



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

January 24, 2022

Dr. Sean McDeavitt, Director
Nuclear Engineering and Science Center
Texas A&M Engineering Experiment Station
Texas A&M University System
1095 Nuclear Science Road, M/S 3575
College Station, TX 77843

SUBJECT: TEXAS ENGINEERING EXPERIMENT STATION/TEXAS A&M UNIVERSITY
SYSTEM, NUCLEAR SCIENCE CENTER – U.S. NUCLEAR REGULATORY
COMMISSION ROUTINE INSPECTION REPORT NO. 050000128/2021201

Dear Dr. McDeavitt:

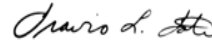
From November 29 – December 2, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at your Nuclear Science Center, Training, Research, Isotopes, General Atomics Research Reactor Facility. The enclosed report documents the inspection results, which were discussed on December 2, 2021, with you and Jere Jenkins, Associate Director.

This 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 observed various activities in progress, interviewed personnel, and reviewed selected procedures and records. 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 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).

If you have any questions concerning this inspection, please contact Craig Bassett at (240) 535-1842, or by electronic mail at Craig.Bassett@nrc.gov.

Sincerely,



Signed by Tate, Travis
on 01/24/22

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. 50-128
License No. R-83

Enclosure:
As stated

cc: w/enclosure: See next page

Texas A&M University

Docket No. 50-128

cc:

Mayor, City of College Station
P.O. Box Drawer 9960
College Station, TX 77840-3575

State Energy Conservation Office
Comptroller of Public Accounts
P.O. Box 13528
Austin, TX 78711-3528

Governor's Budget and
Policy Office
PO Box 12428
Austin, TX 78711-2428

Scott Miller, Reactor Operations Manager
Texas A&M University
Nuclear Engineering and Science Center
Texas Engineering Experiment Station
1095 Nuclear Science Road, MS 3575
College Station, TX 77843

Dr. Dimitris C. Lagoudas, Deputy Director
Texas A&M University
Texas Engineering Experiment Station
241 Zachry Engineering Center
College Station, TX 77843

Radiation Program Officer
Bureau of Radiation Control
Department of State Health Services
Division for Regulatory Services
1100 West 49th Street, MC 2828
Austin, TX 78756-3189

Ashley Forbes, Director
Radiation Materials Division, MC 233
Texas Commission on Environmental
Quality
P.O. Box 13087
Austin, TX 78711-3087

Test, Research and Training
Reactor Newsletter
Attention: Ms. Amber Johnson
Dept of Materials Science and Engineering
University of Maryland
4418 Stadium Drive
College Park, MD 20742-2115

SUBJECT: TEXAS ENGINEERING EXPERIMENT STATION/TEXAS A&M UNIVERSITY SYSTEM, NUCLEAR SCIENCE CENTER – U.S. NUCLEAR REGULATORY COMMISSION ROUTINE INSPECTION REPORT NO. 05000128/2021201 DATED: JANUARY 24, 2022

DISTRIBUTION:

PUBLIC

CBassett, NRR

JBorromeo, NRR

JBowen, NRR

SAnderson, NRR

PBoyle, NRR

MKGavello, NRR

NParker, NRR

TTate, NRR

RAlexander, RIV

RidsNrrDanuUnpo Resource

ADAMS Accession Number: ML21344A200

NRC-002

OFFICE	NRR/DANU/UNPO/RI	NRR/DANU/UNPO/LA	NRR/DANU/UNPO/BC
NAME	CBassett	NParker	TTate
DATE	1/24/2022	1/24/2022	1/24/2022

OFFICIAL RECORD COPY

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

Docket No.: 50-128

License No.: R-83

Report No.: 05000128/2021201

Licensee: Texas Engineering Experiment Station/Texas A&M University System

Facility: Texas Engineering Experiment Station/Texas A&M University System Nuclear Science Center

Location: College Station, Texas

Dates: November 29 – December 2, 2021

Inspector: Craig Bassett

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

Texas Engineering Experiment Station
Texas A&M University System
Nuclear Science Center
Inspection Report No. 05000128/2021201

