University of Massachusetts
UMASS Lowell

Pinanski Building
One University Avenue
Lowell, Massachusetts 01854
tel: 978.934.3730
fax. 978.934.4067
e-mail: Partha_Chowdhury@uml.edu

Partha Chowdhury, Ph.D.
Director, Radiation Laboratory

RADIATION LABORATORY

October 20, 2015

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Spyros Traiforos
Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking

SUBJECT: Docket No. 50-223, Request for Renewal of Facility Operating License R-125

In accordance with the correspondence provided by S. Traiforos (ADAMS ML15210A016), we respectfully request renewal of the University of Massachusetts Lowell Research Reactor located at the Radiation Laboratory at the University of Massachusetts Lowell in Lowell. The application for renewal includes:

1) An updated Safety Analysis Report (SAR) based on NUREG-1537 guidance.

2) Financial qualifications as specified in 10CFR 50.33 are incorporated in the SAR Chapter 15.
   a. Neither UML nor the UMLRR is owned, controlled, or dominated by an alien, a foreign corporation, or foreign government.
   b. None of the provisions of 10 CFR 50.33(d) apply.
   c. Based on the 2015 budget and expenditures, the projected annual operating costs with the source funding for a 5-year period is presented in the SAR Chapter 15.

3) Financial qualifications regarding decommissioning are provided in Chapter 15, including:
   a. A 2015 decommissioning cost estimate based in part on NUREG/CR-1756,
   b. A statement of intent to seek funding for decommissioning at the appropriate time,
   c. A cost adjustment calculation for decommissioning costs is provided in SAR Chapter 15.
   d. Documentation that the University of Massachusetts Lowell is a State agency and a Commonwealth of Massachusetts government licensee under 10 CFR 50.75(e)(2)(iv), and that University funding obligations are backed by the State.

4) Information for the Environmental Assessment is presented in Section 12.12 of the SAR.

5) Technical Specifications, in general conformance with ANSI/ANS-15.1-2007, are presented in SAR Chapter 14.

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6) The University of Massachusetts Lowell Research Reactor currently has documents on file with the NRC for the Operator Requalification Program (Rev. 2, April 2008), Emergency Preparedness Plan (Rev. 7, May 2013), and Physical Security Plan (Rev. 7, Jan 2015). There are no proposed changes to these plans and program as part of this license renewal application.

7) The University Massachusetts Lowell respectfully requests the following revision to license condition 2.B of license R-125 to be worded as follows:

Subject to the conditions and requirements incorporated herein, the Commission hereby licenses the University of Massachusetts Lowell:

(1) Pursuant to Section 104c of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Lowell, Massachusetts, in accordance with the procedures and limitations set forth in this license.

(2) Pursuant to the Act and 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," to receive, possess, and use at any one time up to 11.0 kilograms of contained uranium-235 at enrichment less than 20 percent in the form of material test reactor (MTR) type reactor fuel for use in connection with operation of the reactor.

(3) Pursuant to the Act and 10 CFR 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the reactor, and to receive, possess and use in connection with operation of the facility:

a. up to 5 Ci Am-Be and 10 Ci Sb-Be neutron sources, and 50g plutonium-beryllium sources;
b. up to 30 grams of highly enriched, contained uranium-235 in the form of fission chamber linings;
c. up to 20mCi per radionuclide and 50mCi total, atomic numbers 3 through 83 in any form; and
d. to receive, possess, use and transfer byproduct materials activated in reactors other than the University of Massachusetts Lowell reactor, in the form of Cobalt-60, in quantities not to exceed 100,000 curies at any time.

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The revision request combines 2B(4) and 2B(5) of license amendment No. 14 into 2B(2) and 2B(3) above. Justification for this change is presented in the analyses provided in Chapters 4 and 13 of the SAR.

The proposed revisions in 2B(3)(a and c) are for the purposes of checks, calibrations, and characterizations of radiation monitoring instruments. The proposed revision in 2B(3)(b) is for the possession of fission chambers in reactor powering measuring channels. Both changes are further discussed in Section 9.5 of the SAR. The proposed revision in 2B(3)(d) is for a reduction in the current limit of 1,500,000 curies. The current limit exceeds the amount needed for ongoing research and development programs.

Your attention to this license renewal application is greatly appreciated. If you have any technical questions relating to this submission, please feel free to contact Leo Bobek by phone at 978-934-3365 or by email at Leo_Bobek@uml.edu.

I declare under penalty of perjury that the foregoing is true and correct.

Regards,

Partha Chowdhury, Ph.D.
Director, Radiation Laboratory

Cc: Leo Bobek, Reactor Supervisor, UMLRR

Enclosures as Stated