

February 15, 2012

Dr. Mohamad Al-Sheikhly,
Professor and Director
Radiation Facilities and Nuclear Reactor
Chemical and Nuclear Engineering Building 090
University of Maryland
College Park, MD 20742

SUBJECT: UNIVERSITY OF MARYLAND – REQUEST FOR ADDITIONAL INFORMATION,
RE: REACTOR OPERATOR REQUALIFICATION PROGRAM (TAC NO.
ME2431)

Dear Dr. Al-Sheikhly:

We are continuing our review of your reactor operator requalification program for the Maryland University Training Reactor which you submitted on August 26, 2010, as an enclosure to your “Reply to a Notice of Violation University of Maryland – NRC Routine Inspection Report 50-166/2010 and Notice of Violation.” During our review of your operator requalification program, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed request for additional information within 30 days of the date of this letter. In accordance with Title 10 of the *Code of Federal Regulations* Section 50.30(b), your response must be executed in a signed original under oath or affirmation. Following receipt of the additional information, we will continue our evaluation of your operator requalification program.

If you have any questions regarding this review, please contact me at (301) 415-1127.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-166

Enclosure:
As stated

cc w/encl:
See next page

University of Maryland

Docket No. 50-166

cc:

Director, Dept. of Natural Resources
Power Plant Siting Program
Energy & Coastal Zone Administration
Tawes State Office Building
Annapolis, MD 21401

Mr. Roland G. Fletcher, Program Manager IV
Radiological Health Program
Maryland Department of Environment
1800 Washington Blvd., Suite 750
Baltimore, MD 21230-1718

Mr. Vincent G. Adams
Facility Coordinator
Chemical and Nuclear Engineering Building 090
University of Maryland
College Park, MD 20742

Mary Dorman
Radiation Safety Officer
Department of Environmental Safety
3115 Chesapeake Building 338
University of Maryland
College Park, MD 20742

Test, Research, and Training
Reactor Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

February 15, 2012

Dr. Mohamad Al-Sheikhly,
Professor and Director
Radiation Facilities and Nuclear Reactor
Chemical and Nuclear Engineering Building 090
University of Maryland
College Park, MD 20742

SUBJECT: UNIVERSITY OF MARYLAND – REQUEST FOR ADDITIONAL INFORMATION,
RE: REACTOR OPERATOR REQUALIFICATION PROGRAM (TAC NO.
ME2431)

Dear Dr. Al-Sheikhly:

We are continuing our review of your reactor operator requalification program for the Maryland University Training Reactor which you submitted on August 26, 2010, as an enclosure to your “Reply to a Notice of Violation University of Maryland – NRC Routine Inspection Report 50-166/2010 and Notice of Violation.” During our review of your operator requalification program, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed request for additional information within 30 days of the date of this letter. In accordance with Title 10 of the *Code of Federal Regulations* Section 50.30(b), your response must be executed in a signed original under oath or affirmation. Following receipt of the additional information, we will continue our evaluation of your operator requalification program.

If you have any questions regarding this review, please contact me at (301) 415-1127.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-166

Enclosure:
As stated

cc w/encl:

See next page

DISTRIBUTION:

PUBLIC RidsNrrDpr RidsNrrDprPrta GLappert, NRR
RTR r/f RidsNrrDprPrtb AAdams, NRR JEads, NRR
ADAMS Accession No: ML102660113

OFFICE	PRLB:LA	PRLB:PM	PROB:BC	PRLB:BC	PRLB:PM
NAME	GLappert	AAdams	Plsaac for JEads	JQuichocho	AAdams
DATE	9/30/2010	9/30/10	2/15/12	2/15/12	2/15/12

Official Record Copy

OFFICE OF NUCLEAR REACTOR REGULATIONS
REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE OPERATOR REQUALIFICATION PROGRAM FOR
THE MARYLAND UNIVERSITY TRAINING REACTOR
LICENSE NO. R-70; DOCKET NO. 50-166