The primary focus of this routine, announced inspection included onsite review of selected aspects of the Texas Engineering Experiment Station (TEES) Texas A&M University (TAMU) System (the licensee) Class II research and test reactor safety program including: (1) organization and staffing; (2) operations logs and records; (3) procedures; (4) requalification training; (5) surveillance and limiting conditions for operation (LCOs); (6) experiments, (7) design changes; (8) committees, audits and reviews; (9) emergency planning; (10) maintenance logs and records; and (11) fuel handling logs and records. The U.S. Nuclear Regulatory Commission (NRC) staff determined 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 licensee's organization and staffing and assignment of responsibilities remained in compliance with the requirements specified in technical specification (TS) Section 6.1.

Operations Logs and Records

- Operational activities were consistent with applicable TSs and procedural requirements.

Procedures

- Facility procedures and document reviews satisfied TS Section 6.4 requirements and procedural compliance was acceptable.

Requalification Training

- The requalification program was completed and records were maintained.

Surveillance and Limiting Conditions for Operation

- The program for surveillance and LCO confirmations was implemented in accordance with TS Sections 3 and 4 requirements.

Experiments

- The experiment authorization and control program satisfied regulatory and TS requirements.

Design Changes

- Based on the records reviewed, the inspector determined that the licensee's design change program was implemented as required by procedure and regulations.

Committees, Audits and Reviews

- The Reactor Safety Board (RSB) completed the review, audit, and oversight functions required by TS Section 6.2.

Emergency Planning

- The emergency preparedness program was conducted in accordance with the Emergency Plan (E-Plan).

Maintenance Logs and Records

- Maintenance was completed as required by procedure.

Fuel Handling Logs and Records

- The fuel handling activities and documentation were completed in accordance with the facility TSs.

REPORT DETAILS

Summary of Facility Status

The TEES/TAMU System Nuclear Science Center (NSC) research reactor, licensed to operate at a maximum steady-state of 1 megawatt (MW) thermal power, continued to operate in support of class work, operator training, surveillance, research, and neutron activation analysis. During the inspection, the reactor was operated each day at varying power levels up to 900 kilowatts (kW) to conduct sample irradiations.

1. Organization and Staffing

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

The inspector reviewed selected aspects of the following regarding the licensee's organization and staffing to ensure that the requirements specified in TS Section 6.1 were met:

- Appendix A to Facility Operating License Number (No.) R-83, Docket No. 50-128, Amendment No. 18, "Technical Specifications," dated August 31, 2016
- organization and staffing for the TAMU NSC during operation of the research reactor
- administrative controls and management responsibilities specified in the facility TSs
- NSC standard operating procedure (SOP), Chapter I, "Policy and Administrative Procedures," Section C, "Administration"

b. Observations and Findings

The inspector noted that the structure and functions of the licensee's organization at the TEES/TAMU NSC reactor facility did not change since the last inspection at the facility (refer to NRC Inspection Report No. 50-128/2020-202). The inspector also found that the licensee's assignment of responsibilities, as reported in the annual reports, were consistent with those specified in TS Section 6.1. All positions reviewed by the inspector were filled with qualified personnel. The inspector confirmed that management responsibilities were fulfilled as required by TSs.

The inspector conducted observations of the reactor operations staff from December 1-2, 2021. The inspector verified that the number of personnel required by the TSs were present for operations. The inspector observation of operational activities also confirmed that, when trainees operated the reactor, they were closely supervised and observed by a licensed operator. The inspector noted that reactor operations were carried out in accordance with written procedures and TS requirements.

c. Conclusion

The inspector determined that the licensee's organization and staffing complied with the requirements listed in TS Section 6.1.

