

NUCLEAR REGULATORY COMMISSION

Docket No. 50-188

Kansas State University Nuclear Reactor Facility

Exemption

I. Background.

Kansas State University (KSU) holds the U.S. Nuclear Regulatory Commission (NRC, the Commission) Renewed Facility Operating License No. R-88 for the Kansas State University Nuclear Reactor Facility (the facility), which is a Training, Research, Isotopes, General Atomics (TRIGA) research reactor located on the KSU campus in Manhattan, Kansas. Under this license, KSU is authorized to operate the facility at steady-state power levels up to a maximum of 1,250 kilowatts (thermal) and in the pulse mode with reactivity insertions not to exceed specified limits. The license is subject to the rules, regulations, and orders of the NRC.

II. Request/Action.

By letter dated March 7, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24085A808), as supplemented by letters dated June 11 (ML24164A092), October 4 (ML24281A032), and November 20, (ML24326A142) 2024, KSU requested a temporary exemption from Title 10 of the *Code of Federal Regulations* (10 CFR) 55.53, "Conditions of licenses," paragraphs (e), (f), and (h) and 10 CFR 55.59, "Requalification," paragraph (a) for three licensed senior reactor operators (Docket Nos. 055-71404, 055-70720, and 055-70722) at the facility in order to allow them to resume maintenance activities involving fuel movement, fuel cleaning, and fuel inspection and to return the facility to normal operations.

The regulations at 10 CFR 55.53(e) state:

If a licensee has not been actively performing the functions of an operator or senior operator, the licensee may not resume activities

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authorized by a license issued under [10 CFR part 55] except as permitted by paragraph (f) of this section. To maintain active status... [f]or test and research reactors, the licensee shall actively perform the functions of an operator or senior operator for a minimum of four hours per calendar quarter.

The regulations at 10 CFR 55.53(f) state:

If paragraph (e) of this section is not met, before resumption of functions authorized by a license issued under [10 CFR part 55], an authorized representative of the facility licensee shall certify the following:

(1) That the qualifications and status of the licensee are current and valid; and

(2) That the licensee has completed a minimum of 40 hours of shift functions under the direction of an operator or senior operator as appropriate and in the position to which the individual will be assigned. The 40 hours must have included a complete tour of the plant and all required shift turnover procedures.... For test and research reactors, a minimum of six hours must have been completed.

The regulations at 10 CFR 55.53(h) state:

The licensee shall complete a requalification program as described by [10 CFR] 55.59.

And the regulations at 10 CFR 55.59(a) state:

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.

(i) The written examination will sample the items specified in [10 CFR] 55.41 and 55.43..., to the extent applicable to the facility, the licensee, and any limitation of the license under [10 CFR] 55.53(c)....

(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 [10 CFR] 55.45(a) (2) through (13) inclusive to the extent applicable to the facility.

(iii) In lieu of the Commission accepting a certification by the facility licensee that the licensee has passed written examinations and

operating tests administered by the facility licensee within its Commission-approved program developed by using a systems approach to training under paragraph (c) of this section, the Commission may administer a comprehensive requalification written examination and an annual operating test.

According to KSU, the facility has been under an extended shutdown to address a fuel issue identified during routine fuel inspection. As a result of the extended shutdown, three senior operators at the facility are unable to meet a portion of the facility's operator requalification program (the KSU Requalification Plan) related to reactor operations. Additionally, these senior operators have not been actively performing the functions of a senior operator for a minimum of four hours per calendar quarter. Therefore, KSU is requesting to temporarily exempt these senior operators from the NRC's requalification requirements at 10 CFR 55.53(h) and 10 CFR 55.59(a) and the NRC's active performance requirements at 10 CFR 55.53(e) and (f) so that they may resume fuel maintenance activities and return the facility to normal operations. The KSU staff will continue to use the KSU Requalification Plan for requalification requirements that can be completed at the facility and those that cannot be completed at the facility will be accomplished through alternative training or training at the University of Texas at Austin Research Reactor (UTARR). The October 4, 2024, supplement to the exemption request discusses this additional training, including control manipulations at the UTARR and simulations at the facility, lectures, biweekly performance of "Procedure No. 12 – Instrument Checkout," and monthly review of operations daily checkout logbooks. The requested duration of the exemption is the sooner of 120 days after the issuance of the exemption or 30 days following the cancellation of the administrative restriction on operations related to the fuel issue. After this time, the senior operators would again be subject to the regulations related to the NRC's requalification and active performance requirements.

