



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

July 16, 2019

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SUBJECT: UNIVERSITY OF NEW MEXICO - REQUEST FOR ADDITIONAL INFORMATION REGARDING THE OPERATOR REQUALIFICATION PROGRAM FOR THE AEROJET-GENERAL NUCLEONICS-201 MODIFIED NUCLEAR REACTOR (EPID NO. L-2019-LLL-0006)

Dear Dr. Busch:

By letter dated January 30, 2019 (Agencywide Documents Access and Management System Accession No. ML19052A050), the University of New Mexico (UNM) submitted an updated Operator Requalification Program (ORP), dated January 2019, for the UNM Aerojet-General Nucleonics-201 Modified Reactor, for U.S. Nuclear Regulatory Commission (NRC) review.

During the NRC staff's review of the UNM ORP, dated January 2019, the NRC staff identified additional information needed to continue its review of the ORP, as described in the enclosed request for additional information (RAI). Provide a response to the RAI, or a written request for additional time to respond, including the proposed response date and a brief explanation of the reason, by October 1, 2019. Following receipt of the complete response to the RAI, the NRC staff will continue its review of the ORP.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.30(b), "Oath or affirmation," UNM must execute its response in a signed original document under oath or affirmation. The response must be submitted in accordance with 10 CFR 50.4, "Written communications." Information included in the 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 safeguards should be submitted in accordance with 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements." Following receipt of the additional information, the NRC staff will continue its evaluation of UNM's ORP.

If you have any questions regarding the NRC staff's review or if you intend to request additional time to respond, please contact me at 301-415-4067, or by electronic mail at [Edward.Helvenston@nrc.gov](mailto:Edward.Helvenston@nrc.gov).

Sincerely,

*/RA/*

Edward Helvenston, Project Manager  
Research and Test Reactors Licensing Branch  
Division of Licensing Projects  
Office of Nuclear Reactor Regulation

Docket No. 50-252  
License No. R-102

Enclosure:  
As stated

cc: See next page

University of New Mexico

Docket No. 50-252

cc:

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SUBJECT: UNIVERSITY OF NEW MEXICO - REQUEST FOR ADDITIONAL INFORMATION  
 REGARDING THE OPERATOR REQUALIFICATION PROGRAM FOR THE  
 AEROJET-GENERAL NUCLEONICS-201 MODIFIED NUCLEAR REACTOR  
 DATE: JULY 16, 2019

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**ADAMS Accession No. ML19190A321**

**\*concurring via email**

**NRR-088**

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DATE	7/16/2019			

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OFFICE OF NUCLEAR REACTOR REGULATION  
REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE OPERATOR REQUALIFICATION PROGRAM  
FOR THE UNIVERISTY OF NEW MEXICO AEROJET-GENERAL NUCLEONICS  
201-MODIFIED REACTOR  
LICENSE NO. R-102; DOCKET NO. 50-252

During the U.S. Nuclear Regulatory Commission (NRC) staff's review of the University of New Mexico (UNM) Aerojet-General Nucleonics 201-Modified (AGN-201M) Reactor Operator Requalification Program (ORP) (titled, "Operator and Senior Operator Requalification Program, University of New Mexico, AGN-201M Reactor Facility), dated January 2019, submitted by letter dated January 30, 2019 (Agencywide Documents Access and Management System Accession No. ML19052A050), questions have arisen for which the NRC staff requires additional information and clarification.

**RAI-1**

Section 55.59(a)(1) of Title 10 of the *Code of Federal Regulations* (10 CFR) states: "*Requalification requirements.* Each licensee shall — 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."

The NRC staff notes that the UNM AGN-201M Reactor Facility ORP does not appear to address the timeliness requirement, as specified in 10 CFR 55.59(a)(1), for the implementation of the requalification program. Revise the ORP to specify that the duration of the program shall not exceed a period of 24 months or provide a justification for how the ORP meets the regulations in 10 CFR 55.59(a)(1).

**RAI-2**

Regulations in 10 CFR 55.59(a)(2) state: "Each licensee shall — Pass a comprehensive requalification written examination and an annual operating test."