2. Operations Logs and Records

a. Inspection Scope (IP 69001 [02.02])

The inspector reviewed selected aspects of the following to verify compliance with TS Sections 2, 3, 4, and 6 and the applicable procedures:

- selected facility logs and records including: scram log, pulse log, irradiation cell log, and weekly ventilation and scram surveillances log
- staffing for routine reactor operations as recorded on the reactor log sheets
- Nuclear Science Center Reactor (NSCR) operations log books Nos. 254 - 261
- selected entries on the following NSC forms: Forms 531 – 534 and Form 590
- selected NSC daily senior reactor operator (SRO) checklists for 2020 and 2021
- NSC SOP, Chapter II, “Reactor Operations”

b. Observations and Findings

The inspector confirmed that information regarding the operational status of the facility was recorded in log books and on checklists as required by procedure. The inspector verified that operational problems and events noted in the appropriate logs were reported, reviewed, and resolved as required by procedure. The inspector noted that operation logs and records also documented that shift staffing met the minimum requirements for duty and on-call personnel. The inspector also verified that selected TS Sections 2 and 3 operational limits were not exceeded and that unintentional shutdowns or scrams that occurred during reactor operations were recorded in the scram log. The inspector confirmed that the licensee investigated these events and a root cause analysis was completed by the SRO on duty before the resumption of operations.

c. Conclusion

The inspector determined that operational activities were consistent with applicable TSs and procedural requirements.

3. Procedures

a. Inspection Scope (IP 69001 [02.03])

The inspector reviewed the following to ensure that the requirements of TS Section 6.4 were met concerning written procedures:

- NSC SOP Chapter I, “Policy and Administrative Procedures,” Sections D and F
- RSB meeting minutes for 2019 through 2021 to date (RSB meeting Nos. 189 – 195)

b. Observations and Findings

The inspector noted that oversight and review of procedure implementation was provided by licensee management and the RSB. The inspector verified that notifications of procedure changes and new procedures were posted so that all licensed reactor operators (ROs) and SROs were able to review the revisions and/or new procedures.

The inspector noted that facility procedures have been in use for many years. The inspector noted that the licensee was beginning a process to revise and update the format and content of all facility procedures.

c. Conclusion

The inspector determined that procedure review, revision, and implementation satisfied TS requirements.

4. **Requalification Training**

a. Inspection Scope (IP 69001 [02.04])

To verify that operator requalification activities and training were conducted as required in the licensee's "Senior Reactor Operator and Reactor Operator Requalification Program," Revision 5, dated March 11, 2014, and to verify that medical requirements were met, the inspector reviewed:

- active license status of current operators
- NSCR operations log books Nos. 254 - 261
- medical examination records for licensed operators
- various logs and records of reactivity manipulations for 2020 through the present
- training lectures and records for selected individuals for the current and previous training cycles documented on NSC Forms 521 – 524
- RSB reactor requalification program audits dated June 15, 2020, and March 17, 2021

b. Observations and Findings

The inspector confirmed there were seven licensed SROs and four ROs on staff at the facility. As of the date of the inspection, the inspector also confirmed all the qualified operators' licenses were current or in timely renewal. Through reviewing logs and requalification records, the inspector verified that annual operational examinations and written examinations were administered within the time frame required in the program. The inspector noted that the licensee tracked and documented hours and reactor manipulations to ensure that the operators met the requalification program requirements and those stipulated in Title 10 of the *Code of Federal Regulations* (10 CFR) 55.53, "Conditions of licenses," paragraph (e) to maintain operating licenses in an active status. The inspector found that operators who did not meet all the requirements went through a reinstatement process to bring their licenses back into an active status. The inspector verified that the requalification program was maintained and up-to-date. The inspector also found that all operators received biennial medical examinations within the time frame as required by the regulations.

c. Conclusion

The inspector determined that the licensee implemented the requalification program as approved by the NRC and medical examinations for operators were completed within the required time frame.

5. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001 [02.05])

To determine that surveillances and LCO verifications were completed as required by TS Sections 3 and 4, the inspector reviewed:

- surveillance and calibration data and records for 2020 and 2021 documented on the following NSC forms: Forms 532 and 546 – 548
- NSC SOP, Chapter III, “Reactor Maintenance and Surveillance,” Sections III-A, III-B, III-C, III-D, III-K, and III-L
- NSC SOP, Chapter VI, “Maintenance and Surveillance of Support Systems,” Section VI-A

b. Observations and Findings

The inspector verified that selected daily, weekly, monthly, semi-annual, annual, and other periodic checks, tests, verifications, and calibrations for TSs-required surveillances and LCOs were completed. The inspector also confirmed that surveillances, LCOs, and calibration reviews were completed on schedule and performed in accordance with licensee procedures. The inspector noted that the recorded results of the surveillances were within the TS and procedurally prescribed parameters and in agreement with the previous surveillance results. The records and logs reviewed by the inspector were maintained as required by procedure.

c. Conclusion

The inspector determined that the program for surveillance and LCO confirmations was implemented in accordance with TS Sections 3 and 4 requirements.

6. Experiments

a. Inspection Scope (IP 69001, [02.06])

The inspector reviewed selected aspects of the following to verify that experiments were conducted within the controls specified in TS Sections 3.6, 4.6, and 6.5, and approved guidelines:

- SOP Section IV, Procedures A – H
- survey and control of irradiated items
- NSCR operations log books Nos. 254 - 261
- various request for service forms completed for in-pool irradiations and experiments

b. Observations and Findings

The inspector confirmed that no new experiments were initiated, reviewed, or approved since the last inspection. The experiments were documented in the NSC Reactor Operations Logbooks and on the irradiation request forms. During the inspection, the inspector observed an in-pool irradiation experiment as it was installed in the reactor.

The inspector noted that the experiment was positioned and constrained as required by procedure.

c. Conclusion

The inspector determined that the license's program for conducting experiments and controlling irradiated products satisfied TS and procedural requirements.

7. Design Changes

a. Inspection Scope (IP 69001 [02.08])

To determine whether modifications to the facility were consistent with 10 CFR 50.59, "Changes, tests and experiments," guidance, the inspector reviewed:

- RSB meeting minutes for 2019 through 2021 to date
- NSC SOP, Chapter I, "Policy and Administrative Procedures," Sections B, "Purpose and Scope of the Review Mechanism"
- various change forms completed by the licensee documented on NSC Form 5004, "50.59 Screen"

b. Observations and Findings

The inspector determined that design changes at the NSCR facility required a facility staff review followed by approval by the Facility Director and an RSB review and subsequent approval. It was evident to the inspector from a review of the licensee's modification authorization process (involving reviews and approvals using 10 CFR 50.59 guidance) that the process was focused on safety and met licensee program requirements. The inspector noted that there were no recent changes at the facility.

c. Conclusion

The inspector determined that the licensee's design change program was conducted as required by the implementing procedure and regulations.

8. Committees, Audits and Reviews

a. Inspection Scope (IP 69001 [02.09])

To verify that the licensee established and conducted reviews and audits as required in TS Section 6.2, the inspector reviewed:

- RSB charter dated July 2015
- RSB meeting minutes for 2019 through 2021 to date
- completed audits and reviews from 2018 through 2021 to date
- NSC SOP, Chapter I, "Policy and Administrative Procedures," Section H, "The Reactor Safety Board"

b. Observations and Findings

The inspector noted the minutes showed that the committee met as often as required by TSs and that a quorum was present for each meeting. The inspector verified that the topics considered during the meetings were appropriate as stipulated in the TSs.

The inspector also noted that the TSs required that the RSB audit reactor operations and various other programs on an annual or biennial basis depending upon the program. The inspector reviewed the documentation and results of the audits that were conducted by the RSB. The inspector confirmed that an audit of facility operations, the radiation protection program, the facility emergency plan, and the security plan were conducted at the periodicity required by the TSs.

c. Conclusion

The inspector determined that the RSB acceptably completed review, audit, and oversight functions required by TS Section 6.2.