As explained below, with the proposed additional training, the requested exemption is authorized by law, will not endanger life or property, and is otherwise in the public interest. Therefore, the NRC grants the requested exemption with respect to the three senior operators

named in the exemption request and, pursuant to 10 CFR 55.59(b), requires those senior operators to complete the additional training discussed in the exemption request and to submit evidence to the NRC of the successful completion of that training before returning the facility to normal operations.

III. Discussion.

Pursuant to 10 CFR 55.11, "Specific exemptions," the Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of the regulations in 10 CFR part 55 as it determines (1) are authorized by law, (2) will not endanger life or property, and (3) are otherwise in the public interest.

A. The Exemption Is Authorized by Law

The exemption would allow three senior operators at the facility who do not satisfy the requalification requirements of 10 CFR 55.53(h) and 10 CFR 55.59(a) and the active performance requirements of 10 CFR 55.53(e) and (f) to continue to perform the functions of a senior operator to support the resumption of fuel maintenance activities and the return of the facility to normal operations. As stated above, 10 CFR 55.11 allows the Commission to grant exemptions from the requirements of 10 CFR part 55, including 10 CFR 55.53(e), (f), and (h) and 10 CFR 55.59(a), when the exemptions are authorized by law. Exemptions are authorized by law where they are not expressly prohibited by statute or regulation. A proposed exemption is implicitly authorized by law if it will not endanger life or property and is otherwise in the public interest and no other provisions in law prohibit, or otherwise restrict, its application. The NRC staff has determined, as explained next, that no provisions in law expressly prohibit or otherwise restrict the requested exemption. The NRC staff has also determined, as explained in subsequent sections of this document, that the requested exemption will not endanger life or property and is otherwise in the public interest.

The regulations in 10 CFR part 55 implement Section 107 of the Atomic Energy Act of 1954, as amended (AEA), which states, in part, that the Commission shall (1) prescribe uniform conditions for licensing individuals as operators of any of the various classes of utilization facilities licensed by the NRC and (2) determine the qualifications of such individuals. These requirements in the AEA do not expressly prohibit exemptions from 10 CFR 55.53(e), (f), and (h) and 10 CFR 55.59(a), which require licensed operators to maintain proficiency by actively performing the functions of an operator for a minimum number of hours and to complete a requalification program. Further, as discussed below, the requested exemption would have little impact on the uniformity of operator licensing conditions or on operator qualification requirements.

In its exemption request, KSU stated that the purpose of the exemption request is to allow the resumption of fuel maintenance activities, including fuel cleaning and inspections, to provide a pathway for returning the facility to normal operations. This cannot currently be accomplished because three senior operators at the facility do not satisfy the proficiency and requalification requirements of the NRC's regulations due to the extended shutdown of the facility. Under the exemption, KSU would continue to use the KSU Requalification Plan for requalification requirements that can be completed at the facility and those that cannot be completed at the facility would be satisfied by performing the additional training described in the request, including additional training at the UTARR. Although fuel maintenance activities could be resumed upon the issuance of the exemption, pursuant to 10 CFR 55.59(b), the Commission would require the senior operators to complete the additional training and submit evidence to the Commission of the successful completion of this training before returning the facility to normal operations. After this, the senior operators would again be subject to the regulations related to the NRC's requalification and active performance requirements. Therefore, granting the exemption request would have little impact on the uniformity of operator licensing conditions or on operator qualification requirements.

Because no provisions in law expressly prohibit the requested exemption and because, as explained in subsequent sections of this document, the requested exemption will not endanger life or property and is otherwise in the public interest, the NRC staff has determined that the exemption is authorized by law.

