



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

July 9, 2020

Mr. John P. Foster, Director
of Reactor Operations
Nuclear Reactor Laboratory
Massachusetts Institute of Technology
138 Albany Street, MS NW12-116B
Cambridge, MA 02139

SUBJECT: MASSACHUSETTS INSTITUTE OF TECHNOLOGY – SUPPLEMENTAL
INFORMATION NEEDED FOR ACCEPTANCE OF THE APPLICATION FOR A
LICENSE AMENDMENT RE: CHANGE TO SURVEILLANCE REQUIREMENT
FREQUENCY DURING REACTOR SHUTDOWN (EPID: L-2020-LLA-0149)

Dear Mr. Foster:

By letter dated June 18, 2020 (Agencywide Documents Access and Management System Accession No. ML20178A159), Massachusetts Institute of Technology applied for an amendment to Facility Operating License No. R-37 for the Massachusetts Institute of Technology Reactor. The license amendment request (LAR) proposes a change to the surveillance requirement frequency allowing the surveillance to be deferred while the reactor is shutdown.

Consistent with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.90, "Application for amendment of license, construction permit, or early site permit," an application to amend a license (including the technical specifications) must be filed with the Commission, as specified in 10 CFR 50.4, "Written communications." The application must fully describe the changes desired, and follow, as far as applicable, the form prescribed for the original application. Section 50.34, "Contents of applications; technical information," of 10 CFR addresses the content of technical information required and stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The U.S. Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the LAR and determined that the information described in the enclosure to this letter is needed to find the application acceptable and begin the detailed technical review. Accordingly, the NRC staff requests a supplement to the application to address the information described in the enclosure to this letter by August 28, 2020, as requested in your e-mail dated June 25, 2020. The NRC staff is providing additional time to supplement the LAR based on the conditions stated in the June 18, 2020, letter regarding the 25 percent staffing and restricted opening hours. The NRC staff understands staffing restrictions are due to licensee response to the Coronavirus Disease 2019 public health emergency (PHE) and allowance for extended time to address the submittal of supplemental information for this license amendment is consistent with NRC relief actions afforded to licensees during the PHE. If the supplement is not received by the agreed date, the application will not be accepted for review pursuant to 10 CFR 2.101, "Filing of application," and the NRC may cease its associated review activities. Any request for

additional time to provide the supplement should include the reason for requesting additional time and a proposed date to provide the supplement to allow the NRC staff to make an informed decision on whether to grant the request.

The NRC staff discussed the enclosure and the time frame to provide a supplement with Edward Lau and Susan Tucker on June 23, 2020. If you have any questions, please contact me at (301) 415-3936, or by electronic mail at Patrick.Boyle@nrc.gov.

Sincerely,

/RA/

Patrick G. Boyle, Project Manager
Non-Power Production and Utilization
Facility Licensing Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

Docket No. 50-020
License No. R-37

Enclosure:
As stated

cc: See next page

Massachusetts Institute of Technology

Docket No. 50-020

cc:

City Manager
City Hall
Cambridge, MA 02139

Department of Environmental Protection
One Winter Street
Boston, MA 02108

Mr. Jack Priest, Director
Radiation Control Program
Department of Public Health
529 Main Street
Schrafft Center, Suite 1M2A
Charlestown, MA 02129

Ms. Samantha Phillips, Director
Massachusetts Emergency Management Agency
400 Worcester Road
Framingham, MA 01702-5399

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

Ms. Sarah M. Don, Reactor Superintendent
Massachusetts Institute of Technology
Nuclear Reactor Laboratory
Research Reactor
138 Albany Street, MS NW12-116B
Cambridge, MA 02139

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 DATED: JULY 9, 2020

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***concurred via e-mail**

NRR-106

OFFICE	NRR/DANU/UNPL/PM*	NRR/DANU/UNPL/LA*	NRR/DANU/UNPL/BC*	NRR/DANU/UNPL/PM*
NAME	PBoyle	NParker	GCasto	PBoyle
DATE	7/2/2020	7/2/2020	7/2/2020	7/9/2020

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OFFICE OF NUCLEAR REACTOR REGULATION
SUPPLEMENTAL INFORMATION NEEDED FOR
ACCEPTANCE OF A LICENSE AMENDMENT REQUEST
MASSACHUSETTS INSTITUTE OF TECHNOLOGY REACTOR
LICENSE NO. R-37; DOCKET NO. 50-020

By letter dated June 18, 2020 (Agencywide Documents Access and Management System Accession No. ML20178A159), Massachusetts Institute of Technology applied for an amendment to Facility Operating License No. R-37 for the Massachusetts Institute of Technology Reactor. The license amendment request (LAR) proposes a change to the surveillance requirement frequency allowing the surveillance to be deferred while the reactor is shutdown. The Nuclear Regulatory Commission (NRC) staff reviewed the LAR and noted the following items need to be provided:

1. The LAR proposes to revise technical specification (TS) 1.3.11, "Frequency," to add a clause permitting deferral of surveillances that cannot be performed when the reactor is shut down. The LAR states that the revised TS are consistent with American National Standards Institute/American Nuclear Society (ANSI/ANS)-15.1-2007, "The Development of Technical Specifications for Research Reactors." ANSI/ANS-15.1-2007, Section 4, "Surveillance requirements," states, in part, "For each surveillance requirement (SR), it should be specified if the surveillance activity can or cannot be deferred." Contrary to this guidance, the MIT proposed TS does not identify which surveillances can or cannot be deferred, but merely repeats the statement from the guidance document.
2. The LAR does not provide any justification or safety basis, aside from referencing the guidance document, why it is acceptable to defer a specific SR during reactor shutdown.
3. ANSI/ANS-15.1-2007, Section 4, states, in part, "It should also be specified for those that can be deferred, which must be performed prior to reactor operations." The LAR proposes a TS revision that does not include this statement and fails to identify which SRs must be performed prior to reactor operation.
4. ANSI/ANS-15.1-2007 places the statements related to deferral of surveillance requirements in the surveillance requirements section. Placement of the deferral statement near the beginning of SR section provides clarity when complying with the TS requirements to understand that the deferral applies to the SR section of the TSs. The LAR proposes a TS revision that places the statement allowing deferral of SR in the definition section of the TSs. A discussion should be included when deviating from the guidance document explaining why the proposed alternative satisfies the recommendation provided in the guidance document or is equivalent to the guidance document.

Enclosure