9. Emergency Planning

a. Inspection Scope (IP 69001 [02.10])

To verify compliance with TS Section 6.2 and the licensee's E-Plan entitled, "Emergency Preparedness Plan for the Texas A&M Engineering Experiment Station Nuclear Science Center," Revision 3, dated May 2016, the inspector reviewed selected aspects of:

- NSC SOP, Chapter IX, "Emergency Preparedness," which included the facility emergency procedures and the E-Plan
- annual training records for the College Station Fire Department, the TAMU Police Department, and the College Station Medical Center
- offsite support and annual reconfirmation letters of agreement between NSC and the Baylor Scott & White Medical Center College Station and between NSC and the College Station Fire Department
- emergency drills and exercises for 2020 and 2021
- emergency response facilities, supplies, equipment and instrumentation
- summary of the two most recent emergency drills involving off-site participation with the College Station Fire Department and the University Police Department
- The two most recent RSB E-Plan audits

b. Observations and Findings

The inspector noted that the facility E-Plan stipulated the RSB was to review and audit the E-Plan and implementing procedures at least annually. The inspector assessed the reviews that were conducted during the past 3 years and confirmed that the required annual reviews were completed.

The inspector noted that emergency facilities, instrumentation, and equipment were maintained and inventoried as required by E-Plan Sections 10.4 and 10.5. The inspector also found that the emergency notification roster was updated and verified quarterly as required by E-Plan Section 8.5. The inspector further confirmed that

agreements with outside response organizations were maintained and updated as necessary.

The inspector reviewed documentation of the latest emergency response drills and exercises. The drills often included participants from the University Police Department, the College Station Fire Department, and the Baylor Scott & White Medical Center. The inspector noted that the drills and exercises simulated realistic events and included the use of communications capabilities with the support groups. The inspector confirmed that critiques were held following the drills. The inspector verified that the results of the critiques were documented as required by the E-Plan.

The inspector verified that emergency preparedness and response training was completed and that training for off-site and reactor staff personnel was conducted and documented as stipulated by the E-Plan. Based on a review of training records, the inspector concluded that the College Station Fire Department and other offsite groups would support the facility in the event of an emergency.

The inspector and the Associate Director visited Station No. 4 of the College Station Fire Department and observed the facilities and equipment at that location. The inspector interviewed Fire Department personnel. The inspector confirmed that there were adequate supplies and equipment available at the station to handle an emergency at the NSC. Through talking with Fire Department personnel, the inspector noted that there was a good working relationship between Fire Department staff and licensee personnel.

c. Conclusion

The inspector determined that the emergency preparedness program was conducted in accordance with the E-Plan and TSs.

10. Maintenance Logs and Records

a. Inspection Scope (IP 69001 [02.11])

To determine that maintenance was completed as required by the TSs and applicable procedures, the inspector reviewed:

- NSCR operations log books, Nos. 254 - 261
- calibration data and records for 2020 and 2021 documented on the following NSC forms: Form 541, 546, 547, 548, 558, 559, and 568
- various portions of NSC SOP, Chapter III, "Reactor Maintenance and Surveillance," including: Sections B – E, and J – L
- NSC SOP, Chapter VI, "Maintenance and Surveillance of Support Systems," Section VI-A

b. Observations and Findings

The inspector found that maintenance activities were documented as required by procedure. The inspector also noted that problems, if any, were noted, reviewed, and resolved prior to resuming routine operations. The review confirmed that maintenance was conducted consistent with the TSs and applicable procedures. The inspector noted

that maintenance activities ensured that equipment remained in compliance with the safety analysis report and TS requirements.

c. Conclusion

The inspector determined that maintenance was completed as required by procedure and TSs.

11. Fuel Handling Logs and Records

a. Inspection Scope (IP 69001 [02.12])

To verify adherence to TS Sections 3 and 5, the inspector reviewed:

- NSCR operations log books Nos. 254 – 261
- fuel handling equipment and instrumentation
- NSC SOP, Chapter III, “Reactor Maintenance and Surveillance,” Section H
- selected fuel data as noted on the appropriate fuel element measurement and inspection history forms for the 2020 and 2021 fuel inspections
- selected records for the movement of fuel associated with the low-enriched uranium core

b. Observations and Findings

The inspector verified that TS-required surveillances for refueling and fuel movement were completed to ensure controlled operations for the reactor core. The inspector noted that all fuel movements were recorded in the reactor log and on the individual fuel element log sheets.