1. The regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 55.59(c)(3)(i) states that:
 - (i) *Each licensed operator of a utilization facility manipulates the plant controls and each licensed senior operator either manipulates the controls or directs the activities of individuals during plant control manipulations during the term of the licensed operator's or senior operator's license. For reactor operators and senior operators, these manipulations must consist of the following control manipulations and plant evolutions if they are applicable to the plant design. Items described in paragraphs (c)(3)(i) (A) through (L) of this section must be performed annually; all other items must be performed on a two-year cycle. However, the requalification programs must contain a commitment that each individual shall perform or participate in a combination of reactivity control manipulations based on the availability of plant equipment and systems. Those control manipulations which are not performed at the plant may be performed on a simulator. The use of the Technical Specifications should be maximized during the simulator control manipulations. Senior operator licensees are credited with these activities if they direct control manipulations as they are performed*

Related to this, American National Standards Institute/American Nuclear Society (ANSI/ANS)-15.4, "Selection and Training of Personnel for Research Reactors", Section 6.0, Requalification, subsections 6.2.4 and 6.2.5 state:

6.2.4 Reactivity control manipulations

The licensed individual shall perform a number of reactivity manipulations in any combination of reactor start-ups, shutdowns, and reactivity or power changes as approved in the facility's requalification program or established by Level 2. The recommended number is five . For senior reactor operators, direct supervision of these operations may be considered equivalent to actual performance.

Enclosure

6.2.5 Operating test or evaluation

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.

Finally, ANSI/ANS -15.4 Section 5.0, "Initial Training and Licensing," subsection 5.4 states:

Examples of tasks to be performed under normal and abnormal circumstances are as follows:

- (1) *Normal circumstances.*
 - (a) *Operations and procedures tasks including pre-start-up, restart, and shutdown checklists; reactor startup; shutdown; reactivity manipulations to change power; and application of administrative rules such as tagging of equipment, radiation work permits, etc.,*
 - (b) *Other reactivity tasks including fuel movements, insertion and removal of experiments, and rod exchange or movements without power change,*
 - (c) *Maintenance and monitoring tasks including verifying operability of equipment for the purpose of technical specification compliance, routine inspection of the facility, surveillance tests, water chemistry analysis, and demonstrating knowledge of reactor system and auxiliary systems' controls and indications;*
- (2) *Abnormal circumstances.*
 - (a) *Response to alarms and trips such as scrams, rundowns, high radiation, low water level, loss of coolant, loss of flow, and loss of electrical power,*
 - (b) *Emergency action such as initiation of emergency response to radioactive releases, contaminated personnel, failed fuel, loss of confinement or containment, fire, security violations, and natural disasters.*

Please add a section to your requalification plan to allow the evaluation of each operator with regard to the requirements of 10 CFR 55.59(c)(3)(i). Note, the U. S. Nuclear Regulatory Commission has endorsed ANSI/ANS -15.4, and the above listed paragraphs may be used to assist in the development of the guidance within your plan to meet this requirement.

2. The regulations in 10 CFR 55.53(h) "Conditions of Licenses" state:

- (h) *The licensee shall complete a requalification program as described by § 55.59.*

The regulations in 10 CFR 55.59(a) states, "Each Licensee shall – "

- (1) *Successfully complete a requalification program developed by the facility licensee that has been approved by the Commission. This program shall be conducted for a continuous period not to exceed 24 months in duration*
- (2) *Pass a comprehensive requalification written examination and an annual operating test.*

Section 9.0 of your Requalification plan, the second sentence states:

"The Reactor Director will be exempt from taking the annual written examination, oral facility examination, and the console performance evaluation, but will be required to perform the operations set forth in Section 3.0 and the review of documents set forth in Section 6.0."

This sentence is in direct conflict with the regulations. Please delete this sentence or submit an exemption request with justification in accordance with 10 CFR 55.15 and 10 CFR 50.12 for the requirements of 10 CFR 55.53(h) and 10 CFR 55.59(a)(1) and (2).