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

August 1, 2022

EA-21-148

Dr. Robert Dimeo, Director
National Institute of Standards
and Technology
NIST Center for Neutron Research
U.S. Department of Commerce
100 Bureau Drive, Mail Stop 6100
Gaithersburg, MD 20899-6100

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION SUPPLEMENTAL INSPECTION PLAN FOR NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Dear Dr. Dimeo:

The enclosed supplemental inspection plan lists the inspections that will be conducted at the National Institute of Standards and Technology (NIST) test reactor facility following the extended shutdown due to the February 3, 2021, event (event notification (EN) 55094) and subsequent notification (EN 55120) that the reactor exceeded the technical specification safety limit for the fuel temperature. NIST is required to receive authorization from the U.S. Nuclear Regulatory Commission (NRC) to restart the reactor in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," paragraph (c)(1).

In response to the event, the NRC staff conducted a Special Inspection beginning February 9, 2021, through March 10, 2022. The NRC issued a Special Inspection Report dated March 16, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22066B312), which identified seven violations being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. Subsequently, the NRC and NIST participated in an alternative dispute resolution process to resolve the identified violations and on August 1, 2022, the NRC issued a confirmatory order (CO) (ML22202A423), documenting corrective actions required to be implemented by NIST to preclude recurrence of the event.

The NRC plans to begin supplemental inspections, in accordance with this plan, on or about August 15, 2022. The purpose of the supplemental inspections is to inform the NRC staff's decision on the request to restart the reactor submitted by NIST on October 1, 2021 (ML21274A018), and to provide increased oversight of reactor operations until the NRC staff determines routine inspections in accordance with NRC Inspection Manual Chapter (IMC) 2545, "Research and Test Reactor Inspection Program," are adequate to assure safe operations. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues.

The supplemental inspection plan consists of (1) inspection activities necessary to determine that adequate corrective actions have been implemented to restart the reactor, (2) inspection

activities to confirm technical information identified during the technical review, (3) inspection activities to follow-up on corrective actions to address violations and observations identified in the special inspection report, and (4) inspection activities to support confirmation that the licensee has met certain requirements of the CO. The results of these inspections will be documented in inspection reports as either individual supplemental inspections, a grouping of individual supplemental inspections, or included in an inspection report for routine inspections.

Because the NIST reactor has been shut down since the February 3, 2021, event and requires NRC approval to restart, the NRC changed the routine operating portion of the inspection program for NIST to triennially as a Class III facility, per IMC 2545. Should NIST receive authorization to restart the reactor, the NRC will return the operating portion of the inspection program to annually as a Class I facility. The supplemental inspections in the plan will be conducted in addition to the IMC 2545 program.

In accordance with 10 CFR Section 2.390, “Public inspections, exemptions, requests for withholding,” a copy of this letter and its enclosure 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 ADAMS. ADAMS is accessible from the NRC website at https://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Please contact Travis Tate at (301) 415-3901 with any questions you may have regarding this letter.

Sincerely,

Signed by Shams, Mohamed
on 08/01/22

Mohamed K. Shams, Director
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

Docket No. 50-184
License No. TR-5

Enclosure:
As stated

cc: w/enclosure

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