The inspector observed that the data recorded for fuel inspection was acceptable and contained a physical description of each element. The inspector also noted that log entries verified that fuel movements were completed under the direct supervision of an SRO as required by procedure. The inspector also confirmed that fuel was moved to authorized locations in accordance with the TSs. The inspector further verified that acceptable radiological and criticality controls were established and implemented for fuel movements.

c. Conclusion

The fuel handling activities and documentation were completed in accordance with the facility TSs.

12. Follow-up on Previously Identified Items

a. Inspection Scope (IP 92701)

The inspector reviewed the actions taken by the licensee to address a previously identified Inspector Follow-up Item (IFI) concerning the facility change procedure, two violations (VIO), and a licensee event notification:

b. Observation and Findings

- (1) 50-128/2018-201-04 – IFI – Follow-up on the licensee’s progress in revising and updating their change procedure to reflect current provisions in the regulations or in developing a new procedure. (OPEN)

During an inspection in December 2018, the inspector determined that changes to certain procedures, structures, systems, or components, and experiments at the NSCR facility required a facility staff review followed by approval by the Facility Director and an RSB review and subsequent approval. It was evident from the review of the licensee’s experiments and modification authorizations involving reviews and approvals, that the process was focused on safety and met licensee program requirements. The inspector found, however, that the facility change procedure should be updated to include recent changes in the regulations.

This inspector reviewed this issue during an inspection in December 2020 but found that the licensee had not developed a new procedure due to lack of staff and insufficient resources to address the various aspects involved (make the changes needed to all the affected programs, procedures, and authorizations).

During this inspection the issue of revising the change procedure was reviewed. The inspector noted that the licensee was in the process of developing a new procedure which would be presented to the RSB for review and approval upon completion. This issue remains open.

- (2) 50-128/2019-201-01 – VIO – Failure to restrict the duties of an operator who scored less than 70 on the biennial comprehensive examination. (CLOSED)

During a review of the 2017 comprehensive requalification written examination results for various operators, the inspectors noted that the score on one examination was very close to the 70 which was required for an operator to remain active and continue their licensed duties without remedial action. The inspectors found that the individual missed 20 questions which produced a resultant score of less than 70. Therefore, the person should have been removed from licensed duties and placed in an accelerated retraining program. This was not done, and the operator was allowed to continue to operate as before. The licensee was informed that not removing the operator who did not pass the comprehensive requalification written examination from licensed duties and not placing him in an accelerated training program was a VIO.

During this inspection the inspector reviewed this situation and the corrective actions taken by the licensee. The inspector noted that the operator was removed from active duty, required to complete the annual on-the-job training and console training, take another biennial requalification examination, review various procedures, operate under instruction for six hours, and complete four console manipulations. The inspector verified that the operator completed these measures before being reinstated on active duty. The inspector determined that the licensee completed corrective actions to ensure the license operator requalification program is appropriately implemented. This issue is considered closed.

- (3) 50-128/2019-201-02 – VIO – Failure to verify the Central Exhaust System operable on a weekly basis as required by TS Section 4.3.2. (CLOSED)

During an inspection in November 2019, inspectors reviewed weekly surveillance records performed since January 1, 2018. The records noted that, on various occasions, the central exhaust system (CES) isolation dampers failed to shut or were not tested due to on-going problems with the dampers. During these periods, contrary to TSs Section 4.3.2, reactor operation and radioactive material handling were not prohibited. As an immediate corrective action, operators successfully tested the CES isolations on November 20, 2019. Further during the inspection, the Reactor Administrator stopped all reactor operations until a review of this issue could be held. The licensee was informed that failure to verify the CES operable on a weekly basis was a VIO of TS Section 4.3.2.

During this inspection, the inspector reviewed this situation and verified completion of the corrective actions taken by the licensee. Extensive training was conducted for all operators concerning the CES and the proper conduct of testing the system. The inspector noted that the licensee took another action to resolve the situation with the occasional failure of the CES isolation dampers. The licensee installed an electro-mechanical isolation damper between the central exhaust and the exhaust stack to ensure the dampers worked as required by the TSs and training on the new damper system was conducted. The inspector determined the licensee implemented corrective actions to ensure the CES is operable prior to reactor operations and radioactive material handling. This issue is considered closed.

