



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

December 6, 2021

Dr. Wei Ji, Director
Rensselaer Polytechnic Institute
110 8th Street
JEC Room 5040
Troy, NY 12180-3590

SUBJECT: RENSSELAER POLYTECHNIC INSTITUTE – NUCLEAR REGULATORY
COMMISSION ROUTINE INSPECTION REPORT NO. 05000225/2021201 AND
NOTICE OF VIOLATION

Dear Dr. Ji:

From October 4 – 7, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a routine inspection at the Rensselaer Polytechnic Institute research reactor. The enclosed report documents the inspection results which were discussed on October 7, 2021, with you, Dr. Shekhar Garde, Dean for the School of Engineering, and members of your staff.

The inspection examined activities conducted under your license as they relate to public health and safety, compliance with the Commission's rules and regulations, and compliance with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC regulatory requirements occurred. The violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <https://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the enclosed inspection report. The violations are cited in the Notice because it constitutes a failure to meet regulatory requirements that has more than minor safety significance and the licensee failed to identify the violations.

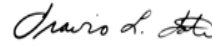
You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

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(s), 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). To the extent

possible, your response should not include any personal privacy or proprietary information, so that it can be made available to the Public without redaction.

If you have any questions concerning this inspection, please contact Michael Balazik at 301-415-2856, or by electronic mail at Michael.Balazik@nrc.gov.

Sincerely,



Signed by Tate, Travis
on 12/06/21

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. 50-225
License No. CX-22

Enclosures:
As stated

cc w/enclosures: See next page

Rensselaer Polytechnic Institute

Docket No. 50-225

cc:

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State Liaison Officer Designee
Senior Project Manager
Radioactive Waste Policy and Nuclear
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New York State Energy Research &
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17 Columbia Circle
Albany, NY 12203-6399

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

SUBJECT: RENSSELAER POLYTECHNIC INSTITUTE – NUCLEAR REGULATORY
COMMISSION ROUTINE INSPECTION REPORT NO. 05000225/2021201 AND
NOTICE OF VIOLATION DATE: DECEMBER 6, 2021

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ADAMS ACCESSION NO.: ML21305A916**NRC-002**

OFFICE	NRR/DANU/UNPL/RI	NRR/DANU/UNPO/LA	NRR/DANU/UNPO/BC
NAME	MBalazik	NParker	TTate
DATE	11/1/2021	11/4/2021	12/6/2021

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NOTICE OF VIOLATION

Rensselaer Polytechnic Institute
Critical Experiments Facility

Docket No. 50-225
License No. CX-22

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted October 4 – 7, 2021, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

Radiation and Monitoring Surveillance

The Rensselaer Polytechnic Institute (RPI) Critical Experiments Facility (RCF) technical specifications (TS) Section 4.7, "Radiation Monitoring," states in part, that "The criticality detector system, CAM [continuous air monitor] and area gamma monitors shall be tested with a radiation source at least monthly and daily if the reactor is operated and calibrated semiannually." RPI TS, Section 1.3, "Definitions," defines monthly as an interval not to exceed 6 weeks and semiannually as an interval not to exceed 7.5 months.

Contrary to the above, RPI failed on several occasions to perform testing with a radiation source on a monthly interval and the calibration on a semiannual interval as required. Specifically, the test for the radiation area monitors was not performed between the periods of June 21 to August 13, 2020; October 15, 2020, to February 6, 2021; and April 27 to June 12, 2021, exceeding the TS monthly (6 weeks maximum) requirement. Further, the calibration for the continuous air monitor was not performed between the periods of October 9, 2019, to June 21, 2020; and August 21, 2020, to April 13, 2021, exceeding the TS semiannual (7.5 months) requirement.

This is a Severity Level IV violation (Section 6.1).

Review and Audit

The RPI RCF TS Section 6.2, "Review and Audit," item 1, states in part, that "The NSRB [Nuclear Safety and Review Board] shall meet at least semiannually."

Contrary to the above, the NSRB failed to meet on a semiannual basis during calendar years 2020 and 2021. Specifically, the NSRB met on December 17, 2019, September 9, 2020, and September 14, 2021. The NSRB Charter requires a minimum of two regularly scheduled meetings each year with one in the spring and the other in the fall.

This is a Severity Level IV violation (Section 6.1).

Pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 2.201, "Notice of violation," RPI is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation," and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the

time specified in this Notice, an Order or a Demand for information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System), accessible from the NRC Web site at <https://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information.

If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

In accordance with 10 CFR 19.11, "Posting of notices to workers," you may be required to post this Notice within two working days of receipt.

