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

February 20, 2024

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 SAFETY INSPECTION REPORT NO. 05000602/2024201

Dear Dr. Charlton:

From January 8-11, 2024, 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 documents the inspection results, which were discussed on January 11, 2024, 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* 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 website at https://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

If you have any questions concerning this inspection, please contact Andrew Waugh at (301) 415-0230, or by email to Andrew.Waugh@nrc.gov.

Sincerely,

Signed by Tate, Travis on 02/20/24

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 w/enclosure: GovDelivery Subscribers

SUBJECT: UNIVERSITY OF TEXAS AT AUSTIN – U.S. NUCLEAR REGULATORY COMMISSION SAFETY INSPECTION REPORT NO. 05000602/2024201 DATED: FEBRUARY 20, 2024

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

Docket No.:	50-602
License No.:	R-129
Report No.:	05000602/2024201
Licensee:	The University of Texas at Austin
Facility:	Nuclear Engineering Teaching Laboratory
Location:	Austin, TX
Dates:	January 8-11, 2024
Inspectors:	Andrew Waugh Necota L. Staples (Inspector in training)
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. 05000602/2024201

The primary focus of this routine announced inspection was the onsite review of selected aspects of the University of Texas at Austin's (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 and records; and (7) fuel handling logs and records. The U.S. Nuclear Regulatory Commission (NRC) staff determined that the licensee's program was acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

Organization and Staffing

- The inspector determined that the organization and staffing were in compliance with the technical specification (TS) requirements.

Operations Logs and Records

- The inspector determined that the operations logs and records were maintained in accordance with the applicable TS and the licensee's procedural requirements.

Requalification Training

- The inspector determined that the operator requalification program was conducted and completed in accordance with the NRC-approved program and regulatory requirements.

Surveillance and Limiting Conditions for Operation

- The inspector determined that surveillances were conducted and LCO were maintained in accordance with TS requirements.

Emergency Planning

- The inspector determined that the emergency preparedness program was conducted in accordance with the emergency plan.

Maintenance Logs and Records

- The inspector determined that the maintenance activities were performed and documented in accordance with TS requirements.

Fuel Handling Logs and Records

- The inspector determined that the fuel movements and inspections were conducted in accordance with TS and the licensee's procedural requirements.

REPORT DETAILS

Summary of Facility Status

The UTA's 1.1-megawatt Training, Research, Isotopes, General Atomics (TRIGA) Mark II research reactor continued routine operations. During the inspection, the reactor was started up, operated, and shut down to support a reactor tour.

1. Organization and Staffing

a. Inspection Scope (Inspection Procedure [IP] 69001, Section 02.01)

The inspector reviewed the following regarding the licensee's organization and staffing to ensure that the requirements of TS 6.1 and 6.6 were met:

- 2022 annual operating report
- management changes submitted to the NRC, dated 2022-present
- select reactor startup and shutdown checks, dated 2022-present
- select console operations logs, dated 2022-present

b. Observations and Findings

The inspector found that the licensee's organization was consistent with that specified in the TS, and that the NRC was made aware of the personnel changes in accordance with TS requirements.

The inspector found the minimum shift staffing for reactor operations continued to meet the TS requirement.

c. Conclusion

The inspector determined that the organization and staffing were in compliance with the TS requirements.

2. Operations Logs and Records

a. Inspection Scope (IP 69001, Section 02.02)

The inspector observed reactor startup checks, a reactor startup, pulse, and shutdown. The inspector also reviewed the following to ensure that logs and records were maintained as required by the licensee's administrative procedures and TS 6.7:

- select reactor startup and shutdown checks, dated 2022-present
- select reactor status logs, dated 2022-present
- select console operations logs, dated 2022-present
- scram log entries, dated 2022-present
- select maintenance log entries, dated 2022-present
- 2022 annual operating report

b. Observations and Findings

The inspector found that the licensee's operation logs and records were maintained as required by the licensee's TS and administrative procedures.

The inspector observed that the measured parameters for several reactor operations met the TS requirements.

c. Conclusion

The inspector determined that the operations logs and records were maintained in accordance with the applicable TS and the licensee's procedural requirements.

3. Requalification Training

a. Inspection Scope (IP 69001, Section 02.04)

The inspector reviewed the following aspects of the licensee's requalification program to verify compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 55, "Operators' Licenses," and the licensee's NRC-approved operator requalification program:

- "Operator Requalification Program," dated January 17, 2019
- select medical examination records for licensed operators
- select requalification training records, dated 2022-present
- requalification exam records, dated 2022-present
- select console operations logs, dated 2022-present
- operator requalification program audit TS 6.2.4.c, dated October 31, 2023

b. Observations and Findings

The inspector found that the licensee's training was conducted and documented in accordance with their NRC-approved requalification and training program, and that the license operator's requalification training and medical records were maintained.

c. Conclusion

The inspector determined that the operator requalification program was conducted and completed in accordance with the NRC approved program and regulatory requirements.

4. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001, Section 02.05)

The inspector observed reactor startup checks, a reactor startup, pulse, and shutdown. The inspector also reviewed the following to verify compliance with TS 3.0 and to determine if surveillance tests were performed as required by TS 4.0:

- select reactor startup and shutdown checks, dated 2022-present
- select reactor status logs, dated 2022-present

- select console operations logs, dated 2022-present
- NETL procedure MAIN-2, “Instrument System Features,” dated May 25, 2000
- NETL procedure MAIN-3, “Support System Features,” dated May 25, 2000
- NETL procedure Main-6, “Rod & Drive Maintenance, Inspection,” dated May 30, 2000
- NETL procedure SURV-1, “Fuel Temperature Calibration,” dated January 24, 1992
- annual water systems surveillance checklists, dated 2022-present
- rod drive inspection surveillance data, dated 2022-present
- fuel temperature calibration records, dated 2022-present

b. Observations and Findings

The inspector found that surveillance tests were completed as required by the TS and LCO verifications were completed on schedule and in accordance with the licensee’s procedures.

c. Conclusion

The inspector determined that the surveillances were conducted and LCO were maintained in accordance with TS requirements.

5. Emergency Planning

a. Inspection Scope (IP 69001, Section 02.10)

The inspector observed a reactor alarm test and facility communications with university police. The inspector also reviewed the following selected portions of the licensee’s emergency preparedness program to verify compliance with appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities,” to 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities,” and the licensee’s emergency plan:

- "Emergency Response Plan," dated April 2019
- NELT procedure PLAN-O, “Call and Notification,” dated November 9, 2000
- NETL procedure PLAN-E, “Emergency Response,” dated November 2, 2006
- memorandum of understandings with support organizations including the Austin – Travis County Emergency Medical Services, City of Austin Fire Department, and Ascension Dell Seton Medical Center
- training records for the past 2 years
- emergency response facilities, supplies, equipment, and instrumentation
- documentation of emergency drills and exercises held during 2021 and 2023

b. Observations and Findings

The inspector found that the emergency plan training was conducted, drills were performed, emergency response call lists were maintained and posted, and emergency equipment was maintained and available as required by the emergency plan and licensee procedures.

c. Conclusion

The inspector determined that the emergency preparedness program was conducted in accordance with the emergency plan.

6. Maintenance Logs and Records

a. Inspection Scope (IP 69001, Section 02.11)

The inspector reviewed the following selected maintenance logs and records to verify compliance with the requirements of TS:

- scram log entries, dated 2022-present
- select maintenance log entries, dated 2022-present
- select console operations logs, dated 2022-present
- 2022 annual operating report
- reactor oversight committee meeting minutes, dated 2022-present
- NETL procedure OPER-6, "Reactor Bay Systems," dated April 3, 2002

b. Observations and Findings

The inspector found that the scheduled and unscheduled preventive and corrective maintenance activities were performed and documented in accordance with TS requirements and the licensee's administrative procedures.

c. Conclusion

The inspector determined that the maintenance activities were performed and documented in accordance with TS requirements.

7. Fuel Handling Logs and Records

a. Inspection Scope (IP 69001, Section 02.12)

The inspector reviewed the following fuel handling logs and activities to verify compliance with TS requirements:

- "Response to Apparent Violations in NRC Special Inspection Report 05000602/2022201;EA-22-134," dated February 25, 2023
- notice of violation for EA-22-134, dated May 10, 2023
- select console operations logs, dated 2022-present
- various "B159 File" records, dated 2022-present
- various "Fuel Move Log" records, dated 2022-present

- fuel maps, dated 2022-present
- NETL procedure FUEL-1, "Movement of Fuel," dated February 14, 2005
- NETL procedure MAIN-5, "Fuel Inspection and Measurement," dated November 1, 2022

b. Observations and Findings

The inspector found that the fuel handling activities were conducted and documented in accordance with TS requirements and the licensee's procedural requirements.

During the special inspection conducted from November 7 – December 8, 2022, and documented in inspection report 05000602/2022201 (Agencywide Documents Access and Management System Accession No. ML22347A311), an apparent violation of NRC requirements was identified. By letter dated February 25, 2023 (ML23067A209), the licensee provided a written response to the apparent violation. Based on the information developed during the special inspection and the information in the licensee's written response, the NRC staff determined that a violation of NRC requirements occurred. The violation was cited in Notice of Violation (ML23129A243), and the circumstance surrounding it are described in detail in the subject special inspection report (ML22347A311). The violation involved operation of the NETL research reactor, from January 6, 2022, to October 17, 2022, with fuel elements that did not meet the requirements of TS 5.3. Specifically, two aluminum cladded TRIGA fuel elements were utilized in the reactor core contrary to TS 5.3.1 which states, in part, that fuel element cladding will be "304 stainless steel, nominal .020 inches thick."

During this inspection the NRC inspector reviewed the licensee's corrective actions discussed in their response to the apparent violation (ML23067A209). The inspector found that the licensee has implemented all proposed corrective actions, the corrective measures are still in place at the facility, and that the actions are adequate to prevent recurrence of the event. Because adequate corrective actions are in place, the NRC inspector has closed violation 05000602/2022-201-01.

c. Conclusion

The inspector determined that the fuel movements and inspections were conducted in accordance with TS and the licensee's procedural requirements.

8. Exit Interview

The inspection scope and results were summarized on January 11, 2024, with members of licensee management. The inspector described the areas inspected and discussed the inspection results.

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

W. Charlton	Director NETL
P.M. Whaley	Associate Director, NETL
J. Terry	Reactor Supervisor, NETL
R. Duran	Reactor Operator

INSPECTION PROCEDURES USED

IP 69001	Class II Non-Power Reactors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

05000602/2022-201-01	Operating with fuel elements that did not meet TS requirements. (TS 5.3.1)

Discussed

None