- (4) Licensee Event in March 2021 Reported to the NRC

In March 2021, the licensee notified the NRC of a reactor power excursion close to the facility license limit. The NRC noted this as Event Number 55129. (CLOSED)

On March 8, 2021, at approximately 10:27 a.m., a trainee removed a sample from an experiment position of the reactor while it was operating at 900 kW. This added enough positive reactivity to the operating reactor to raise power close to the license limit of 1,000 kW. This unintended change in power turned off the servo control of the regulating rod and triggered an alarm. The operator visually noted the linear power meter was reading 98 percent of 1 MW and immediately lowered the shim safety blades per procedure such that reactor power was below 600 kW. After carefully reviewing the event, the licensee concluded that the reactor power level did not exceed the licensed limit and subsequently withdrew the event notification.

During this inspection the inspector reviewed this event, examined power level records, and spoke with licensee personnel including the SRO who was operating the reactor at the time. Through this review the inspector noted that the SRO, following established procedure, was preparing to lower reactor power to allow for the removal of a sample from an experiment position in the reactor. This involved lowering the reactor power to approximately 400 kW and then signaling the person removing the sample (the trainee in this case) that it was safe to remove the sample. The trainee apparently heard a timer alarm go off in the control room and removed the sample without waiting for a signal from the SRO. As noted above, this added positive reactivity to the reactor which raised the power level close to the licensed limit.

The inspector concluded that the procedure used was adequate and the SRO followed procedure. The trainee did not follow procedure when removing the sample from the reactor. Also, the records, as well as licensee calculations, indicated that the reactor power level did not exceed the licensed limit and the increase in reactivity did not violate any other TS requirements. The trainee involved in this incident resigned and did not pursue further training at the reactor facility. All operators and trainees were informed of the circumstances surrounding the event and licensee management reiterated and stressed the need to follow procedure. The inspector determined that the licensee's actions in response to the event was appropriate. This issue is considered closed.

c. Conclusion

The inspector determined that the licensee's design change procedure was not revised so this item remains open. The licensee completed the corrective actions in response to the two violations and these are closed. The inspection follow-up of the March 2021 event is considered closed.

12. Exit Interview

The inspector presented the inspection results to TAMU NSC management at the conclusion of the inspection on December 2, 2021. The inspector described the areas inspected and discussed in detail the inspection observations, including the apparent violations. 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 Personnel

T. Freyman	Senior Reactor Operator
R. Hernandez	Reactor Supervisor
J. Jenkins	Associate Director
S. McDeavitt	Director
S. Miller	Reactor Operations Manager
D. Rios	Safety Coordinator

Other Personnel

T. Ray	Captain, Station No. 4, Fire Department, City of College Station
--------	--

INSPECTION PROCEDURES USED

IP 69001	Class II Non-Power Reactors
IP 92701	Follow-up on Previously Identified Items

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-128/2019-201-01	VIO	Failure to restrict the duties of an operator who scored less than 70 on the biennial comprehensive examination.
50-128/2019-201-02	VIO	Failure to verify the central exhaust system operable on a weekly basis as required by TS Section 4.3.2.

Discussed

50-128/2018-201-04	IFI	Follow-up on the licensee's progress in revising and updating their change procedure to reflect current provisions in the regulations or in developing a new procedure.
--------------------	-----	---

LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
CES	Central Exhaust System
E-Plan	Emergency Plan
IFI	Inspector Follow-up Item
IP	Inspection Procedure
LCO	Limiting Conditions for Operation
No.	Number
NSC	Nuclear Science Center
NSCR	Nuclear Science Center Reactor
NRC	U.S. Nuclear Regulatory Commission
RO	Reactor Operator
RSB	Reactor Safety Board
SRO	Senior Reactor Operator
SOP	Standard Operating Procedure
TEES	Texas Engineering Experiment Station
TAMU	Texas A&M University
TSs	Technical Specifications
VIO	Violation