

March 24, 2010

Mr. Jere H. Jenkins
Director of Radiation Laboratories
Purdue University
Nuclear Engineering Building
400 Central Dr.
West Lafayette, IN 47907-2017

SUBJECT: PURDUE UNIVERSITY - REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE PURDUE UNIVERSITY REACTOR LICENSE RENEWAL
(TAC NO. ME 1594)

Dear Mr. Jenkins:

The U.S. Nuclear Regulatory Commission (NRC) is continuing our review of your application for renewal of Facility Operating License No. R-87 for the Purdue University Reactor (PUR-1) which you submitted on July 7, 2008. During our review of your renewal request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed request for additional information no later than May 4, 2010. In accordance with Title 10 of the *Code of Federal Regulations* Part 50.30(b), your response must be executed in a signed original under oath or affirmation. Please send the original copy of your correspondence to the NRC Document Control Desk. Following receipt of the additional information, we will continue our evaluation of your license renewal request.

If you have any questions regarding this review, please contact me at (301) 415-3724 or by electronic mail at duane.hardesty@nrc.gov.

Sincerely,

/RA/

Duane A. Hardesty, Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-182

Enclosure:
As stated

cc: See next page

Purdue University Docket No. 50-182

cc:

Mayor
City of West Lafayette
609 W. Navajo
West Lafayette, IN 47906

John H. Ruyack, Manager
Epidemiology Res Center/Indoor & Radiological Health
Indiana Department of Health
2525 N. Shadeland Ave., E3
Indianapolis, IN 46219

Howard W. Cundiff, P.E., Director
Consumer Protection
Indiana State Department of Health
2 North Meridian Street, 5D
Indianapolis, IN 46204

Mr. Ed Merritt
Reactor Supervisor
Department of Nuclear Engineering
Purdue University
West Lafayette, IN 47907

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

March 24, 2010

Mr. Jere H. Jenkins
Director of Radiation Laboratories
Purdue University
Nuclear Engineering Building
400 Central Dr.
West Lafayette, IN 47907-2017

SUBJECT: PURDUE UNIVERSITY - REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE PURDUE UNIVERSITY REACTOR LICENSE RENEWAL
(TAC NO. ME 1594)

Dear Mr. Jenkins:

The U.S. Nuclear Regulatory Commission (NRC) is continuing our review of your application for renewal of Facility Operating License No. R-87 for the Purdue University Reactor (PUR-1) which you submitted on July 7, 2008. During our review of your renewal request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed request for additional information no later than May 4, 2010. In accordance with Title 10 of the *Code of Federal Regulations* Part 50.30(b), your response must be executed in a signed original under oath or affirmation. Please send the original copy of your correspondence to the NRC Document Control Desk. Following receipt of the additional information, we will continue our evaluation of your license renewal request.

If you have any questions regarding this review, please contact me at (301) 415-3724 or by electronic mail at duane.hardesty@nrc.gov.

Sincerely,

/RA/

Duane A. Hardesty, Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-182

Enclosure:
As stated

cc: See next page

DISTRIBUTION:

PUBLIC DPR/PRT r/f RidsNrrDpr RidsNrrDprPrta
RidsNrrDprPrtb DHardesty, NRR AAdams, NRR GLappert, NRR
ACCESSION NO.: ML100820019 * via e-mail NRR-088

Office	PRLB:PM*	PRPB:LA	PRLB:BC	PRLB:PM
Name	DHardesty	GLappert	KBrock	DHardesty
Date	3/22/10	3/23/10	3/24/10	3/24/10

Official Record Copy

OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST FOR ADDITIONAL INFORMATION
REGARDING FINANCIAL QUALIFICATIONS FOR THE
RENEWED FACILITY OPERATING LICENSE
PURDUE UNIVERSITY RESEARCH REACTOR
LICENSE NO. R-87
DOCKET NO. 50-182

The U.S. Nuclear Regulatory Commission (NRC) is continuing our review of your application for renewal of Facility Operating License No. R-87 for the Purdue University Reactor (PUR-1) which you submitted on July 7, 2008. During our review of your renewal request, questions have arisen for which we require additional information and clarification. Please provide responses to the following request for additional information no later than May 4, 2010.

As required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.33(f)(2), “[a]pplicants to renew or extend the term of an operating license for a nonpower reactor shall include the financial information that is required in an application for an initial license.” To comply with this requirement, please provide the following updated and supplemental information to the July 7, 2008, Purdue University (Purdue, the applicant) application for a renewed facility operating license for the Purdue University Research Reactor (PUR-1).

