ensure that the requirements of Sections 6.1 and 6.6.1 of licensee's TSs were being met:

- Management responsibilities and administrative controls
- The UTA Nuclear Engineering Teaching Laboratory (NETL) organizational structure and staffing
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

Through records review and interviews with licensee personnel, the inspector noted that the health physics organizational structure had not changed since the last NRC inspection in this area. However, a new NETL Director and new Reactor Manager have been added. The reactor NETL health physics staff was comprised of the Reactor Health Physicist and several part-time Health Physics technicians. Organization, structure, responsibilities, and staffing were as required by TS Section 6.1. Through review of various records and discussions with personnel, the inspector determined that the NETL staff satisfied the TS requirements and conformed to those outlined in American National Standards Institute/American Nuclear Society-15.4-2016, "Selection and Training of Personnel for Research Reactors."

Operations staff members performed some of the health physics functions at the reactor. Coordination of health physics activities between the two groups was acceptable. It was also noted that UTA campus radiation protection technical staff personnel provided additional support to the reactor as needed. The campus Radiation Safety Officer was a member of the UTA Reactor Oversight Committee (ROC).

c. Conclusion

The licensee's organization and staffing were in compliance with the requirements specified in TS Section 6.1. The operations log and associated records confirmed that shift staffing met the minimum requirements for duty and on call personnel.

2. Operations Logs and Records

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of the following to verify operation of the reactor in accordance with TS Sections 3.0 through 5.0 and TS Section 6.1.3:

- TS through Amendment 4, dated May 10, 2001
- Selected monthly checklists for 2017 through the present
- Selected prestart check sheets for 2017 through the present
- Selected UTA-TRIGA instrumentation and control system (ICS) console operation log sheets for 2017 and 2018
- Selected startup-shutdown check sheets and the associated experiment startup-shutdown check sheets and heat exchanger startup-shutdown check sheets for 2017 through the present
- Scram log sheets and startup reactivity calculation records from January 2017 to the present
- NETL Operation Procedure, OPER-1, “Startup - Shutdown Checks,” Version 1.00, approved April 3, 2002
- NETL Operation Procedure, OPER-2, “Reactor Startup and Shutdown,” Version 1.00, approved April 3, 2002
- NETL Operation Procedure, OPER-3, “Reactor Operation Modes,” Version 1.00, approved April 12, 2002
- The UTA, NETL,2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

The inspector reviewed selected operations records from January 2017 through the present. These records included daily startup-shutdown checklists, log sheets, experiment startup and shutdown checklists, weekly checklists, monthly checklists, and other associated forms. Information on the operational status of the facility was recorded accurately on the log sheets and/or the checklists as required by procedure. The inspector observed a reactor startup to 100 kilowatt.

Through interviews with operators and review of logs and records, the inspector confirmed that shift staffing met the minimum requirements for duty and on-call personnel as required by TS Section 6.1.3. This was noted on the log sheets by listing the names of the individuals designated as the reactor operator (RO) and the senior reactor operator (SRO).

c. Conclusion

The licensee’s record keeping program conformed to TS requirements.

3. Procedures

Inspection Scope (IP 69001)

a. The inspector reviewed selected aspects of the following to verify compliance with TS Sections 6.3 and 6.4 requirements:

- Procedural implementation
- Records of changes to NETL procedures
- Records of UTA ROC review and approval
- Administrative controls documented in NETL Procedure No. ADMN-1, "NETL Procedure Control," Version 3.00, approval dated April 14, 2010
- Selected NETL Procedures dealing with operations, maintenance, surveillance, administrative controls, fuel movement, and radiation protection

b. Observations and Findings

Procedures were available for those tasks and items required by TS Sections 6.3 and 6.4. The licensee controlled minor and significant changes to procedures, and the associated review and approval processes, by use of administrative procedures. The procedures reviewed by the inspector had been reviewed and approved by the NETL Facility Director and the ROC as required.

Training of personnel on procedures and any changes to procedures was acceptable. Through observation of various activities during the week, the inspector determined that licensee personnel used and followed facility procedures as required. Procedural compliance was acceptable.

c. Conclusion

The licensee was maintaining and implementing written procedures in accordance with TS requirements.

