

February 20, 1992

Docket No. 50-223

Dr. Gunter Kegel  
Director Radiation Laboratory  
University of Lowell  
One University Avenue  
Lowell, Massachusetts 01854

Dear Dr. Kegel:

SUBJECT: ISSUANCE OF AMENDMENT NO. 11 TO FACILITY OPERATING LICENSE NO. R-125  
FOR THE UNIVERSITY OF MASSACHUSETTS LOWELL

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 11 to Facility Operating License No. R-125 for the University of Massachusetts Lowell Research Reactor. The amendment consists of a change to the Technical Specifications (TS) in response to your submittal dated December 18, 1991.

The amendment provides changes to TS Section 6.1.4 and 6.1.5 to more clearly define the minimum complement of people capable of operating the reactor when the reactor is operating. It is also noted that, as a result of reorganization by the State of Massachusetts to put all state universities under one Board of Trustees, the University's name has been changed to University of Massachusetts Lowell instead of University of Lowell. As such, reference to the University of Lowell in any of the license documents can be considered to be synonymous with the University of Massachusetts Lowell, which will be used on the official license name on all documents issued hereafter on this license.

A copy of the related Safety Evaluation Report supporting Amendment No. 11 is enclosed.

Sincerely,

Original signed by:

Theodore S. Michaels, Project Manager  
Non-Power Reactors, Decommissioning and  
Environmental Project Directorate  
Division of Advanced Reactors  
and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 11
2. Safety Evaluation

cc w/enclosure:  
See next page

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DATE:	1/13/92	1/13/92	2/10/92	2/20/92

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

February 20, 1992

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Director Radiation Laboratory  
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Sincerely,

A handwritten signature in cursive script, reading "Theodore S. Michaels", is positioned above the typed name.

Theodore S. Michaels, Project Manager  
Non-Power Reactors, Decommissioning and  
Environmental Project Directorate  
Division of Advanced Reactors  
and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 11
2. Safety Evaluation

cc w/enclosure:  
See next page

University of Lowell

Docket No. 50-223

cc: Mayor of Lowell  
City Hall  
Lowell, Massachusetts 08152

Mr. Thomas J. Wallace  
Nuclear Reactor Supervisor  
University of Lowell  
One University Avenue  
Lowell, Massachusetts 01854

Office of the Attorney General  
Environmental Protection Division  
19th Floor  
One Ashburton Place  
Boston, Massachusetts 02108



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

UNIVERSITY OF MASSACHUSETTS LOWELL

DOCKET NO. 50-223

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 11  
License No. R-125

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by the University of Massachusetts Lowell (the licensee), dated December 18, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
  - F. Prior notice of this amendment was not required by 10 CFR 2.105(a)(4) and publication of notice for this amendment is not required by 10 CFR 2.106(a)(2).

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C.(2) of License No. R-125 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 11, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Seymour H. Weiss, Director  
Non-Power Reactors, Decommissioning and  
Environmental Project Directorate  
Division of Advanced Reactors  
and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Appendix A Technical  
Specifications Changes

Date of Issuance: February 20, 1992

ENCLOSURE TO LICENSE AMENDMENT NO. 11

FACILITY OPERATING LICENSE NO. R-125

DOCKET NO. 50-223

Replace the following pages of the Appendix A Technical Specification with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE

IV-41

IV-43

INSERT

IV-41

IV-43

## ADMINISTRATIVE CONTROLS

### 6.1 ORGANIZATION AND MANAGEMENT

1. The reactor facility shall be an integral part of the Radiation Laboratory of the University of Lowell. The reactor shall be related to the University structure as shown in Chart 6-1.
2. The reactor facility shall be under the direction of the Director of the Radiation Laboratory, who shall be a member of the graduate faculty, and it shall be supervised by the Reactor Supervisor who shall be an NRC-licensed senior operator for the facility. The Reactor Supervisor shall be responsible for assuring that all operations are conducted in a safe manner and within the limits prescribed in the facility license and the provisions of the Reactor Safety Subcommittee.
3. There shall be a Radiation Safety Officer responsible for the safety of operations from the standpoint of radiation protection. He does not report to the line organization responsible for reactor operations, but rather to the Vice-President for Academic Services and Technical Research (see Chart 6-1).
4. An operator or senior operator licensed pursuant to 10 CFR 55 shall be present at the controls unless the reactor is secured as defined in these specifications. In addition, a second individual shall be present in the reactor containment or contiguous Pinanski building whenever the reactor is not so secured. This individual shall be a licensed Senior

