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

January 26, 2022

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 SAFETY INSPECTION REPORT NO. 05000602/2021201

Dear Dr. Charlton:

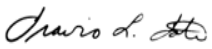
From November 16-19, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at The University of Texas at Austin, Nuclear Engineering Teaching Laboratory. The enclosed report presents the results of the inspection that were discussed on November 19, 2021, with you, and members 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 selected 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* 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 Roomor from the Publicly Available Records component of NRC's document system (Agencywide Documents Access and Management System (ADAMS)). ADAMS is accessible from the NRCWeb site at https://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, please contact Mr. Kevin Roche at(301) 415-1554, or by electronic mail at Kevin.Roche@nrc.gov.

Sincerely,


Signed by Tate, Travis
on 01/26/22

Travis L. Tate, Chief
Non-Power Production and Utilization Facility
Oversight Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

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

Enclosure:
As stated

cc: See next page

cc:
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Test, Research and Training
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Attention: Amber Johnson
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SUBJECT: THE UNIVERSITY OF TEXAS AT AUSTIN – U.S. NUCLEAR REGULATORY COMMISSION ROUTINE INSPECTION REPORT NO. 05000288/2021201 DATED: JANUARY 26, 2022

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DATE	1/11/2022	1/11/2022	1/26/2022

OFFICIAL RECORD COPY

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

Docket No.:	50-602
License No.:	R-129
Report No.:	05000602/2021201
Licensee:	The University of Texas at Austin
Facility:	Nuclear Engineering Teaching Laboratory
Location:	Austin, Texas
Dates:	November 16-19, 2021
Inspector:	Kevin M. Roche
Approved by:	Travis L. Tate, Chief Non-Power Production and Utilization Facility Oversight Branch Division of Advanced Reactors and Non-Power Production and Utilization Facilities Office of Nuclear Reactor Regulation

Enclosure

EXECUTIVE SUMMARY

The University of Texas at Austin
Nuclear Engineering Teaching Laboratory
Inspection Report No. 05000602/2021201

The primary focus of this routine, announced inspection was the onsite review of selected aspects of the University of Texas at Austin (UTA, the licensee's) Nuclear Engineering Teaching Laboratory (NETL) safety program, including: (1) organization and staffing, (2) operations logs and records, (3) requalification training, (4) surveillance and limiting conditions for operation (LCO), (5) emergency planning, (6) maintenance logs andrecords and (7) fuel handling logs and records. The U.S. Nuclear Regulatory Commission (NRC) staff determined that the licensee'sprograms were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

Organization and Staffing

- Facility organization and staffing followed the requirements specified in technical specification (TS) 6.1.

Operation Logs and Records

- The operation logs and records were maintained in accordance with facility procedures andTSs.

Requalification and Training

- The requalification program was conducted in accordance with the TSs and licensee procedures.

Surveillance and Limiting Conditions for Operation

- Operations followed the LCO and surveillance requirements as required in the TSs.

Emergency Planning

- The Emergency Plan (E-Plan), oversight, drills, and training were implemented as required by facility procedures and regulations.

Maintenance Logs and Records

- The licensee maintained records documenting principal maintenance activities in compliance with TS requirements and facility procedures.

Fuel Handling Logs and Records

- The licensee conducted and documented fuel handling activities in accordance with TS requirements and facility procedures.

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. During the inspection, the reactor was operated to support laboratory experiments and operator training.

1. Organization and Staffing

a. Inspection Scope (Inspection Procedure (IP) 69001-02.01)

To ensure that the requirements of TS 6.1 were met, the inspector reviewed the following:

- Facility Operating License No. R-129, Docket No. 50-602, Amendment No. 7
- Appendix A to Facility Operating License No. R-129, Amendment No. 7
- reactor console logs documenting operation from December 2019 through the present
- the UTA, NETL 2019 Annual Report, submitted March 3, 2020
- the UTA, NETL 2020 Annual Report, submitted March 9, 2021

b. Observations and Findings

The inspector found that since the previous NRC inspection (Inspection Report No. 50-602/2019-201), there were personnel changes in the organization at the NETL facility. Sharon L. Wood was named the Executive Vice President and Provost and Roger T. Bonnecaze was named interim Dean of Cockerell School of Engineering. Both changes are considered Level 1 personnel. The inspector determined that the new personnel met the requirements of TS 6.1.4.