Dated this 6th day of December 2021.

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

Docket No.: 50-225

License No.: CX-22

Report No.: 05000225/2021201

Licensee: Rensselaer Polytechnic Institute

Facility: Critical Experiments Facility

Location: Schenectady, NY

Dates: October 4 – 7, 2021

Inspector: Michael Balazik

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

EXECUTIVE SUMMARY

Rensselaer Polytechnic Institute
Critical Experiments Facility
Nuclear Regulatory Commission
Inspection Report No. 05000225/2021201

The primary focus of this announced safety inspection was the onsite review of selected aspects of the Rensselaer Polytechnic Institute's (RPI's, the licensee's) 100-watt, Class II research reactor safety program which includes: (1) procedures, (2) experiments, (3) health physics, (4) design changes, (5) committees, audits and reviews, and (6) transportation activities. The licensee's safety program was acceptably directed toward the protection of public health and safety and in compliance with the U.S. Nuclear Regulatory Commission (NRC) requirements, except where noted below. Two previous Inspection Follow-Up Items (IFI) were closed, one Unresolved Item (URI) was closed, and two Severity Level IV cited violations were identified.

Procedures

- The inspector found that written procedures were maintained in accordance with the technical specification (TS) requirements.
- The inspector closed IFI 05000225/2019201-02 regarding the licensee's revision to the RPI Critical Experiments Facility (RCF) pre-startup procedure to the test cable status for each safety system channel.
- The inspector closed IFI 05000225/2019201-03 to track the licensee's action to identify the source of the loose cap screw that prevented control rod number 3 from fully seating to its normal rod bottom position.

Experiments

- The inspector found that no new experiments were conducted since the last inspection.

Health Physics

- The inspector found that surveys, postings, and personnel dosimetry met regulatory requirements.
- The inspector found that radiation monitoring equipment was not maintained and calibrated as required by TS. See Section 4 of this report for details.

Design Changes

- The inspector found that no changes, tests, or experiments, subject to the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, tests and experiments," were performed.

Committees, Audits and Reviews

- The inspector found that audits and reviews were conducted by designated individuals and reviewed by the Nuclear Safety Review Board (NSRB) in accordance with the requirements specified in TS Section 6.2, "Review and Audit."
- The inspector found that the NSRB did not satisfy the meeting requirements as required by TS 6.2.1 and the NSRB Charter. See Section 5 of this report for details.

Transportation Activities

- The inspector found that no radioactive material was transferred to or from the RCF.

Previously Identified Inspection Follow-up and Unresolved Items

- The inspector closed URI 05000225/2018-01 on the licensee's resolution regarding changes to inner and outer fence dimensions along with dose calculations.

REPORT DETAILS

Summary of Facility Status

The RPI RCF Class II research reactor, although licensed to operate at a maximum steady-state thermal power of 100 watts. The RCF is currently only operated in order to maintain operator proficiency and reactor surveillance activities. During the inspection, the reactor was operated for the purpose of maintenance activities. The reactor remained shut down for the remainder of the inspection.

1. Procedures

a. Inspection Scope (Inspection Procedure (IP) 69001, Section 02.03)

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

- RCF Pre-Startup Procedure, Version 8.5, dated August 2019
- RCF Operating Procedure, Version 3.0, dated July 2013
- reactor operations logbook entries from August 2019 to the present
- Surveillance Procedures, Version 4.1, dated August 2018.
- RCF Maintenance Procedures, Version 1.0, dated December 2013
- Reactor Secured Checklist, Version 3.2, dated April 2015
- NSRB meeting minutes from December 2019 to September 2021

b. Observations and Findings

The inspector found that written procedures are approved and available for the activities required in TS Section 6.4. The inspector noted that the licensee updated the RCF pre-startup procedure, dated August 16, 2019, which was reviewed and approved by the Facility Director and NSRB, as required by TS Section 6.4. The inspector found the procedure acceptable. Further, the inspector observed the operators use of the updated procedure and no issues were identified.

The IFI 05000225/2019201-02 was opened in 2019 to track the licensee's action to revise "RCF Pre-Startup Procedure" to include a new step requiring the posting of a warning tag on the reactor control shim switch to alert the operator that the safety system channels input for Log Power and Period 2, Linear Power (LP)1 or LP2 is connected to its test source cable and not to its associated neutron detector cable. The inspector verified that a new step was added to the procedure and a warning tag was observed on the reactor control shim. The added step to the procedure and tag provides a warning to the operator that the test cable may be connected to the nuclear instrumentation and informs the operator not to commence a reactor startup until the test cable is visually confirmed removed and the detector signal cables are connected. The inspector noted the test cable is now yellow on the connection end for ease of visual confirmation by the operator. After the operator performs the visual confirmation, the warning tag on the reactor control shim switch is removed. The inspector

finds these changes are acceptable and based on the information above, IFI 05000225/2019-02 is closed.

