

August 2, 2010

Ms. Brona Simon, SHPO & Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125

SUBJECT: MASSACHUSETTS INSTITUTE OF TECHNOLOGY RESEARCH REACTOR  
LICENSE RENEWAL REVIEW

Dear Ms. Simon,

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application to renew Facility Operating License No. R-37 for the Massachusetts Institute of Technology Research Reactor (MITR, the facility), located in Cambridge, Middlesex County, Massachusetts. The application for renewal was submitted by the Massachusetts Institute of Technology (MIT, the licensee) pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities." The NRC has established that, as part of the staff review of any research reactor license renewal action, a site-specific environmental assessment (EA) will be prepared under the provisions of 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," the NRC regulation that implements the National Environmental Policy Act of 1969 (NEPA). In addition, as outlined in 36 CFR 800.8, the NRC plans to coordinate compliance with Section 106 of the National Historic Preservation Act of 1966 through the requirements of NEPA. The EA will include analyses of potential impacts to historic and cultural resources.

The proposed action would renew Facility Operating License No. R-37 for a period of twenty years from the date of issuance of the renewed license and increase the maximum licensed power level from 5 megawatts thermal (MW(t)) to 6 MW(t). The proposed action is needed to allow the continued operation of the MITR to routinely provide teaching, research, and services to numerous institutions for a period of twenty years and to enhance the facility's experiment capabilities by increasing the maximum neutron flux in the experiment facilities.

The MITR is located at the intersection of Massachusetts Avenue and Albany Street on the MIT campus and is a part of the MIT Nuclear Reactor Laboratory. The reactor is housed in a dedicated building constructed primarily of reinforced concrete and steel which serves as a containment. The reactor site, or the area of potential effect, comprises the reactor building and a small area immediately surrounding it, bounded by a chain-link fence, and a portion of an attached multipurpose academic building.

MIT began construction on the original reactor and reactor building in 1956, and the original reactor began operation in 1958. In 1974, the reactor was redesigned and rebuilt to enhance performance. Since then, the licensee has made numerous modifications to support structures located outside the reactor building, but within the area of potential effect, including the exterior of the attached academic building, the cooling towers, and the site boundary fencing.

The National Historic Preservation Act requires Federal agencies to consider the effects of their undertakings on historic properties. The *National Register of Historic Places* (NRHP) lists two historical sites located near the MIT campus, the North Avenue Congregational Church and the New England Confectionery Company Factory. According to the NRHP, the locations of these sites are approximately 100 meters (300 feet) from the MITR. Given the distance to these sites and that the proposed action does not involve any demolition, rehabilitation, construction, changes in land use, or significant changes in effluents from the facility, continued operation of the MITR will not impact any historic sites. Based on this information, the NRC determined that the potential impacts of the proposed action would have no adverse impact to historic properties.

I am requesting your concurrence on the above determination. If you need further information, please contact William B. Kennedy of my staff at 301-415-2784, or by electronic mail at [William.Kennedy@nrc.gov](mailto:William.Kennedy@nrc.gov).

Sincerely,

***/AAdams for RA/***

Jessie Quichocho, Chief  
Research and Test Reactors Licensing Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

cc: Larry Camper, FSME/DWMEP

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