

March 3, 2006

Dr. John G. Williams, Director
Nuclear Reactor Laboratory
University of Arizona
Tucson, AZ 85721-0020

SUBJECT: DECOMMISSIONING CONSIDERATIONS REGARDING UNIVERSITY OF
ARIZONA'S NUCLEAR REACTOR LABORATORY

Dear Dr. Williams:

This letter is in response to our discussions that the University of Arizona is considering potentially decommissioning their Nuclear Reactor Laboratory (or research reactor). As we discussed, you are aware that either a license renewal application or application for termination would be required prior to license expiration in 2010. This letter provides guidance on decommissioning considerations for research reactors as considerable planning and preparation are needed.

If the University of Arizona decides to decommission the research reactor rather than renew the license, the provisions of 10 CFR 50.82(b)(1) must be met. That regulations states that "A licensee that permanently ceases operations must make application for license termination within 2 years following permanent cessation of operations, and in no case later than 1 year prior to expiration of the operating license. Each application for termination of a license must be accompanied or preceded by a proposed decommissioning plan. The contents of the decommissioning plan are specified in paragraph (b)(4) of this section." In addition decommissioning projects must be planned and executed in compliance with the dose based release criteria given in 10 CFR 20, Subpart E. Some basic definitions and steps in the decommissioning of research reactors are provided as follows.

Decommissioning is defined in 10 CFR 50.2. In accordance with that definition, any pre-decommissioning activities performed must not permanently modify or dismantle structures, systems or components (such activities are not allowed until the decommissioning plan is approved). The proposed activities must also meet the requirements of 10 CFR 50.59, "Changes, tests, and experiments." The activities should not (1) foreclose release of the site for possible unrestricted use, (2) result in significant environmental impact beyond that previously analyzed and assumed for the research reactor, or (3) result in there no longer being reasonable assurance that adequate funds will be available for decommissioning. Further, the activities must be done safely in accordance with all applicable requirements.

NRC generally issues a possession-only license amendment to an operating research reactor after the fuel is permanently removed from the core and shipped off-site. Some research reactors have amended the license to possession-only status prior to the start of decommissioning. Obtaining a possession-only license amendment provides regulatory relief from those requirements applicable only to operating research reactors. NRC handles possession-only license amendment applications in the same manner as other license amendment applications.

Some definitions that are also applicable to decommissioning include:

- Permanent shut down

The University of Arizona must inform the NRC, in writing, of their decision to permanently cease reactor operations and decommission your reactor. You have not accomplished this step.

- Fuel removal

Fuel removal is not considered part of decommissioning and is conducted under the research reactor license. Licensees have indicated that considerable effort and planning is needed to accomplish this step.

- Possession-Only License (POL) Amendment

POL Amendment removes the authority to operate the reactor and removes the authority to possess fuel. Upon the removal of all special nuclear material, the licensee may request an amendment to reduce or eliminate certain provisions of the physical security procedures for the research reactor. The licensee may also request to amend technical specifications (TS) to remove those that are no longer applicable to a shutdown reactor.

- Submission of Decommissioning Plan (Supplement to SAR)

See NUREG 1537, Part 1, available from the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), for guidance. ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/reading-rm/adams.html> at accession number ML042430055.

- NRC Review

Upon receipt of a proposed decommissioning plan, the NRC, in accordance with 10 CFR 20.1405 and 10 CFR 50.82 (b)(5), will publish a notice of proposed action regarding the decommissioning plan in the Federal Register. This notice informs the public of the proposed action, and for research reactors does not give an opportunity for a hearing. The NRC will review the proposed decommissioning plan in the same manner that a license amendment application is reviewed.

- Decommissioning License Amendment Issuance

The NRC will issue a license amendment approving the plan subject to such conditions and limitations that NRC deems appropriate and necessary. The approved decommissioning plan will be a supplement to the safety analysis report or equivalent. The NRC will notice the approval of the decommissioning plan.