The IFI 05000225/201901-03 was opened in 2019 to track the licensee's action to identify the source of the loose cap screw that prevented control rod number 3 from fully seating to its normal rod bottom position. Through interviews with the Reactor Operations Supervisor, the RCF staff performed a visual inspection of reactor core components, equipment, and certain areas of the core tank. The licensee did not identify any caps screws missing. The licensee concluded that the missing cap screw most likely came from the heated loop or reflector experiment that was installed and since removed from the core approximately 3 to 4 years ago. The inspector notes that the RCF Pre-Startup Procedure contains a step to visually inspect the reactor core, supporting structure, experiments, and control rods to ensure proper position, free of obstructions, and secured. The inspector verified that the licensee performed a rod drop surveillance test on control rod 3 with no noted deficiencies. The inspector determined that the licensee performed an adequate search to identify the source of the missing cap screw and therefore IFI 05000225/201901-03 is closed.

c. Conclusion

The inspector determined that procedure use, review, and approval satisfied TS requirements. Further, the inspector determined that IFI 05000225/2019-02 and IFI 05000225-03 are closed.

2. **Experiments**

a. Inspection Scope (IP 69001, Section 2.06)

The inspector reviewed selected aspects of the following to verify compliance with TS Section 3.8, "Experiments," and TS Section 6.5, "Experiment Review and Approval":

- reactor operations logbook entries from August 2019 to the present
- Annual Operating Reports for 2019 and 2020

b. Observations and Findings

Through the review and interviews with licensee staff, the inspector found that the review and approval process for new experiments are conducted as required by licensee procedures and in accordance with the TS.

c. Conclusion

The inspector concluded that no new experiments have taken place since the last inspection.

3. Health Physics

a. Inspection Scope (IP 69001, Section 2.07)

To verify compliance with 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations and 10 CFR Part 20, "Standards for Protection against Radiation," and TS Sections 3.7, 4.7, "Radiation Monitoring," and TS Section 6.3, "Radiation Safety," the inspector reviewed selected aspects of:

- dosimetry records from 2019 to present
- calibration certificates and records for portable survey instruments for 2019 to 2021
- radiation training records and material
- surveillance results for area radiation monitoring and continuous air monitor (CAM)
- Radiation Safety Annual Report for 2019 and 2020
- Annual Operating Reports for 2019 and 2020
- quarterly radiation survey results for 2019 and 2020
- radiation safety manual, dated June 2019

b. Observations and Findings

(1) Postings and Notices

During tours of the facility, the inspector observed postings required by 10 CFR Part 19 at the entrances to various controlled areas including the reactor room and storage areas. During the inspection, the inspector found that all areas of the facility were posted, and that no unmarked radioactive material was found in the facility. The inspector verified a copy of the current NRC Form 3, "Notice to Employees," was posted.

(2) Dosimetry

The inspector observed that the dosimetry was used by facility personnel. The inspector verified that the licensee used a National Voluntary Laboratory Accreditation Program accredited vendor to process personnel dosimetry. The inspector verified that the quarterly dosimetry records showed that all occupational doses were within 10 CFR Part 20 limits.

(3) Radiation Monitoring Equipment

i. Observations

The inspector reviewed the surveillances for the radiation monitoring equipment for the inspection period which include checks and calibration. The inspector noted that survey meters are sent to an outside company for calibration. The inspector found that the

portable survey meters were calibrated within the calibration frequency as required by TS Section 4.7.

- ii. Notice of Violation 50-225/2021-201-01, Violation of TS Section 4.7, Due to Failure to Test and Calibrate Radiation Monitoring Equipment Within the Required Frequency.

RPI TS 4.7 states in part, that “The criticality detector system, CAM [continuous air monitor] and area gamma monitors shall be tested with a radiation source at least monthly and daily if the reactor is operated and calibrated semiannually.” RPI TS 1.3 “Definitions,” states, in part, that “Allowable surveillance intervals... shall not exceed the following: 2. Semiannual (interval not to exceed seven and one-half months)...4. Monthly (not to exceed 6 weeks).”