Reactor Operator, licensed Reactor Operator or an individual who is capable of shutting the reactor down in case of an emergency.

5. A licensed Senior Operator shall be on the console or readily available on call whenever the reactor is in operation.

## 6.2 REVIEW AND AUDIT

1. There shall be a Reactor Safety Subcommittee which shall review reactor operations to assure that the facility is operated in a manner consistent with public safety and within the terms of the facility license. The Subcommittee shall report to the University Radiation Safety Committee which has overall authority in the use of all radiation sources at the University.
2. The responsibilities of the Subcommittee include, but are not limited to, the following:
  - a. Review and approval of normal, abnormal and emergency operating and maintenance procedures and records.
  - b. Review and approval of proposed tests and experiments utilizing the reactor facilities in accordance with Paragraph 6.8 of these specifications.
  - c. Review and approval of proposed changes to the facility systems or equipment, procedures, and operations.
  - d. Determination of whether a proposed change





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 11 TO

FACILITY OPERATING LICENSE NO. R-125

UNIVERSITY OF MASSACHUSETTS LOWELL

DOCKET NO. 50-223

**1.0 INTRODUCTION**

By letter dated December 18, 1991, the University of Massachusetts Lowell (the licensee) formerly known as the University of Lowell, proposed to amend its Technical Specifications (TS) for their 1 Megawatt (Mw) thermal research reactor. The change to the TS is being made to more clearly define the required number of qualified personnel needed to be available whenever the reactor is in operation. Also, the licensee informed the NRC that the State (Massachusetts) higher education system was recently reorganized under one Board of Trustees and that the University of Lowell's name has been officially changed to the University of Massachusetts Lowell.

**2.0 EVALUATION**

The sections in the TS that are being revised, Section 6.1.4 and 6.1.5 presently read as follow:

- 6.1.4 An operator or senior operator licensed pursuant to 10 CFR 55 shall be present at the controls unless the reactor is secured as defined in these specifications.
- 6.1.5 A Licensed Senior Operator shall be on the console or readily available on call within the Pinanski Building whenever the reactor is in operation.

These sections, as they are presently written, are open to an interpretation which could permit only one operator at the facility when the reactor is operating. For instance, if a licensed Senior Reactor Operator (SRO) is at the console, it could be assumed that this condition also satisfies Section 6.1.5. The licensee has not been operating under that assumption, however, because the present Safety Analysis Report (SAR) and the licensee's procedures are explicit as to the complement, i.e., two that have to be available at the facility when the reactor is operating. In order to make the TS unambiguous, the licensee has revised them to make it explicit that at least two people be at the facility when the reactor is operating. The TS as rewritten generally conform to the American National Standard Institute ANS-15.1, Section

6.1.3(1). Also, the licensee has revised the SAR to make it compatible with the TS change. The staff finds that this change removes the aforementioned ambiguity and is therefore acceptable.

The licensee's name has been changed from the University of Lowell to the University of Massachusetts Lowell as a result of a reorganization to put all state universities under one Board of Trustees. As such, reference to the University of Lowell in any of the license documents can be considered to be synonymous with the University of Massachusetts Lowell, which will be used as the official licensee name in all documents issued hereafter in this license.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the category of recordkeeping, reporting, and administrative procedures and requirements. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

### 4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously evaluated, or create the possibility of a new or different kind of accident from any accident previously evaluated, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed activities, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or the health and safety of the public.

Principal Contributor: Theodore S. Michaels

Dated: February 20, 1992