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03 FEB 1992

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Subject: Petition to Perform Test of Magnet Current at Levels Greater Than
Provided in Technical Specification 3.2.3.13, License No. R-75,
Docket No. 50-150, The Ohio State University Research Reactor

This petition requests permission to test The Ohio State University Research Reactor's (OSURR) magnets at currents up to 100 milliamps.

OSURR has noticed that Shim Safety Rods 1 and 2 frequently drop together when performing rod calibration and reactivity worth checks as required by Technical Specification 4.2.1. This is because they are mounted on a common beam support structure, and the mechanical vibration is greater than the magnets holding power at 60 milliamps. Increasing the magnet current to 100 milliamps would allow us to perform rod drop tests to recalibrate control rods without dropping the adjacent rod when performing tests on control rods 1 and 2. Technical Specification 3.2.3 requires that "the reactor shall not be operated unless the safety system channels described in the following table are operable." In the table, 3.2.3.13 requires that "rod drop will occur for any control rod which has excess magnet current ≥ 60 milliamps." I.A.W. our procedures, the reactor is considered operating whenever a control rod is tested. Technical Specification 3.2.1 specifies that "the reactor will not be operated unless the drop time of each of the three shim safety rods is less than 600 milliseconds." OSURR would like to conduct testing I.A.W. Instrumentation and Maintenance Procedure, IM-07 Rod Parameter Testing (see attachment), part V.B.1., at currents up to 100 milliamps.

OSURR would like to perform several rod drop time tests to verify that the Reactor Safety System would still operate within the design criteria - rod drop in less than 600 milliseconds, prior to seeking U.S.N.R.C. approval to change Technical Specification 3.2.3.13, to allow reactor operation with magnet currents up to 100 milliamps. It should be emphasized that I.A.W. Instrumentation and Maintenance Procedure, IM-07 Rod Parameter Testing, part IV.D., "all rods, with the exception of the rod being tested, shall remain on the bottom of the reactor core."

I.A.W. Administrative Procedure AP-14, approval has been granted by the Reactor Operations Committee (2 FEB 93) to petition the U.S.N.R.C. Also, I.A.W. 10CFR50.59, OSURR petitions the Commission for permission to perform rod drop tests as outlined in Instrumentation and Maintenance Procedure IM-07 at currents up to 100 milliamps.

If you have any questions, or require more information on the content of this letter, please contact Joel M. Hatch or Richard D. Myser at 614-292-6755.

Respectfully submitted,

Jose B. Cruz, Jr., Director

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6. Turn on the NIM Bin.
7. Verify the 'Rod In' LED illuminated green.
8. Press the 'Reset Display' pushbutton, and verify the display resets to 0000.

B. MEASUREMENT of ROD DROP TIME (Required by T.S. 3.2.1)

1. Adjust magnet current on the Magnet Current Amplifier to 45 milliamps.
2. Withdraw the Control Rod to its Upper Limit.
3. Reset the Timer module display.
4. Firmly depress the 'Drop' pushbutton on the front panel of the Timer module.
5. Verify the rod drops. The Control Rod can be observed to drop by:
 - a. Noise of the blade hitting the bottom of its travel in the snubber assembly.
 - b. 'Rod In' LED illuminated green.
 - c. Magnet 'Engage' light on the Control Console extinguished.
 - d. Rod 'Bottom' light on the Control Console illuminated green.
6. Record the Timer module display value of the time for the rod to drop in the 'OSU Nuclear Reactor Lab Control Rod System Data' book. It shall be less than 600 milliseconds.
7. Repeat above steps for remaining Control Rod heights listed in the 'OSU Nuclear Reactor Lab Control Rod System Data' book (optional).