



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

PURDUE UNIVERSITY

DOCKET NO. 50-182

PURDUE UNIVERSITY RESEARCH REACTOR

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 15
Renewed License No. R-87

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to Renewed Facility Operating License No. R-87 filed by Purdue University, (the licensee), dated May 21, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance that (i) the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. This amendment is issued in accordance with the regulations of the Commission as stated in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," and all applicable requirements have been satisfied; and
 - F. Prior notice of this amendment was not required by 10 CFR 2.105, "Notice of proposed action," and publication of a notice of issuance for this amendment is not required by 10 CFR 2.106, "Notice of issuance."

2. Accordingly, the licensee is hereby authorized an additional 90 days to implement Amendment No. 14, dated April 1, 2019.
3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days after the 60-day implementation period identified in Amendment No. 14.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Tamara Bloomer, Acting Deputy Director
Division of Licensing Projects
Office of Nuclear Reactor Regulation

Date of Issuance: May 24, 2019



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 15 TO

RENEWED FACILITY OPERATING LICENSE NO. R-87

PURDUE UNIVERSITY

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1.0 INTRODUCTION

By letter, dated May 21, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19143A384), Purdue University requested that the implementation timeline in the Purdue University Reactor (PUR-1) License Amendment No. 14, dated April 1, 2019, (ADAMS Accession Package No. ML18275A090), be extended for an additional 90 days.

2.0 EVALUATION

Amendment No. 14 to Renewed Facility Operating License No. R-87 authorized Purdue University to upgrade PUR-1 instrumentation and control systems by replacing them with new digital instrumentation and control systems subject to License Condition 2.C.4, which was added by the Amendment and required that verification and validation testing of the new equipment be completed prior to resuming operations. The upgrade included replacement of the neutron flux monitoring system and detectors, associated cabling, safety channels, equipment racks, and the control console. License Amendment No. 14 also made changes to related Technical Specifications (TSs) to provide consistency with corresponding limiting conditions for operation.

Paragraph 3 of License Amendment No. 14 states, "This license amendment is effective as of its date of issuance and shall be implemented within 60 days. Implementation shall include revision of the safety analysis report consistent with the safety evaluation."

Purdue University requested to extend the implementation timeline an additional 90 days for the PUR-1 Digital I&C License Amendment No. 14. In its letter, the licensee stated its request will allow time needed to complete the validation and verification, install the new equipment, and revise the safety analysis report consistent with the safety evaluation issued with Amendment No. 14.

The NRC staff reviewed the licensee's request and determined that a 90-day extension from the implementation period stated in Amendment No. 14 is reasonable and does not raise any technical or safety concerns. The extension would allow the licensee to complete and document testing and update facility records consistent with the safety evaluation, but on a

different schedule. Implementation of Amendment No. 14 includes completion of the verification and validation of the digital instrumentation and control systems, documentation of that testing, conforming the licensee's copy of the TSs, and revising the safety analysis report consistent with the safety evaluation related to the amendment. The NRC staff based the Amendment No. 14 implementation period on the licensee's estimate of the time it would need to complete these activities.

Purdue University's requested amendment does not involve any actual changes to the TSs and would provide the licensee additional flexibility to finish and document facility upgrades and update its records, consistent with the licensee's current estimate of the time needed. The Amendment No. 14 implementation date became part of the licensed authority of the facility upon issuance of the amendment and only the NRC can revise the terms of the license. The implementation date was included to allow the licensee time, consistent with its administrative needs, to implement changes it voluntarily sought, to upgrade instrumentation and control equipment to enhance facility operation. Extending the implementation date does not adversely affect safety because License Condition 2.C.4 precludes operation with the upgraded systems until verification and validation is complete. In addition, there is no regulation that otherwise requires the changes specified in Amendment No. 14 to be implemented by the previous date. Therefore, the NRC staff concludes that amending the license to grant the licensee an additional 90 days beyond the 60-day implementation period stated in Amendment No. 14 is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The NRC regulation, Title 10 of the *Code of Federal Regulations* (10 CFR) 51.22(b), states that no environmental assessment or environmental impact statement is required for any action when the category of action, for which the Commission has declared to be a categorical exclusion by finding that the action does not individually or cumulatively have a significant effect on the human environment, is met. Because the issuance of this amendment modifies the schedule to implement voluntary upgrades authorized by a previous amendment and is consistent with the needs of the licensee, it is administrative in nature and changes recordkeeping, reporting or administrative procedures or requirements. In addition, an extension of the implementation date is a minor revision to the license that provides the licensee additional flexibility in scheduling its upgrade activities. Accordingly, the amendment meets the eligibility criteria for categorical exclusion in 10 CFR 51.22(c)(10)(ii) and (v). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The Commission has concluded, on the basis of the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Montgomery, NRR

Date: May 24, 2019