The inspector verified that a list of facility personnel is posted in the control room in accordance with TS 6.1.3. The inspector found the list to contain the names and contact information for management, radiation safety, and other support personnel. The inspector verified the current management and operational personnel are listed. Further, the inspector confirmed the accuracy of the contact information for offsite support organizations. At the time of the inspection, three operators held current senior reactor operator (SRO) licenses and four held current reactor operator (RO) licenses at the facility.

The inspector reviewed NETL logbook entries and determined that staffing satisfied the requirements of TS 6.1.3.

c. Conclusion

The inspector determined the NETL organization and staffing were consistent with the requirements in TS 6.1.3 and 6.1.4.

2. Operations Logs and Records

a. Inspection Scope (IP 69001-02.02)

To ensure that the requirements of TS 6.7 were met, the inspector reviewed the following:

- the UTA, NETL 2019 Annual Report, submitted March 3, 2020
- the UTA, NETL 2020 Annual Report, submitted March 9, 2021
- OPER-1, "Startup - Shutdown Checks," dated April 3, 2002
- OPER-1 Attachment, "Reactor Startup and Shutdown Checks," dated December 2, 2019
- Selected OPER-1 Attachments, "Reactor Startup and Shutdown Checks," completed December 2019 through the present
- OPER-2, "Reactor Startup, Operating and Shutdown," dated April 18, 2019
- OPER-2 Attachment, "UT-TRIGA ICS Console Operation Log," dated August 29, 2018
- logs from December 2019 to present
- scram log sheets and startup reactivity calculation records from December 2019 to the present
- selected monthly checklists for December 2019 through the present

b. Observations and Findings

The inspector observed that logbook entries were maintained in accordance with approved procedures. The inspector determined that logs and records are maintained as required by the licensee's administrative procedures. The inspector verified that records also showed that operational conditions and parameters were consistent with the license and TS requirements.

c. Conclusion

The inspector determined the licensee's logbook records and record keeping programs were maintained as required by licensee administrative procedures and met the retention requirements of the TSs.

3. Requalification Training

a. Inspection Scope (IP 69001-02.04)

To ensure that the requalification training requirements of TSs 6.1.4, and 6.7.3, and Title 10 of the *Code of Federal Regulations* 55.53, "Conditions of licenses," paragraphs (e) and (h), were met, the inspector reviewed the following:

- active license status of all current ROs and SROs
- medical examination records for selected operators
- training lectures and records for the training cycle (August 2019-July 2021)
- UTA-TRIGA Requalification Plan, dated January 17, 2019
- written examinations given during March 2021

- logs and records of reactivity manipulations for the requalification cycle (December 2019 through present)
- NETL Administrative Procedure, ADMN-3, "Procedures for Personnel and Operator Qualifications," Revision 0, approved January 31, 1992

b. Observations and Findings

The inspector found that the requalification plan contains annual on-the-job training, oral test, and operational test requirements. The inspector verified that training requirements in the areas required were performed throughout the training cycle. The inspector found that written, operations, and emergency preparedness exams were completed during the training cycle, as required. The inspector verified that a sample of licensed operators performed the required quarterly hours of reactor operations. Further, the inspector confirmed by record review that all active operators completed a biennial medical examination.

c. Conclusion

The inspector determined that the NETL requalification program was conducted as required by NRC regulations, NETL TSs, and procedures.

4. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001-02.05)

To ensure that the requirements of TS 3.0, and TS 4.0 were met, the inspector reviewed the following:

- Appendix A to Facility Operating License No. R-129, Amendment No. 7
- weekly surveillance checks sheets for June 2019-present
- UT-NETL Ops Monthly Report for October 2021
- selected OPER-1 Attachments, "Reactor Startup and Shutdown Checks," completed December 2019 through the present
- SURV-2, "Reactor Power Calibration," dated August 29, 2018
- attachment for SURV-2, "Reactor Power Calibration," dated August 29, 2018, completed July 26, 2021
- SURV-4, "Reactor Water Systems Surveillance," dated January 22, 1991
- completed monthly surveillances of SURV-4, "Reactor Water Systems," dated September, 1990
- SURV-5, "Air Confinement System Surveillance," dated April 3, 2002
- completed monthly surveillances of SURV-5, "Reactor Water Systems," dated April 3, 2002
- SURV-6, "Control Rod Calibration," dated March 2, 2009
- completed rod worth data sheets from July 14, 2021

b. Observations and Findings

The inspector selected a sample of the TS-required surveillances to verify implementation and determined that the frequency and outcome met TS requirements. The inspector verified surveillance results were retained as required by TS 6.7.2 and licensee's procedural requirements.

c. Conclusion

The inspector determined that NETL operations followed the LCOs and surveillance requirements as stated in the TSs.

