



MIT NUCLEAR REACTOR LABORATORY

AN MIT INTERDEPARTMENTAL CENTER

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April 24, 2024

Attn: Document Control Desk
Director, Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Proposal for Conversion to Low Enriched Uranium (LEU), MIT Research Reactor,
Docket No. 50-20, 10 CFR 50.64 (c)(2)(ii) of that paragraph.

Dear Sir or Madam:

In accordance with 10 CFR 50.64 "Limitation of the Use of Highly Enriched Uranium in Domestic Non-Power Reactors," the MIT Nuclear Reactor Laboratory submits herewith the information required by subsection (c)(2)(ii) of that paragraph.

The high-density low enriched uranium fuel (U-10Mo) will not be available during Fiscal Year 2025. Furthermore, specific to 10 CFR 50.64(c)(2)(ii), Federal Government funding for conversion to LEU will not be available. However, we continue to receive funding for conversion planning and engage in fuel qualification and fabrication activities. A new MITR LEU fuel element design was selected, fabrication specifications were developed, and planning for fuel qualification tests is underway. The LEU core has been analyzed and demonstrated to meet nuclear safety and performance criteria. A Preliminary Safety Analysis Report (PSAR) for the LEU conversion was submitted and docketed in October 2018 for NRC review. The PSAR contains the LEU fuel design as well as steady-state and transient analyses relevant to the proposed LEU core.

We will continue the conversion planning and work with NRC staff on the PSAR review to prepare for the conversion when the new LEU fuel completes qualification tests.

Sincerely,

Lin-wen Hu, Ph.D.
Senior Research Scientist

John P. Foster
Director of Reactor Operations

AD20
NRR

Cc: USNRC – Senior Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

USNRC – Senior Reactor Inspector
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