- Decommissioning Activities

Decommissioning activities are carried out in accordance with the approved plan. The NRC will inspect activities to ensure compliance with the plan.

- Final Survey

The key to a successful decommissioning project is advance planning of all activities with full consideration of the applicable criteria. The surveys should be based on the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methodology. They must be derived based on the 25 mrem/yr dose limit specified in 10 CFR 20.1402 for unrestricted release of the site.

- Confirmatory Survey

The NRC will independently assess whether the terminal radiation survey meets the release criteria.

- License Termination

The NRC will terminate the license when decommissioning has been performed in accordance with the approved decommissioning plan and the terminal radiation survey and associated documentation demonstrates that the facility and site are suitable for release in accordance with the criteria for decommissioning in 10 CFR 20, Subpart E.

Also the requirements in 10 CFR 50.82 (b)(1)(ii) and (b)(1)(iii) state that decommissioning activities should be completed without significant delay unless prevented by factors beyond the licensee's control.

Should you have any questions concerning these complex matters, which require considerable planning and preparation for NRC to effectively address, please do not hesitate to call me at 301-415-1128.

Sincerely,

/RA/

Marvin M. Mendonca, Senior Project Manger
Research and Test Reactors Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-113

cc: Please see next page

• Final Survey

The key to a successful decommissioning project is advance planning of all activities with full consideration of the applicable criteria. The surveys should be based on the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methodology. They must be derived based on the 25 mrem/yr dose limit specified in 10 CFR 20.1402 for unrestricted release of the site.

• Confirmatory Survey

The NRC will independently assess whether the terminal radiation survey meets the release criteria.

• License Termination

The NRC will terminate the license when decommissioning has been performed in accordance with the approved decommissioning plan and the terminal radiation survey and associated documentation demonstrates that the facility and site are suitable for release in accordance with the criteria for decommissioning in 10 CFR 20, Subpart E.

Also the requirements in 10 CFR 50.82 (b)(1)(ii) and (b)(1)(iii) state that decommissioning activities should be completed without significant delay unless prevented by factors beyond the licensee's control.

Should you have any questions concerning these complex matters, which require considerable planning and preparation for NRC to effectively address, please do not hesitate to call me at 301-415-1128.

Sincerely,

/RA/

Marvin M. Mendonca, Senior Project Manger
Research and Test Reactors Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-113

cc: Please see next page

DISTRIBUTION:

PUBLIC PRT r/f RidsNrrDprPrta RidsNrrDprPrtb
HNieh RidsOgcMailCenter

ADAMS ACCESSION NO.: ML060470356

TEMPLATE NO.: NRR-106

OFFICE	PRT:PM	PRT:LA	PRT:PM	PRT:SC
NAME	PIsaac:	EHylton	MMendonca	BThomas
DATE	2/21/06	2/17/06	2/21/06	2/28/06

C = COPY

**E = COVER AND ENCLOSURE
OFFICIAL RECORD COPY**

N = NO COPY

University of Arizona

Docket No. 50-113

cc:

Office of the Mayor
P.O. Box 27210
Tucson, AZ 85726-7210

Arizona Radiation Regulatory Agency
4814 S. 40th Street
Phoenix, AZ 85040

University of Arizona
Nuclear Research Laboratory
ATTN: Dr. John Williams, Reactor Director
Bldg. 20, Rm 200
Tucson, AZ 85721-0020

University of Arizona
Nuclear Research Laboratory
ATTN: Mike Gavelek, Reactor Supervisor
Bldg. 20, Rm. 200
Tucson, AZ 85721-0020

University of Arizona
ATTN: Dr. Caroline M. Garcia
Assistant Director, Arizona Research Labs
Gould-Simpson Bldg. 1011
P.O. Box 210077
Tucson, AZ 85721-0077

University of Arizona
ATTN: Daniel Silvain, Radiation Safety Officer
1640 North Vine
Tucson, AZ 85721-0020

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