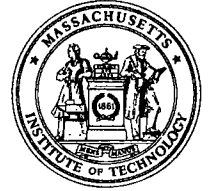


**NUCLEAR REACTOR LABORATORY**  
AN INTERDEPARTMENTAL CENTER OF  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY



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28 May 2015

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attn.: Document Control Desk

Subject: License Amendment Request for DRO Qualification Tech Spec,  
Docket No. 50-20, License R-37

The Massachusetts Institute of Technology hereby submits a License Amendment Request (LAR) for its Facility Operating License No. R-37. The requested amendment is for a change in Technical Specification 7.1.4.1 modifying the qualification requirements for the position of Director of Reactor Operations. The reason for this request, as discussed in the enclosed analysis, is to provide the flexibility to fill this position with a highly qualified individual from a larger pool of candidates. The modified requirements will continue to meet or exceed all those expected of a Level 2 Facility Manager in ANSI/ANS-15.4-2007, Section 4.3.

This request has been reviewed and approved by the MIT Reactor Safeguards Committee.

Sincerely,

Edward S. Lau, NE  
Assistant Director of Reactor Operations  
MIT Research Reactor

Thomas Newton, Ph.D., P.E.  
Director of Reactor Operations  
MIT Research Reactor

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

Executed on 5/28/15  
Date

  
Signature

EL/st

Enclosure: As stated

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  
Research and Test Reactors Oversight Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

A020  
NRR

Safety Review Form No. 2015-11

Item: Technical Specification 7.1.4

Submitted by T. Newton *TN* Date 5/11/2015

Q/A number (required for all equipment changes) 2015-11

	<u>Yes*</u>	<u>No</u>
Does the item change or contradict the Technical Specifications?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the item contradict the SAR?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\*Attach explanation

Description of Change (Attach extra pages if necessary):

See attached.

Safety Evaluation (Attach extra pages if necessary):

See attached.

Summary of Review:

a) Does the proposal:	<u>Yes</u>	<u>No</u>
i) require a license amendment (10CFR50.59(c)(2))	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) decrease scope of requalification program (10CFR50.54(i-1))	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) decrease effectiveness of security plan (10CFR50.54(p))	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) decrease effectiveness of emergency plan (10CFR50.54(q))	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b) Reviewer's Comments:

Reviewer *[Signature]* Date 05/21/2015

Reviewer *[Signature]* Date 5/21/2015

Reviewer *[Signature]* Date 5/21/15  
(Reactor Radiation Protection Officer)

Approved *[Signature]* Date 5/21/15  
(Director of Reactor Operations)

Date of MITRSC approval if required 5/28/2015 Date of NRC approval if required \_\_\_\_\_

List of Communications containing MITRSC additional conditions:

10 CFR 50.59 & 50.54 (p and q) changes included in Annual Report to NRC, Fiscal Year \_\_\_\_\_

Safety Review # 2015-11 – Technical Specification 7.1.4

Description of Change

Technical Specification 7.1.4.1, Director of Reactor Operations, is being amended to allow the equivalent of a senior operator's license at another facility as an alternative to holding a senior operator's license for the MIT Reactor. Wording is added to be consistent with ANSI/ANS-15.4-2007, "Selection and Training of Personnel for Research Reactors," Section 4.3.

Safety Evaluation

The Technical Specifications as currently written 1) restrict the ability to hire a replacement for the Director of Reactor Operations from outside of the group of individuals holding senior reactor operator's licenses for the MIT Reactor and 2) could potentially reduce the focus on duties as Director of Reactor Operations in fulfilling initial or requalification licensing requirements, as operation of the reactor is not a key part of the duties of this position. Director of Reactor Operations is a senior management position responsible for overall reactor facility safety, regulatory compliance and organization. Safety is thus improved as this amendment will provide the flexibility to fill this position with a highly qualified individual from outside of MIT's Reactor Operations group and allow this individual to focus on the duties incumbent upon the Director of Reactor Operations.

The qualification requirements as stated in the Technical Specifications for the Director of Reactor Operations will continue to meet or exceed all requirements for a Level 2 Facility Manager in ANSI/ANS-15.4-2007, Section 4.3. Allowing the equivalent of a senior reactor operator's license at another facility provides the flexibility to fill this position with a highly qualified individual from a larger pool of candidates.

#### TS 7.1.4 Selection of Personnel, Specification #1

##### Current:

1. Director of Reactor Operations – The Director of Reactor Operations shall have a minimum of seven years of nuclear experience. The individual shall have a recognized baccalaureate or higher degree in an engineering or scientific field. Education or experience that is job-related may be substituted for a degree on a case-by-case basis. The degree may fulfill four years of the seven years of nuclear experience required on a one-for-one time basis. At least three years of experience shall be in a responsible position in reactor operations or a related field including at least one year's experience in reactor facility management or supervision. The Director of Reactor Operations shall hold a senior operator's license for the MIT Research Reactor, or have held such a license at the MIT Research Reactor.

##### Proposed:

1. Director of Reactor Operations – The Director of Reactor Operations shall have a minimum of seven years of nuclear experience. The individual shall have a recognized baccalaureate or higher degree in an engineering or scientific field. Education or experience that is job-related may be substituted for a degree on a case-by-case basis. The degree may fulfill four years of the seven years of nuclear experience required on a one-for-one time basis. At least three years of experience shall be in a responsible position in reactor operations or a related field including at least one year's experience in reactor facility management or supervision. The Director of Reactor Operations shall hold a senior operator's license for the MIT Research Reactor, or have held **the equivalent at the MIT Research Reactor or another reactor facility. In the case of the latter, the individual shall receive facility-specific training, based on the individual's background and abilities.**

##### Basis:

The qualification requirements for the Director of Reactor Operations meet or exceed all requirements for a Level 2 Facility Manager in ANSI/ANS-15.4-2007, Section 4.3. Allowing the equivalent of a senior operator's license at another facility provides the flexibility to fill this position with a highly qualified individual from a larger pool of candidates.

### 3.5 Level 4

Operating staff (i.e., senior reactor operators and reactor operators).

### 3.6 Other technical personnel

These are personnel not directly involved in the management and operation of the reactor but who provide technical support in areas involving the reactor. Examples are laboratory technicians, instrument technicians, and health physics personnel.

## 4 Qualification

### 4.1 General

Research reactor personnel shall have that combination of academic training, job-related experience, health, and skills commensurate with their level of responsibility that provides reasonable assurance that decisions and actions during all normal and abnormal conditions will be such that the reactor is operated in a safe manner.

Nuclear experience acquired at a nuclear reactor may qualify on a one-for-one time basis (i.e., one year of nuclear experience for one year of research reactor experience).

### 4.2 Level 1

At the time of appointment to the position, the Level 1 person shall receive briefings sufficient to provide an understanding of the general operational and emergency aspects of the reactor facility.

### 4.3 Level 2

At the time of appointment to the position, the Level 2 person shall have a minimum of six years of nuclear experience. The individual shall have a recognized baccalaureate or higher degree in an engineering or scientific field. The degree may fulfill up to four years of the six years of nuclear experience required. Education and/or experience that is job related may be substituted for a degree on a case-by-case basis. The individual shall receive appropriate facility-specific training based upon a comparison of the individual's background and abilities with the responsibilities and duties of the position. Because of the educational and experience requirements of the position, continued

formal training may not be required. If this individual is also to be licensed, the individual shall meet the licensing requirements of the respective position and responsible authority.

### 4.4 Level 3

At the time of appointment to the position, the individual shall have received sufficient training at the facility or elsewhere to satisfy the requirements for licensing as a senior reactor operator. This individual shall also have three years of nuclear experience. A maximum of two years equivalent full-time academic training may be substituted for two years of the three years of nuclear experience required. Individuals assigned to Level 3 positions should have a high-school diploma or have successfully completed a General Education Development (GED) test. Additional academic training is highly recommended.

### 4.5 Level 4

At the time of appointment to the position, the individual shall have received sufficient training at the facility or elsewhere to satisfy the requirements for licensing at the appropriate level. Individuals assigned to Level 4 positions should have a high-school diploma or have successfully completed a General Education Development (GED) test. Individuals who do not have a high-school diploma or GED should not be excluded. Previous job-related experience or education should also be considered. An individual's ability to successfully complete the training program for the Level 4 position and satisfy all job performance requirements should be the determining factors for appointment to the position.

### 4.6 Other technical personnel

Technical support personnel shall have a minimum of one year of working experience in their specialty or craft and shall be qualified to perform the work for the position.

## 5 Initial training and licensing

### 5.1 General

All personnel requiring reactor operator or senior reactor operator licenses shall receive comprehensive training and meet licensing requirements of qualification, training, medical