B. The Exemption Will Not Endanger Life or Property

The exemption would allow three senior operators at the facility who do not satisfy the requalification requirements of 10 CFR 55.53(h) and 10 CFR 55.59(a) and the active performance requirements of 10 CFR 55.53(e) and (f) to continue to perform the functions of a senior operator to support the resumption of fuel maintenance activities and the return of the facility to normal operations. As stated above, 10 CFR 55.11 allows the Commission to grant exemptions from the requirements of 10 CFR part 55, including 10 CFR 55.53(e), (f), and (h) and 10 CFR 55.59(a), when they will not endanger life or property.

The requested exemption will not endanger life or property because it would allow persons experienced with licensed activities involving fuel maintenance to resume inspections and cleaning of the fuel with the reactor shutdown. These activities would be performed consistent with the facility's Commission-approved technical specifications and would, therefore, ensure that the necessary quality of systems and components is maintained.

Further, the requested exemption will not endanger life or property because KSU has proposed additional training for the three senior operators that would provide reasonable assurance of their competence as senior operators regarding facility operations equivalent to that required by the NRC's regulations and because that additional training would be required by the NRC, pursuant to 10 CFR 55.59(b), including the submission of evidence to the Commission of the successful completion of the training, before the facility is returned to normal operations. As KSU stated in the October 4, 2024, supplement to the exemption request, the KSU Requalification Plan would continue to be used, and supplemented, for items that can be

completed at the facility, such as through training and lectures, including biweekly performance of "Procedure No. 12 – Instrument Checkout," and monthly review of operations daily checkout logbooks. The items in the plan that cannot be completed at the facility, such as control manipulations, would be accomplished at the UTARR to satisfy the operating test requalification requirements of 10 CFR 55.45(a)(2), (5), and (6). Both the UTARR and the KSU facility have a similar licensed power. Operations may be conducted at the UTARR between shutdown and designated power levels similar to the KSU facility. Additionally, both facilities utilize TRIGA fuel and graphite reflection, hence operating behavior characteristics during control manipulations will have a similar response.

Based on the above, the NRC staff determined that the UTARR is sufficiently similar to the KSU facility such that the additional training proposed to be conducted at the UTARR, in combination with the conduct of the KSU Requalification Plan, as supplemented, at the facility, provides reasonable assurance of the competence of the three senior operators to perform the functions of a senior operator at the KSU facility. Although fuel maintenance activities may be resumed upon the issuance of this exemption, pursuant to 10 CFR 55.59(b), the senior operators must complete the additional training discussed above and submit evidence to the Commission of the successful completion of this training before returning the facility to normal operations. Therefore, the NRC staff has determined that the exemption will not endanger life or property.

C. The Exemption Is Otherwise in the Public Interest

The exemption would allow three senior operators at the facility who do not satisfy the requalification requirements of 10 CFR 55.53(h) and 10 CFR 55.59(a) and the active performance requirements of 10 CFR 55.53(e) and (f) to continue to perform the functions of a senior operator to support the resumption of fuel maintenance activities and the return of the facility to normal operations. As stated above, 10 CFR 55.11 allows the Commission to grant

exemptions from the requirements of 10 CFR part 55, including 10 CFR 55.53(e), (f), and (h) and 10 CFR 55.59(a), when they are otherwise in the public interest.

The Commission's values guide the NRC in maintaining certain principles of good regulation as it carries out regulatory activities in furtherance of its safety and security mission. These principles focus the NRC on ensuring safety and security while appropriately considering the interests of the NRC's stakeholders, including the public and licensees. The NRC's principles of good regulation can also provide guidance as to whether the granting of a particular exemption is otherwise in the public interest.

On balance, the NRC's principles of good regulation demonstrate that the granting of the requested exemption is otherwise in the public interest. The scope of the exemption is limited to resuming fuel maintenance activities and to returning the facility to normal operations. The three senior operators would be allowed to resume fuel maintenance activities, including fuel cleaning and inspections, upon the issuance of the exemption; however, pursuant to 10 CFR 55.59(b), the senior operators would be required to complete the additional training discussed above and to submit evidence to the Commission of the successful completion of this training before returning the facility to normal operations. As discussed above, this would ensure that the senior operators have the competence required to perform these duties. Moreover, the exemption would expire the sooner of 120 days after the issuance of the exemption or 30 days following the cancellation of the administrative restriction on operations related to the fuel issue. After this time, the senior operators would again be fully subject to the regulations related to the NRC's requalification and active performance requirements. Thus, the exemption is narrowly tailored and does not make any permanent changes to the senior operator licenses, the facility license, or KSU programs. This approach provides for an efficient and clear resolution to a situation that is outside of the considerations of the applicable regulations. Therefore, the NRC staff has determined that the exemption is otherwise in the public interest.