5. Emergency Planning

a. Inspection Scope (IP 69001-02.10)

To verify compliance with the NETL E-Plan, the inspector reviewed selected aspects of the following:

- emergency response plan, Revision 4
- training records for the past 2 years
- emergency response facilities, supplies, equipment, and instrumentation
- documentation of emergency drills and exercises held during 2020 and 2021
- 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

b. Observations and Findings

The inspector verified that the E-Plan 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 E-Plan and implementing procedures were audited and reviewed biennially as required by the TS and revised as needed. The inspector verified that emergency response facilities, supplies, instrumentation, and equipment were maintained and controlled as required in the E-Plan.

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. The inspector found that letters of agreement with outside response organizations were maintained and updated annually.

The inspector determined that emergency drills were conducted annually as required by the E-Plan. The inspector verified that records indicated that off-site support organizations had participated in the facility drills at least every 2 years as required. The inspector determined that 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. The inspector found that emergency preparedness and response

training for reactor staff personnel was conducted and documented as stipulated in the E-Plan.

c. Conclusion

Based upon the review of emergency response documents, facility walkdowns,and interviews of licensee personnel, the inspector concluded that the licensee met the requirements of the approved NETL E-Plan.

6. Maintenance Logs and Records

a. Inspection Scope (IP 69001-02.11)

To ensure that the maintenance requirements of TSs 6.7.2 were met, the inspector reviewed the following:

- Appendix A to Facility Operating License No. R-129, Amendment No. 7
- UT-NETL Ops Monthly Report for October 2021
- the UTA, NETL 2019 Annual Report, submitted March 3, 2020
- the UTA, NETL 2020 Annual Report, submitted March 9, 2021
- a selection of maintenance logs and console logbooks

b. Observations and Findings

The inspector determined that the selected significant maintenance items reviewed were documented and resolved as required by the licensee's administrative procedures. Additionally, the inspector verified by document review that maintenance records were retained for at least 5 years or the life of the component as required byTS 6.7.2.

c. Conclusion

The inspector determined the licensee maintained records documenting maintenance activities in compliance with TS requirements and NETL procedures.

7. Fuel Handling Logs and Records

a. Inspection Scope (IP 69001-02.12)

To ensure that the requirements of TSs 3.1.4 and 4.1.4 were met, the inspector reviewed the following:

- selected NETL pool configuration forms
- UTA-TRIGA fuel movement log and selected log sheets
- selected fuel element movement log forms
- FUEL-1, "Movement of Fuel," Version 1.0, dated December 17, 2005
- MAIN-5, "Fuel Inspection and Measurement," dated July 26, 2000
- reviewed MAIN-5 Data Sheet, "Fuel Inspection Summary," Revision 3.0, dated January 5, 2021, and December 12, 2019

b. Observations and Findings

The inspector determined that three fuel inspections have occurred since this module was previously inspected. The inspector confirmed that fuel elements were inspected in accordance with TSs 4.1.4. The inspector reviewed the results and verified that all fuel elements met the TS requirements.

The inspector verified core configuration changes were documented and followed established procedures.

c. Conclusion

The inspector determined that the licensee conducted and documented fuel handling activities in accordance with TS requirements and licensee procedures.

8. Exit Interview

The inspector reviewed the inspection results with members of licensee management at the conclusion of the inspection on November 19, 2021. The licensee acknowledged the results and conclusions presented by the inspector.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Charlton	Director, NETL
P.M. Whaley	Associate Director, NETL
L. Hall	Reactor Supervisor, NETL
T. Tipping	Reactor Health Physicist and Laboratory Manager
J. Terry	Senior Reactor Operator, NETL
W. Payne	Senior Reactor Operator, NETL

INSPECTION PROCEDURES USED

IP 69001	Class II Research and Test Reactors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None