4. Requalification Training

a. Inspection Scope (IP 69001)

To determine that operator requalification activities and training were conducted as required by the UTA-TRIGA requalification plan and that medical requirements were met, the inspector reviewed:

- Active license status of all current ROs and SROs
- Medical examination records for selected operators
- Training lectures and records for the training cycle (2017–2018)
- UTA-TRIGA Requalification Plan, Revision 1, dated November 1990
- Written examinations given during 2017
- Logs and records of reactivity manipulations for the requalification cycle (2017–2018)

- NETL Administrative Procedure, ADMN-3, “Procedures for Personnel and Operator Qualifications,” Revision 0, approved January 31, 1992

b. Observations and Findings

There were two licensed SROs and five licensed ROs at the facility. A review of all of the operators’ licenses showed that they were current.

A review of the logs and records showed that training was being conducted in accordance with the licensee’s requalification and training program. Records of quarterly reactor operations, reactivity manipulations, and operator activities indicating operator proficiency were being maintained. Documentation indicating the completion of semiannual change and procedure reviews by the operators and annual supervisory evaluations of the operators were also maintained. Annual written examinations were being completed as required or credit was taken by the licensee for the licensed operator exams administered by the NRC to satisfy the requalification cycle exam requirements when applicable. The inspector verified that operators were receiving the required biennial medical examinations as well.

c. Conclusion

Operator requalification was conducted as required by the Requalification Program and the NRC regulations.

5. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001)

To determine that maintenance and surveillance activities and calibrations were being completed as required by TS Sections 3.0 and 4.0, the inspector reviewed:

- TSs through Amendment 4, dated May 10, 2001
- System maintenance log for 2017 through the present
- Weekly-monthly surveillance log for 2017 through the present
- Selected UTA-TRIGA ICS console operation log sheets from January 2017 through the present
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

The inspector reviewed selected surveillance procedures and records including the weekly-monthly surveillance log. The inspector determined that selected weekly, monthly, semiannual, and annual checks, tests, and/or calibrations for TSs required surveillances were completed as stipulated. The tests and calibrations reviewed were completed on schedule and in accordance with licensee procedures. The appropriate records and logs reviewed were being maintained as required.

c. Conclusion

The LCO and surveillances required by the TS were being properly implemented.

6. Experiments

a. Inspection Scope (IP 69001)

In order to verify that experiments were being reviewed, approved, and conducted within the guidelines specified in TS Sections 3.4, 4.4, and 6.4, the inspector reviewed:

- UTA-TRIGA ICS console operation log sheets from 2017 through the present
- Selected experiment authorization forms documenting the experiments as routine or special experiments and as Class A or B
- Selected operation request forms for 2017 through the present
- NETL Administrative Procedure, ADMN-6, “Authorization of Experiments,” Revision 1, approved January 15, 1993
- NETL Fuel Procedure, FUEL-2, “Movement of Experiments,” Revision 0, approved July 30, 1991
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

Through discussions with licensee personnel and records review, the inspector determined that there had been two new experiments proposed since the last inspection. The inspector noted that the majority of the experiments conducted at the facility were well-established procedures that had been in place for several years. These were generally the type of experiments known as routine experiments and were authorized for repeat applications. A few experiments were specified as special experiments and were those that were typically authorized for one particular application. The current experiments were also classified as either Class A or Class B experiments. Class A experiments were those that were required to be conducted or supervised by a SRO. Class B experiments were those of less significance or hazard and required the presence of a RO with a SRO available as needed.

The inspector verified that the experiments in use at the facility had been reviewed and approved by the facility’s ROC. It was also noted that all the experiments had been analyzed to provide such information as physical effects, including reactivity, thermal hydraulic potential, and mechanical stress, as well as a material evaluation, including radioactivity and material hazards.

The inspector noted that experiments and typical sample loading data were documented on operation request and material evaluation forms, experiment startup/shutdown check forms, UTA-TRIGA ICS console operation log forms, and 3-L irradiation facility forms. The sample unloading and radiological results were typically documented on central thimble facility forms, rotating sample rack loading forms, 3-L irradiation facility forms, and sample (in-core) forms as required. The records and forms were subsequently forwarded to the facility

administrative assistant for billing purposes and then filed as required by procedure.

c. Conclusion

Experiments were reviewed and performed in accordance with TS requirements and the licensee's written procedures.