D. Environmental Considerations

The exemption would allow three senior operators at the facility who do not satisfy the requalification requirements of 10 CFR 55.53(h) and 10 CFR 55.59(a) and the active performance requirements of 10 CFR 55.53(e) and (f) to continue to perform the functions of a senior operator to support the resumption of fuel maintenance activities and the return of the facility to normal operations. For the following reasons, the NRC staff determined that this exemption meets the eligibility criteria for the categorical exclusion set forth in 10 CFR 51.22(c)(25). There are no special or extraordinary circumstances present that would preclude reliance on this exclusion. The NRC staff determined, in accordance with 10 CFR 51.22(c)(25)(vi)(E), that the requirements from which the exemption is sought involve education, training, experience, qualification, requalification, or other employment suitability requirements. The NRC staff also determined that granting the requested exemption involves no significant hazards consideration because it does not authorize any physical changes to the facility or any of its safety systems or change any of the assumptions or limits used in the facility licensee's safety analyses or introduce any new failure modes; there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite because the exemption does not affect any effluent release limits as provided in the facility licensee's technical specifications or by 10 CFR part 20; there is no significant increase in individual or cumulative public or occupational radiation exposure because the exemption does not affect the limits on the release of any radioactive material or the limits provided in 10 CFR part 20 for radiation exposure to workers or members of the public; there is no significant construction impact because the exemption does not involve any changes to a construction permit; and there is no significant increase in the potential for or consequences from radiological accidents because the exemption does not alter any of the assumptions or limits in the facility licensee's safety analyses. In addition, the NRC staff determined that there would be no significant impacts to biota, water resources, historic properties, cultural resources, or

socioeconomic conditions in the region. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need to be prepared in connection with the granting of the exemption.

IV. Conclusion.

Accordingly, the Commission has determined that, pursuant to 10 CFR 55.11, the exemption is authorized by law, will not endanger life or property, and is otherwise in the public interest. Therefore, the Commission hereby grants, with respect to the three senior operators named in the exemption request, an exemption from the NRC's requalification requirements at 10 CFR 55.53(h) and 10 CFR 55.59(a) and the NRC's active performance requirements at 10 CFR 55.53(e) and (f) to continue to perform the functions of a senior operator to support the resumption of fuel maintenance activities and the return of the facility to normal operations. Although fuel maintenance activities may be resumed upon the issuance of this exemption, pursuant to 10 CFR 55.59(b), the senior operators must complete the additional training discussed above and submit evidence to the Commission of the successful completion of this training before returning the facility to normal operations. This exemption expires the sooner of (1) 120 days after issuance or (2) 30 days following the cancellation of the facility temporary administrative limit/special condition for operation stipulating in the entry on November 22, 2021, of Attachment 1, "Condition/Limit Log," in "SOM1 Operational Limits and Special Administrative Controls" that "No operation until fuel element findings resolved."

This exemption is effective upon issuance.

V. Availability of Documents.

The documents identified in the following table are related to the requested exemption and available to interested persons through the NRC's ADAMS at <https://adams.nrc.gov/wba/>.

DOCUMENT	ADAMS ACCESSION NO.
KSU letter, "License Requirements Exemption Request," dated March 7, 2024.	ML24085A808
KSU letter, "License Requirements Exemption Request Supplemental Information," dated June 11, 2024.	ML24164A092
KSU letter, "License Requirements Exemption Request Additional Supplemental Information," dated October 4, 2024.	ML24281A032
KSU letter, "License Requirements Exemption Request Further Supplemental Information," dated November 20, 2024.	ML24326A142

Dated: December 5, 2024



Greives, Jonathan signing on behalf
of Bowen, Jeremy
on 12/05/24

Jeremy Bowen, Director
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation