

January 27, 2017

Dr. Steven Biegalski, Director
Nuclear Engineering Teaching Laboratory
The University of Texas at Austin
10100 Burnet Rd, Building 159
Austin, TX 78758

SUBJECT: UNIVERSITY OF TEXAS AT AUSTIN - REQUEST FOR ADDITIONAL
INFORMATION REGARDING THE LICENSE RENEWAL REQUEST FOR THE
NUCLEAR ENGINEERING TEACHING LABORATORY TRIGA MARK II
NUCLEAR RESEARCH REACTOR (TAC NO. ME7694)

Dear Dr. Biegalski:

The U.S. Nuclear Regulatory Commission (NRC) is continuing its review of your application for the renewal of Facility Operating License No. R-129, for the University of Texas at Austin, dated December 12, 2011, as most recently supplemented on December 1, 2016 (a redacted version of the application is available on the NRC's public Web site at www.nrc.gov under the Agencywide Documents Access and Management System Accession No. ML12156A097).

During our review of your application and supplements, questions have arisen for which additional information is needed. The enclosed request for additional information (RAI) identifies the additional information needed to continue our review. We request that you provide responses to the enclosed RAI within 30 days from the date of this letter.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.30(b), "Oath or affirmation," you must execute its response in a signed original document under oath or affirmation. Your response must be submitted in accordance with 10 CFR 50.4, "Written communications." Information included in your response that is considered sensitive or proprietary, that you seek to have withheld from the public, must be marked in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Any information related to security should be submitted in accordance with 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements." Following receipt of the additional information, we will continue our review of your renewal request.

S. Biegalski

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If you have any questions regarding this review, please contact me at (301) 415-2856 or by electronic mail at Michael.Balazik@nrc.gov.

Sincerely,

/RA/

Michael F. Balazik, Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-602
License No. R-129

Enclosure:
As stated

cc: See next page

University of Texas

Docket No. 50-602

cc:

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and Policy Office
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Austin, Texas 78711-2428

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Test, Research and Training
Reactor Newsletter
P.O. Box 118300
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Gainesville, FL 32611

S. Biegalski

- 2 -

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Sincerely,

/RA/

Michael F. Balazik, Project Manager
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Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-602
License No. R-129

Enclosure:
As stated

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ADAMS Accession No.: ML16358A644; *concurrence via e-mail

NRR-106

OFFICE	NRR/DPR/PRLB	NRR/DPR/PRLB*	NRR/DPR/PROB	NRR/DPR/PRLB	NRR/DPR/PRLB
NAME	MBalazik	NParker	PTorres	AAdams	MBalazik
DATE	1/3/17	1/3/17	1/23/17	1/25/17	1/27/17

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OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE RENEWAL OF
THE UNIVERSITY OF TEXAS AT AUSTIN
TRIGA MARK II NUCLEAR RESEARCH REACTOR
LICENSE NO. R-129, DOCKET NO. 50-602

The U.S. Nuclear Regulatory Commission (NRC) is continuing its review of your application for renewal of Facility Operating License No. R-129, for the Nuclear Engineering Teaching Laboratory (NETL) TRIGA® Mark II Nuclear Research Reactor (the facility) owned by the University of Texas at Austin (UT, the licensee), dated December 12, 2011, as supplemented on January 17, (two letters) and February 21, 2012 (available on the NRC's public website, www.nrc.gov, in the Agencywide Documents Access and Management System (ADAMS), Accession Nos. ML12156A097, ML12156A196, ML12030A102, and ML12061A009).

Additionally, you supplemented your application on September 17 (ADAMS Accession No. ML12307A071), and December 19, 2012 (ADAMS Accession No. ML13002A015), March 22 (ADAMS Accession No. ML13091A006), and August 21, 2013 (ADAMS Accession No. ML13246A014), July 15 (ADAMS Accession No. ML15211A638), August 26 (ADAMS Accession No. ML15251A234), October 23 (ADAMS Accession No. ML15313A027), and December 22, 2015 (ADAMS Accession No. ML16015A052), February 5 (ADAMS Accession No. ML16053A094), May 2 (ADAMS Accession No. ML16132A239), and December 1, 2016 (ADAMS Accession No. ML16347A112), in response to requests for additional information from the NRC staff.

The NRC staff has reviewed your Operator Requalification Plan (ORP) for the NETL research reactor (Revision 1 November 19, 1990) (ADAMS Accession No. ML16218A264), in support of license renewal. During the course of the review, the NRC staff identified three items for which clarification or additional information is required.

The NRC staff's review used the regulations contained in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 55, "Operator's licenses," using guidance as outlined in industry standard American National Standards Institute/American Nuclear Society (ANSI/ANS)-15.4-2007, "Selection and Training of Personnel for Research Reactors."

Enclosure

48. The regulations in 10 CFR 55.59, "Requalification," paragraph (a)(2)(ii) state:

- (a) *Requalification requirements.* Each licensee shall — (2) Pass a comprehensive requalification written examination and an annual operating test.
- (ii) The operating test will require the operator or senior operator to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a comprehensive sample of items specified in § 55.45(a) (2) through (13) inclusive to the extent applicable to the facility.

Regulations in 10 CFR 55.59(c)(4)(i) state:

- (c) *Requalification program requirements.* A facility licensee shall have a requalification program reviewed and approved by the Commission and shall, upon request consistent with the Commission's inspection program needs, submit to the Commission a copy of its comprehensive requalification written examinations or annual operating tests. The requalification program must meet the requirements of paragraphs (c) (1) through (7) of this section. In lieu of paragraphs (c) (2), (3), and (4) of this section, the Commission may approve a program developed by using a systems approach to training.
- (4) *Evaluation.* The requalification program must include — (i) Comprehensive requalification written examinations and annual operating tests which determine areas in which retraining is needed to upgrade licensed operator and senior operator knowledge.

ANSI/ANS-15.4-2007, Section 6.2.5, "Operating test or evaluation," states:

At least five tasks selected from Sec. 5.4 including a reactor start-up and shutdown shall be performed and evaluated. The performance of the task may be actual or simulated.

ORP Section 2.4, "Evaluation," states, in part:

A systematic observation of license activities, by a supervisory senior operator or a level of the facility management to which a supervisory operator is responsible will evaluate operator and senior operator performance. Visual observation of the performance in response to the conditions of sections 2.3.1 and 2.3.2 will provide the basis for judgement of the operator's skill. In the case of a senior operator the performance may be either direct actions or the direction of a response by another operator. Judgements of a person's skill or competency is subjective and may include general observations of performance at any time the person is responsible for license functions.

The ORP Section 2.4 makes no mention of administering a comprehensive requalification annual operating test at any point during the two-year requalification program cycle. Therefore, it is not clear to the NRC staff how UT's ORP meets the requirements of 10 CFR 55.59(a)(2)(ii) and 10 CFR 55.59(c)(4)(i).

- a. Revise the ORP to include an annual operating test.
- b. Clarify how the ORP complies with the requirements of 10 CFR 55.59(a)(2)(ii) and 10 CFR 55.59(c)(4)(i) and revise the ORP if necessary.

49. The regulations in 10 CFR 55.59(a)(2) state:

(a) *Requalification requirements.* Each licensee shall — (2) Pass a comprehensive requalification written examination and an annual operating test.

ORP Section 2.6, "Training Coordinator," states:

Exemption status for supervisory senior operator. The person who writes, grades, and administers the exam and on-the-job training events is a reactor supervisor or a supervisory senior operator. The reactor supervisor or supervisory senior operator as the person that coordinates training and examination will not take the annual exam. Several factors will allow for the exemption of that person from the regular evaluation and exam process. These factors are the educational experience of a graduate degree in the field of nuclear engineering, daily involvement in performance or review of activities of reactor operation, participation in the training program, preparation of examination material, and evaluation of exam questions. Evaluation of the reactor supervisor or a supervisory senior operator will, however, be done as part of the routine management responsibilities of the facility director. This will include certification that the person is performing an active role in training, operation and teaching at the UT BRC TRIGA facility.

It appears to the NRC staff that contrary to the requirement in the regulations, the Reactor Supervisor or supervisory senior operator as long as they are the person that coordinates training and examination will not take the annual exam. Therefore, this licensed operator is indefinitely exempt from the requirements of taking a written examination and operating test.

Revise the ORP to ensure that no one licensed operator is permanently exempted from meeting the requirements of 10 CFR 55.59 (e.g., the addition of a requirement that exam preparation is rotated between the reactor supervisor and the supervisory senior reactor operator).

50. The regulations in 10 CFR 55.21, "Medical examination," state:

An applicant for a license shall have a medical examination by a physician. A licensee shall have a medical examination by a physician every two years. The physician shall determine that the applicant or licensee meets the requirements of § 55.33(a)(1).

The ORP does not appear to include the 10 CFR 55.21 requirement to include a medical examination.

Revise the ORP to include medical examination requirements and that the medical examination period would not exceed the biennial medical examination requirement stated in 10 CFR 55.21.