Contrary to the above, RPI failed to test the CAM and area gamma monitors within the monthly surveillance interval. Further, RPI failed to calibrate the CAM within the semiannual surveillance interval. The inspector identified that three examples of exceeding the 6 weeks surveillance interval requirement for the monthly test of the CAM and area radiation monitors. Specially, RPI exceeded the 6-week interval during the following surveillance dates:

- June 21, 2020, to August 13, 2020
- October 15, 2020, to February 6, 2021
- April 27, 2021, to June 12, 2021

Further, the inspector identified two examples of exceeding the 7.5 months surveillance interval requirement for the semiannual calibration of the CAM. Specifically, RPI exceeded the 7.5 month interval during the following surveillance dates:

- October 9, 2019, to June 21, 2020
- August 21, 2020, to April 13, 2021

The inspector noted that the documented surveillance results for both the monthly tests and semimanual calibrations for the above dates determined that both the area radiation monitors and CAM were operable.

(4) Radiation Protection Program and Training

The inspector verified that the radiation protection program was evaluated by the Radiation Safety Officer annually as required by TS. The inspector found that licensed operators were tested annually on principles of health physics, and that personnel authorized to work with radioactive material under the campus material license received annual refresher training. The inspector found that training is provided to RCF staff members and the documents indicated that all current staff members received the required training, and that radiation worker training is conducted annually.

(5) Environmental Monitoring

During a tour of the facility, the inspector observed six thermoluminescent dosimeters placed around the perimeter fences of the RCF. The inspector found that all dosimeters were present, at a sufficient level about the ground, and secured to the fence. The inspector found that doses were well below the applicable regulatory limits and were of background levels. The inspector notes that these results were also reported in the facility annual reports.

(6) Surveys

The inspector reviewed the quarterly leak testing on the three Cobalt-60 sources, the plutonium-beryllium source, and the criticality monitor plutonium source. Further, the inspector reviewed quarterly radiation and contamination surveys. The inspector found that the results of these surveys and leak checks were documented, reviewed, and evaluated.

c. Conclusion

The inspector determined that the licensee's radiation protection program satisfied regulatory requirements. The inspector noted one violation of the TS requirement to test and calibrated the radiation monitoring equipment monthly and semiannually, respectively.

4. Design Changes

a. Inspection Scope (IP 69001, Section 2.08)

To ensure that facility changes were reviewed and approved as required by TS Section 6.2 and 10 CFR 50.59(c)(2), the inspector reviewed selected aspects of:

- Annual Operating Reports for 2019 and 2020
- reactor operations logbook entries from August 2019 to the present
- NSRB meeting minutes from December 2019 to September 2021

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspector verified that no changes, tests, or experiments, subject to 10 CFR 50.59 requirements, were performed since the last inspection.

c. Conclusion

No changes, tests, or experiments have occurred since the last inspection.

5. Committees, Audits and Reviews

a. Inspection Scope (IP 69001, Section 2.09)

The inspector reviewed the following to ensure that the audits and reviews stipulated in TS Section 6.2 were completed:

- NSRB meeting minutes from December 2019 to September 2021
- NSRB Audit Forms 1-4 for 2019 and 2020
- Annual Operating Reports for 2018 and 2019
- NSRB Charter dated July 25, 2008

b. Observations and Findings

- i. The inspector found the meeting minutes demonstrated that the NSRB quorum was present as required by TS Section 6.2. In addition, the inspector noted that the required audits of reactor operations, procedures, equipment, and emergency preparedness were completed and documented by a designated individual and reviewed by the NSRB as required by TS Section 6.2. The inspector noted that the NSRB reviewed and approved a proposed change to the RPI TS to change the fence distance in TS Section 5.1, "Site and Facility Description." The NRC approved the proposed TS change in the issuance of Amendment No. 12 on September 28, 2021.
- ii. Notice of Violation 50-225/2021201-02, Violation of TS Section 6.2, Due to Failure of the NSRB to Meet at Least Semiannually.

RPI TS Section 6.2, states in part, that "The NSRB shall meet at least semiannually." The NSRB Charter requires that that the NSRB will have a minimum of two regularly scheduled meetings each year with one meeting in the fall and the other meeting in the spring. The Charter also describes the agenda for the regularly scheduled meetings shall include at a minimum reports on facility status, regulatory action, operator training, and use of reactor for teaching and education.

Contrary to the above, the NSRB failed to meet semiannually as required by TS Section 6.2 and the NSRB Charter. Specifically, the NSRB did not conduct a regularly scheduled meeting in the spring of 2020 or 2021. The inspector reviewed the NSRB meeting minutes and identified that the NSRB met on December 17, 2019, September 9, 2020, and September 14, 2021. The inspector notes that the NSRB did perform a vote on February 13 to February 14, 2020, via email with a quorum present to approve the proposed change to TS 5.1. However, during this February 2020 meeting, the NSRB did not report on all the agenda items as required by the NSRB Charter. Further, the inspector notes the NSRB did not develop, distribute, review, and approve meeting minutes from this February 2020 meeting as required by TS 6.2.

c. Conclusion

The inspector determined that audits and reviews were conducted by designated individuals and reviewed by the NSRB in accordance with the requirements specified in TS Section 6.2. The inspector noted one violation of the requirement for the NSRB to meet semiannually.

