

August 13, 2008

Dr. Donald Wall, Director
Nuclear Radiation Center
Washington State University
PO Box 641300
Pullman, WA 99164-1300

SUBJECT: WASHINGTON STATE UNIVERSITY – REQUEST FOR ADDITIONAL
INFORMATION RE: AMENDMENT REQUEST FOR CONVERSION FROM
HIGH-ENRICHED URANIUM TO LOW-ENRICHED URANIUM FUEL (TAC NO.
MD6570)

Dear Dr. Wall:

We are continuing our review of your amendment request for Amended Facility Operating License No. R-76 for the Washington State University Modified TRIGA Reactor which you submitted on August 15, 2007, as supplemented. 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 by August 22, 2008. 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 WCS for/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Branch A
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-27

Enclosure:
As stated

cc w/enclosure:
See next page

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DATE	8/13/08	8/12/08	8/13/08

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Washington State University

Docket No. 50-27

cc:

Dr. James T. Elliston
Chair, Reactor Safeguards Committee
Nuclear Radiation Center
Washington State University
P.O. Box 641300
Pullman, WA 99164 - 1300

Mr. Eric Corwin
Reactor Supervisor, Nuclear Radiation Center
Washington State University
P.O. Box 641300
Pullman, WA 99164 - 1300

Mr. Steve Eckberg, CHP
Director, Radiation Safety Office
Washington State University
P.O. Box 641302
Pullman, WA 99163-1302

Director
Division of Radiation Protection
Department of Health
7171 Cleanwater Lane, Bldg #5
P.O. Box 47827
Olympia, WA 98504-7827

Office of the Governor
Executive Policy Division
State Liaisons Officer
P.O. Box 43113
Olympia, WA 98504-3113

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

REQUEST FOR ADDITIONAL INFORMATION
WASHINGTON STATE UNIVERSITY MODIFIED TRIGA REACTOR
DOCKET NO. 50-27

1. Your additional input to your answer for request for additional information (RAI) 28 dated August 4, 2008, provided the results of thermal hydraulic analysis at 50 °C pool temperature and a reactor power level of 1.0 MW(t). However, TS 3.1 allows reactor power levels up to 1.3 MW(t). Please provide a new analysis performed at the license limits of 50 °C pool temperature and 1.3 MW(t) reactor power level. Discuss why the results of the analysis are acceptable.
2. Your LOCA analysis shows that at a continuous reactor power of 1.3 MW(t), the power density in some fuel elements may exceed the acceptance criteria. Please provide additional analysis to show that the results of the LOCA are acceptable. If the boundary conditions of the additional analysis impact technical specifications (TSs) (e.g., power level), please propose amended TSs with justification.
3. Your additional input to your answer for RAI 40 dated August 4, 2008, contained limits on the location of the instrumented fuel element (IFE) in the core so that the limiting system safety setting protects the safety limit. However, the wording of TS 2.2 does not reflect the new restrictions on the location of the IFE given in the analysis. Please address.
4. Your proposed TSs contain changes to the TSs that appear not to be impacted by conversion of the reactor to LEU such as TS 5.1(2) (the technical content of your conversion application did not contain a discussion of any changes to the current 8.5/20 LEU fuel) and Figure 6.1 (the organizational change does not appear to be related to conversion). Please justify or withdraw these proposed changes.
5. The NRC staff identified changes that were made in your replacement TS pages but were not designated by a bar in the margin of the TSs. Please resubmit replacement TS pages (you need only submit those pages that have changes, not the entire TSs) showing all changes that are proposed.
6. TS 3.5(2) contains a limit on the peak-to-measured-fuel temperature ratio (PTR) of 1.5. Please show that this TS remains valid given your updated thermal hydraulic and LSSS analysis or update your TSs with justification as needed.