1. Pursuant to 10 CFR 50.33(d), certain information is required by the applicant, as applicable. To comply with 10 CFR 50.33(d), please provide the following additional information:
 - (a) A statement of the organizational form of Purdue (e.g., Agency of the State of Indiana, corporation, etc.).
 - (b) A statement on whether Purdue is owned, controlled, or dominated by an alien, foreign corporation, or foreign government, and, if so, provide details.
2. The NRC staff will analyze the financial statements for the current year, which are required by 10 CFR 50.71(b), to determine if the applicant is financially qualified to operate the PUR-1. Since Purdue’s financial statements were not included with the application, please provide a copy of the latest financial statements for the NRC staff’s review.
3. Pursuant to 10 CFR 50.33(f)(2), “[t]he applicant shall submit estimates for total annual operating costs for each of the first five years of operation of the facility.” Since a

ENCLOSURE

summary of these costs were not provided in the application, please provide the following additional information:

- (a) Projected operating costs of the PUR-1 for each of the fiscal years (FY) 2012 through FY2016 (the first five-year period after the projected license renewal).
 - (b) Purdue's source(s) of funding to cover the operating costs for the above fiscal years.
4. In order for the NRC staff to complete its review of the PUR-1 decommissioning cost estimate as required by 10 CFR 50.75(d), please provide the following additional information:
- (a) A current decommissioning cost estimate in 2010 dollars for the PUR-1 to meet the NRC's radiological release criteria for decommissioning the facility for unrestricted use, pursuant to 10 CFR 50.75(d)(2). Accordingly, describe the basis on how the decommissioning cost estimate was developed.
 - (b) A summary of total decommissioning costs broken down into the categories of labor, waste disposal, other items (such as energy, equipment, and supplies) in current dollars, and a contingency factor (normally 25 percent).
 - (c) A statement of the decommissioning method to be used (i.e., DECON, or other method.)
 - (d) A description of the means of adjusting the cost estimate and associated funding level periodically over the life of the facility, pursuant to 10 CFR 50.75(d)(2)(iii). Since the application does not provide this information, please update the application to include a full description of the method to be used as the means of adjusting the cost estimate and associated funding level periodically over the life of the facility.
 - (e) A numerical example showing how the 2010 decommissioning cost estimate will be updated periodically in the future.
 - (f) Indicate which method(s) described in paragraph (e) of 10 CFR 50.75 will be used to provide funds for decommissioning the PUR-1 (e.g., statement of intent (SOI), prepayment, etc). Note: If Purdue, as a State of Indiana government licensee, intends to use a SOI, refer to question 5 below.
5. Where the applicant intends to use a SOI, the NRC staff must find that the applicant "is a Federal, State, or local government licensee." To make this finding, the applicant must state that it is a State government organization and that the decommissioning funding obligations of the applicant are backed by the State government, and also provide corroborating documentation. Further, the applicant must provide documentation verifying that the signator of the SOI is authorized to execute said document that binds the University. This document may be a governing body resolution, management

directive, or other form that provides an equivalent level of assurance. As the application does not include all of the above information, please provide the following information:

- (a) An updated SOI which includes the current (2010 dollars) cost estimate for decommissioning, a statement that funds for decommissioning will be obtained when necessary, typed name and title of the signator, and original signature of the signator, and the signator's oath or affirmation attesting to the information.
- (b) Documentation that corroborates that Purdue is a State Agency and a State of Indiana government licensee under 10 CFR 50.75(e)(2)(iv).
- (c) A statement as to whether the decommissioning funding obligations for the PUR-1 are backed by the government of the State of Indiana. The application must also present documentation that corroborates this statement. For example, the documentation may be a copy of or complete citation to a state statute that expressly provides that, at a minimum, the decommissioning funding obligations of the applicant are backed or supported by the full faith and credit of the State of Indiana, or an opinion of the applicant's General Counsel with citations to statutes, regulations, and/or case law that, at a minimum, the obligations of the applicant are backed or supported by the full faith and credit of the State of Indiana.
- (d) Documentation verifying that the signator of the SOI is authorized to execute such a document that binds the applicant financially. For example, provide a copy of Purdue's governing board or equivalent resolution or a copy of an official Purdue University delegation of authority showing that the signator of the SOI has been authorized by Purdue to bind the university financially to at least the funding for the decommissioning of the PUR-1.