7. Health Physics

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of the following to verify compliance with Title 10 of the *Code of Federal Regulations* 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations, 10 CFR Part 20, "Standards for Protection against Radiation," and TS Sections 3.3.3, 4.3.3, and 6.6.1:

- Dosimetry/exposure records for 2017 through the present
- As Low As Reasonably Achievable (ALARA) reviews to date
- Radiological barriers, signs, and posting in various areas of the facility
- NETL Procedure No. ADMN-4, "Radiation Protection Program," Revision v.2.0, approval dated January 23, 2013
- NETL environmental monitoring program for 2017 and 2018
- Environmental monitoring release records for 2017 and 2018
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

Copies of current notices to workers were posted in appropriate areas in the facility. Radiological signs and survey maps were typically posted at the entrances to controlled areas. Caution signs, postings, and controls for radiation areas were as required in 10 CFR Part 20. Licensee personnel observed the precautions for access to radiation and other controlled areas.

The licensee used optically-stimulated luminescent dosimeters for whole body monitoring with a component to measure neutron radiation, and thermoluminescent finger ring dosimetry for extremity monitoring. Dosimetry was issued to staff and visitors as outlined in licensee procedures and the requirements of 10 CFR 20.1502, "Conditions requiring individual monitoring of external and internal occupational dose." The dosimetry was supplied and processed by a National Voluntary Laboratory Accreditation Program accredited vendor. Through direct observation, the inspector determined that dosimetry was acceptably used by facility personnel and exit-frisking practices were in accordance with radiation protection requirements.

An examination of dosimetry results indicating radiological exposures at the facility for the past 2 years showed that the highest occupational doses, as well as doses to the public, were within 10 CFR Part 20 limitations. The licensee's Radiation Protection and ALARA programs were established and described in

two NETL procedures, Procedure Nos. ADMN-4 and HP00-3. These procedures contain instructions concerning organization, training, monitoring, personnel responsibilities, audits, record keeping, and reports. The programs, as established, appeared to be acceptable. The inspector determined that the licensee reviewed the radiation protection program in 2017.

The inspector reviewed the radiation worker training given to NETL facility faculty, staff members, students and student assistants. The licensee indicated that initial training was given when an individual first arrived at the facility and refresher training was given every 2 years thereafter. Training records showed that personnel were acceptably trained in radiation protection practices. The inspector verified that the training received was in compliance with 10 CFR Part 19 and that the training program was acceptable.

The inspector reviewed selected weekly, monthly, quarterly, and other periodic radiation and/or contamination survey records for 2017 and 2018 and verified that Health Physics staff completed the surveys for this time period.

The inspector reviewed instrumentation calibration records, which indicated that licensee staff typically completed the calibration of portable survey meters, although some instruments were shipped to vendors for calibration.

The program for the monitoring, storage, and release of radioactive liquid and gas met 10 CFR Part 20 requirements. The licensee appropriately monitored gaseous releases and the results were used to calculate the total activity released using a facility procedure. Records showed that gaseous releases were well within the annual dose constraint stipulated in 10 CFR 20.1101(d) and the 10 CFR Part 20, Appendix B concentrations, as well as TS 3.3.3 limits. There was one liquid radwaste discharge and one solid radwaste shipment made in 2017. All processed within regulatory requirements.

The results of the six dosimeters placed around the facility to monitor potential dose to the public were processed and the results reviewed by the inspector. The results demonstrated that the licensee was in compliance with 10 CFR Part 20 limits.

c. Conclusion

The inspector verified that the licensee's radiation protection program was effective in minimizing radiation doses to individuals through training, notices to workers, radiation monitoring and surveys, and calibrated equipment. The program met regulatory requirements. Effluent releases, effluent monitoring, and environmental monitoring satisfied license and regulatory requirements.

8. Design Changes

a. Inspection Scope (IP 69001)

In order to verify that any modifications to the facility were consistent with 10 CFR 50.59, "Changes, tests and experiments," the inspector reviewed selected aspects of:

- The UTA ROC meeting minutes and records for January 2017 through the present
- "Reactor Oversight Committee Charter," charter reviewed and reaffirmed October 22, 2007
- NETL Procedure No. ADMN-1, "NETL Procedure Control," Version 3, approval dated April 14, 2010
- NETL Procedure No. ADMN-2, "Procedures for Design Features and Quality Assurance," Revision 1, approval dated January 31, 1992
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspector determined that during 2017 and to date in 2018, various changes had been initiated and/or completed at the facility. Evaluations of the changes were completed and a safety analysis was performed if needed. The inspector verified that the changes had been evaluated using the licensee's 10 CFR 50.59 review process outlined in NETL Procedure Nos. ADMN-1 and ADMN-2. The licensee's evaluations were then reviewed and approved by the UTA ROC if needed. It was noted that none of the changes required a full 10 CFR 50.59 evaluation and none required NRC approval prior to implementation.

c. Conclusion

Records indicated that changes at the facility were acceptably reviewed in accordance with 10 CFR 50.59 and applicable licensee administrative controls.

