

March 1, 2001

Dr. Edward A. Deutsch, Director  
Research Reactor Center  
University of Missouri-Columbia  
Research Park  
Columbia, MO 65211

SUBJECT: UNIVERSITY OF MISSOURI-COLUMBIA - REQUEST FOR ADDITIONAL  
INFORMATION RE: AMENDMENT EXTENDING LICENSE EXPIRATION DATE  
(TAC NO. MB0850)

Dear Dr. Deutsch:

We are continuing our review of your amendment request for Amended Facility License No. R-103 for the University of Missouri-Columbia Research Reactor which you submitted on December 27, 2000. During our review of your amendment request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed request for additional information within 45 days of the date of this letter. In accordance with 10 CFR 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 amendment request.

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

Sincerely,

**/RA/**

Alexander Adams, Jr., Senior Project Manager  
Events Assessment, Generic Communications and  
Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No. 50-186

Enclosure:  
As stated

cc w/enclosure:  
Please see next page



University of Missouri-Columbia

Docket No. 50-186

cc:

University of Missouri  
Associate Director  
Research Reactor Facility  
Columbia, MO 65201

A-95 Coordinator  
Division of Planning  
Office of Administration  
P.O. Box 809, State Capitol Building  
Jefferson City, MO 65101

Mr. Ron Kucera, Director  
Intergovernmental Cooperation  
and Special Projects  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102

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**ADAMS ACCESSION NO: ML010520145**

**TEMPLATE #: NRR-056**

OFFICE	REXB:LA	REXB:PM	REXB:BC
NAME	EHylton:rdr	AAdams	LMarsh
DATE	02/ 27 /2001	02/ 26 /2001	03/ 01 /2001

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REQUEST FOR ADDITIONAL INFORMATION  
UNIVERSITY OF MISSOURI-COLUMBIA RESEARCH REACTOR  
DOCKET NO. 50-186

1. Please summarize the radiological impact that operation of the facility has had over the past ten years summarizing radioactive liquid (primary isotope curies and total curies) and gaseous effluents (primary isotope curies and total curies), solid waste excluding fuel elements (cubic feet and total curies), and off-site dose monitoring (average and maximum dose measured in the environment). Please provide a summary of the results of your calculations showing that you met the dose constraint in 10 CFR 20.1101(d). Please discuss your estimate of the radiological impact during the time period of construction permit recapture.
2. You state that all non-radioactive hazardous waste is transferred to the University of Missouri Environmental Health and Safety group for processing. Are there any chemicals released from the facility that would have an impact on the environment? For example, are any chemicals used to control secondary cooling system chemistry or performance that are released in cooling tower spray or blow down? If so, please discuss the past environmental impact of these chemicals. Briefly discuss typical materials transferred to the Environmental Health and Safety group and verify that the group's processing of your materials has no significant environmental impact. Please discuss your estimate of the non-radiological impact during the time period of construction permit recapture.
3. What is the environmental impact of the "no action" alternative. If your application for this amendment was denied, what would your actions be and what would be the environmental impact of those actions?
4. Please discuss any updating that has been performed on the reactor safety system, radiation monitoring system and on engineered safety features.
5. Please discuss the material condition of the primary water system and pool systems. Discuss steps to limit corrosion and degradation to these systems through the recapture period.
6. Please discuss the material condition of components (e.g., reactor pressure vessel, control rods and reflectors) subject to high neutron fluence including surveillance, scheduled component replacement, and future planned component replacements during the recapture period.
7. Please discuss the material condition of the radiation and effluent monitoring system.
8. Please discuss the results of any inspections of core components that have been carried out (do not include inspections of fuel elements).