NUCLEAR ENGINEERING SCIENCES DEPARTMENT
Nuclear Reactor Facility
University of Florida

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March 26, 1991

Updated Proposal To Meet
Requirements of 10 CFR 50.64(c)(2)

Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555

Re: University of Florida Training Reactor(UFTR)
Facility License: R-56; Docket No. 50-83

Dear Sir:

Enclosed is an updated proposal intended to meet the requirements of 10 CFR 50.64(c)(2). Except for scheduling, this proposal is essentially unchanged from that originally submitted with a cover letter dated March 26, 1987 and later revised as to its schedule pursuant to a request from the NRC Project Manager Theodore Michaels dated April 17, 1987. This revised schedule was submitted with cover letters dated May 14, 1987. It is also essentially unchanged from the updated proposals submitted with letters dated March 22, 1988, March 27, 1989 and March 27, 1990 except for the revised schedule and the presence of substantive information on progress to date including the decision not to use SPERT fuel for conversion.

The updated written proposal outlines how the R-56 licensee intends to meet the requirements of 10 CFR 50.64 Paragraph(c)(2) to include certificaation that funding for conversion has been received through the Department of Energy for the first phase of the project and a tentative schedule for conversion based upon availability of replacement fuel acceptable to the Commission and upon consideration of the availability of additional funding, shipping casks, implementation of arrangements for the available financial support and allowing for commitments of reactor usage. The schedule had slipped significantly in previous years due to delays in work to qualify the SPERT fuel and due to delays in safety analysis as we awaited code implementation and availability of graduate students for the work. The delays in work with the SPERT fuel were most significant in 1988 and 1989 as the SPERT fuel had to be moved, under the SNM-1050 license, and then various license changes approved prior to initiation of the qualification work which was lengthy and subject to several equipment(x-ray machine) failures. The non-destructive testing of the SPERT fuel was completed successfully by April, 1989; however, shielding and other structural changes necessitated by use of the SPERT fuel resulted in a decision in August, 1989 to utilize plate-type silicide fuel for the conversion. With this decision made, work was then expected to progress more rapidly as the code methodology for safety analyses was being implemented and tested in parallel.

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Unfortunately, the decision by the graduate s udent performing this work to leave the university to pursue his degree elsewh e in August, 1989 necessitated essentially restarting the safety analysis when a student began work on it for his thesis in early 1990. Although he spent a week at Argonne National Laboratory working with the RERTR group to receive training in the use of thecodes, it still took time for the student to become proficient in the use of the codes. Unfortunately several flaws in the implemented codes used for the neutronics analysis have also slowed progress though these are now cleared up.

Currently, a student thesis project has resulted in good progress in assuring neutronics methodology is adequate and the modelling of the existing core is nearly complete lacking only several confirmatory calculations and calculations to predict changes caused by temperature effects. However, only scoping calculations have been completed for the proposed LEU core with the number of fuel plates per bundle not yet set. It is expected that DOE-supplied funding support of this work will be extended beyond April 30, 1991 so this work can be concluded along with basic thermal hydraulic analysis to conclude the required HEU to LEU safety analysis. It is hoped that the individual working on the neutronics analysis will complete his thesis work by September. After the number of fuel plates per bundle is set, several thermal hydraulics calculations will be required before the entire package can be assembled for submission to NRC by January, 1992 with the project progressing as predicted in the attached updated proposal.

If further information is needed, please advise. Thank you for your consideration.

Sincerely,

William G. Vernetson

William G. Vernetson
Director of Nuclear Facilities

WGV/p
Encl.
cc: R. Piciullo
Reactor Safety Review Subcommittee

Notary Public