9. Committees, Audits and Reviews

a. Inspection Scope (IP 69001)

In order to ensure that the audits and reviews stipulated in the requirements of TS Section 6.2 were being completed the inspector reviewed the following:

- Responses from the licensee to safety reviews and audits
- UTA ROC meeting minutes and records for January 2017 through the present
- "Reactor Oversight Committee Charter," charter reviewed and reaffirmed October 22, 2007
- NETL Procedure No. ADMN-1, "NETL Procedure Control," Version 3, approval dated April 14, 2010, NETL Procedure No. ADMN-2, "Procedures for Design Features and Quality Assurance," Revision 1, approval dated January 31, 1992
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

The UTA ROC meeting minutes and records from January 2017 through the present were reviewed. The committee was meeting at the required frequency and a quorum was present at each meeting. The inspector verified that the

membership of the committee satisfied TS Section 6.2 requirements and that reviews and audits were being completed. The records showed that various members of the UTA ROC or other designated personnel conducted safety reviews and audits which were completed at the TSs required frequency. The topics covered by these reviews were consistent with the TS requirements and were sufficient to provide guidance, direction, and oversight, and to ensure acceptable use of the reactor and appropriate implementation of the radiation protection program. The inspector noted that the safety reviews and audits and the associated findings were detailed and that the licensee responded and took corrective actions as needed.

c. Conclusion

The review and audit program satisfied the TS requirements.

10. Emergency Planning

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of the following to verify compliance with the NETL emergency response plan:

- Emergency Plan, Revision 3, dated December 3, 2009
- Training records for the past 2 years
- Emergency response facilities, supplies, equipment, and instrumentation
- Documentation of emergency drills and exercises held during 2017 and 2018
- Letters of Agreement with support organizations including the Austin - Travis County Emergency Medical Services, City of Austin Fire Department, and the Dell Seton Medical Center
- NETL Implementing Procedure, PLAN-0, “Call and Notification,” Version 2.00, approved November 9, 2000, with local permanent change (Emergency Call List) dated April 10, 2012
- NETL Implementing Procedure, PLAN-E, “Emergency Response,” Version 3.00, approved November 2, 2006, which specified the emergency equipment and supplies required to be available at the facility
- Emergency drill critiques dated August 7, 2018, and February 20, 2017

b. Observations and Findings

The EP in use at the reactor and emergency facilities was the same as the version most recently submitted to the NRC for approval. The inspector verified that the EP and implementing procedures were being audited and reviewed biennially as required and revised as needed. The inspector verified that emergency response facilities, supplies, instrumentation, and equipment were being maintained and controlled as required in the EP.

Through records review and interviews with licensee personnel, the inspector determined that emergency responders were knowledgeable of the proper actions to take in case of an emergency. Letters of agreement with outside response organizations were being maintained and updated in 2017.

Emergency drills had been conducted annually as required by the EP. Records indicated that off-site support organizations had participated in the facility drills at least every 2 years as required. Critiques were held following the drills to discuss the strengths and weaknesses identified during the exercises and to develop possible solutions to any problems identified. The results of these critiques were documented. Emergency preparedness and response training for reactor staff personnel was being conducted and documented as stipulated in the EP. The emergency call list was updated at least annually as stipulated in the EP. The latest emergency call list was dated July 2018. As a result, Inspector Follow-up Item (IFI) 50-602/2016-201-01, "Failure to update MOU's with outside support agencies" is considered closed.

c. Conclusion

The emergency preparedness program was conducted in accordance with the EP and implementing procedures.