6. Transportation Activities

a. Inspection Scope (IP 86740)

The inspector reviewed selected aspects of:

- Annual Operating Reports for 2019 and 2020
- interviews with RCF staff and Radiation Safety Officer
- logbook entries from August 2019 to present

b. Observations and Findings

Through document review and interviews with RPI staff, the inspector found that no radioactive material was transferred to or from the reactor since the last inspection. If needed, material would be transferred to the university's radioactive material license issued by the State, and then packaged and shipped by RPI Environmental Health and Safety personnel.

c. Conclusion

The inspector determined that no radioactive material was transferred to or from the RCF since the last inspection.

7. Previously Identified Inspection Follow-up and Unresolved Items

a. Inspection Scope (IP 92701)

The inspector reviewed the actions taken by the licensee to address the previously identified URI 05000225/2018201-01.

b. Observation and Findings

During a previous inspection in September 2018, the inspector identified that physical dimensions of the inner and outer fences surrounding the facility recently changed. The inspector indicated to the licensee that the fence dimensions needed to be accurately measured and a revised 10 CFR 50.59 analysis would need to be performed in order to verify that the dose calculations to individual members of the public in the unrestricted areas do not exceed the limits specified under 10 CFR 20.1301, "Dose limits for individual members of the public," and for the licensee to determine if a license amendment needs to be submitted based on changes to the information in TS 5.1 regarding the inner and outer fence dimensions. During an inspection in September 2020, the inspector followed-up on the URI and noted that the licensee submitted a license amendment request (LAR) to the NRC in July 2019 regarding the new fence

dimensions along with dose calculations and that the URI will remain open until the NRC has completed its review of the LAR or the issue is resolved in another process. On September 28, 2021, the NRC issued Amendment No. 12 to the RPI License No. CX-22. The amendment incorporated the new inner and outer fence dimensions in TS 5.1 and confirmed that the dose rates to the public will remain below the 2 millirem per hour limit for an unrestricted area, as required in 10 CFR 20.1301(a)(2).

Because RPI submitted and received an approved amendment for the fence dimension confirming doses were within the requirements of 10 CFR 20.130(a)(2), the inspector determined that URI 05000225/2018-01 is closed.

c. Conclusion

The inspector determined that URI 05000225/2018201-01 is closed.

8. Exit Interview

The inspection scope and results were summarized on October 7, 2021, with members of licensee management. The inspector described the areas inspected and discussed the inspection findings.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

S. Garde	Dean, School of Engineering
W. Ji	Critical Experiments Facility Director
J. Thompson	Critical Experiments Facility Operations Supervisor
H. Kang	NSRB Chair
A. Chism	Environmental Health and Safety Director
M. Arha	Radiation Safety Officer
P. Kowal	Senior Reactor Operator

INSPECTION PROCEDURES USED

IP 69001	Class II Research and Test Reactors
IP 86740	Inspection of Transportation Activities (N/A for this inspection)
IP 92701	Follow-up

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-225/2021201-01	NOV	Violation of TS 4.7, "Radiation Monitoring," Due to Failure to Test and Calibrate Radiation Monitoring Equipment Within the Required Frequency.
50-225/2021201-02	NOV	Violation of TS 6.2, "Review and Audit," Due to Failure of the NSRB to Meet at Least Semiannually.

Closed/Discussed

50-225/2019201-02	IFI	Follow-up on licensee's revision to the RCF pre-startup procedure regarding test cable status for each safety system channel.
50-225/2019201-03	IFI	Follow-up on the source of the loose cap screw that prevented control rod number 3 from fully seating following a scram.
50-225/2018201-01	URI	Follow-up on licensee resolution of issue regarding changes to inner and outer fence dimensions along with dose calculations.

LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
CAM	Continuous Air Monitor
IFI	Inspection Follow-Up Item
IP	Inspection Procedure
LAR	License Amendment Request
LP	Linear Power
NOV	Notice of Violation
NRC	Nuclear Regulatory Commission
NSRB	Nuclear Safety Review Board

RCF	Critical Experiments Facility
RPI	Rensselaer Polytechnic Institute
TS	Technical Specification
URI	Unresolved Item