The guidance for examinations provided in American National Standard Institute/American Nuclear Society-15.4-2016, Section 5.4, "Examinations," states: "Written, operating, and oral examinations for initial licensing shall be administered by or under the direction of the responsible authority. The examinations should be designed and weighted for the appropriate license level."

The UNM AGN-201M ORP, Section 4, "Evaluation," first paragraph, states:

Written Examination: Every two years, each licensed individual shall be given a written examination covering the areas described in Section B.2 of this document. (The licensed individual who develops, administers, and grades

Enclosure

these examinations shall be waived from taking the examination at that time. The responsibility for the examination shall rotate among the licensed senior operators or other qualified individuals so that each licensed senior operator shall be evaluated at least every four years.) A score of 70% or higher will require no additional training.

The ORP, Section 4, "Evaluation," third paragraph, states, in part:

Each certified individual is required to take an annual operational exam requiring 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 10 CFR 55.45(a) (2) through (13) inclusive to the extent applicable to the facility. [...] Responsibility for these exams shall rotate among the senior operations staff.

The NRC staff notes that contrary to the requirement that licensees pass a comprehensive written examination during each requalification cycle, the UNM licensed individual who develops, administers, and grades the written examinations appears to be exempt from taking the exam for that cycle. Consequently, these licensed individuals will receive written examinations every four years instead of the required two year requalification cycle interval (see 10 CFR 55.59(a)(1)). In addition, the ORP does not appear to specify how a licensed staff member who is responsible for the annual operational exams will be tested for the annual operating test requirement.

Revise the ORP to ensure that no licensed individual is exempt from meeting the requirements of 10 CFR 55.59 (written and annual operating test) or justify why the current plan is acceptable.

### **RAI-3**

Regulations in 10 CFR 55.59(c)(3)(i) state, in part:

The requalification program must include on-the-job training so that — 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.

Section B.3, "On-the-job Training," of the UNM ORP states:

The other half-day of the training session will consist of the following activities:

- a. Review and perform a monthly maintenance check
- b. Review and perform a daily reactor checkout
- c. Startup of the reactor and operation at licensed power
- d. Measurement of excess reactivity

- e. Measurement of reactivity worths of typical samples used in the training and activation experiments
- f. Measurement of a safety rod reactivity worth using rod-drop techniques
- g. Simulated emergency with practice evacuation

Manipulation of the controls during these checks and operations will be rotated among the participating personnel. Participation in this session will assure that each licensed operator or senior operator is cognizant of facility design changes, procedure changes, and facility license changes.

The NRC staff notes that Section B.3 of the ORP does not appear to address shutdown of the reactor (see 10 CFR 55.59(c)(3)(i)(B)) as part of the on-the-job training. Revise the ORP to address on-the-job training for reactor shutdown or provide a justification for the how the ORP meets the regulations in 10 CFR 55.59(c)(3)(i) regarding applicable control manipulations.

Additionally, the NRC staff notes that Section B.3 of the ORP does not appear to include measures to ensure that performance of the control manipulations during on-the-job training is achieved by all licensed operators and senior operators. Provide clarification on whether licensed operator or senior operators are required, per the requalification program, to conduct or direct, as appropriate, each of the control manipulations listed in Section B.3 of the ORP (and revise the ORP, if necessary), or justify why no additional information or ORP revisions are required.

#### **RAI-4**

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

Evaluation. The requalification program must include — Systematic observation and evaluation of the performance and competency of licensed operators and senior operators by supervisors and/or training staff members, including evaluation of actions taken or to be taken during actual or simulated abnormal and emergency procedures.

The NRC staff notes that the UNM ORP does not appear to address observation and evaluation by supervisors for reactor operator and senior operator knowledge of abnormal and emergency procedures in accordance with 10 CFR 55.59(c)(4)(iii).

Revise the ORP to include the requirements of 10 CFR 55.59(c)(4)(iii) or provide a justification for the how the Requalification Program meets the regulations in 10 CFR 55.59(c)(4)(iii).