11. Maintenance Logs and Records

a. Inspection Scope (IP 69001)

To determine that maintenance activities were being completed as required by TSs and procedures, the inspector reviewed:

- TSs through Amendment 4, dated May 10, 2001
- System maintenance log for 2017 through the present
- Weekly-monthly surveillance log for 2017 through the present
- Selected UTA-TRIGA ICS console operation log sheets from January 2017 through the present
- The UTA, NETL 2017 Annual Report, submitted March 7, 2018

b. Observations and Findings

The inspector reviewed selected maintenance procedures and maintenance records, including the system maintenance log. The log contained maintenance information on various systems, including the reactor coolant system, the radiation monitoring system, the ICS computer, the ICS data acquisition control system, the ICS neutron monitoring (power channel) system, and the ICS rod drive system. The logs and records showed that routine and preventive maintenance was controlled and documented in the maintenance and/or operations logs consistent with licensee procedures and within the time frame specified.

Conclusion

Maintenance was performed and logs and records maintained consistent with TS and licensee procedure requirements.

12. Fuel Handling Logs and Records

a. Inspection Scope (IP 69001)

In order to verify adherence to fuel handling and inspection requirements specified in TS Sections 3.1.4, 4.1.4, 5.3, and 5.4, the inspector reviewed:

- Selected NETL pool configuration forms
- UTA-TRIGA fuel movement log and selected log sheets
- Selected core arrangement forms and fuel pin inventory forms
- Selected UTA-TRIGA ICS console operation log sheets from January 2017 through the present

b. Observations and Findings

The inspector determined that the licensee was maintaining the required records of the various fuel movements that had been completed. The inspector also determined that the fuel was being moved in compliance with procedure and the moves were being tracked and documented on the appropriate forms.

The inspector also verified that the reactor fuel was being inspected biennially as required by TS Section 4.1.4.

c. Conclusion

Fuel movements were performed safely in accordance with TS requirements and licensee procedural requirements.

13. Transportation of Radioactive Materials

a. Inspection Scope (IP 86740)

To verify compliance with regulatory and procedural requirements for the transfer or shipment of licensed radioactive material, the inspector reviewed the following:

- Selected records of various radioactive material shipments for 2018
- Training records of the staff member responsible for shipping licensed radioactive material
- Selected licenses of consignee groups or organizations, which were authorized to receive radioactive material NETL Procedure No. HP00-6, “Radioactive Material Control,” Version 3.00, approval dated January 23, 2013

b. Observations and Findings

Through records review and discussions with licensee personnel, the inspector determined that the licensee had made various shipments of radioactive material since the previous inspection in this area. The records indicated that the radioisotope types and quantities were calculated and dose rates measured as required. The records also indicated that the packaging used was appropriate

and had the appropriate markings as required. All radioactive material shipment records reviewed by the inspector had been completed in accordance with Department of Transportation and the NRC regulatory requirements.

The inspector verified that the licensee maintained copies of the licenses of the various shipment consignees, which authorized them to receive and possess radioactive material. The licensee verified that the licenses were current or in timely renewal prior to initiating a shipment. The individual at the facility designated as the radioactive material "shipper" had been properly trained to do so and the appropriate documentation was on file.

c. Conclusion

Radioactive material shipments were made according to procedures and regulatory requirements.

14. Exit Interview

The inspector presented the inspection results to licensee management at the conclusion of the inspection on November 8, 2018. The inspector described the areas inspected and discussed in detail the inspection observations. The licensee acknowledged the findings presented and did not identify as proprietary any of the material provided to or reviewed by the inspector during the inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Charlton	Director, NETL
L. Hall	Reactor Manager
T. Tipping	Reactor Health Physicist and Laboratory Manager
M. Whaley	Associate Director, NETL

INSPECTION PROCEDURES USED

IP 69001	Class II Non-Power Reactors
IP 86740	Inspection of Transportation Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened:

None

Closed:

50-602/2016201-01	Failure to update MOU's with outside support agencies

Discussed:

None

LIST OF ACRONYMS USED

10 CFR	Title 10 of the *Code of Federal Regulations*
ALARA	As Low As Reasonably Achievable
EP	Emergency Plan
ICS	Instrumentation and Control System
IP	Inspection Procedure
LCO	Limiting Conditions for Operation
NETL	Nuclear Engineering Teaching Laboratory
NRC	U.S. Nuclear Regulatory Commission
RO	Reactor Operator
ROC	Reactor Oversight Committee
SRO	Senior Reactor Operator
TS	Technical Specification (s)
UTA	University of Texas at Austin