



Nuclear Reactor Laboratory

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In support of the letter from The Ohio State University Research Reactor, Docket No. 50-150, dated February 3, 1993, regarding its request to test rod drop performance with magnet currents up to 100 milliamps (ma.), we are providing the following information as requested by Project Manager Theodore S. Michaels.

1. Provide a preliminary evaluation of the safety significance and potential safety consequences of the proposed request.

Since the request is to test one magnet and therefore one control rod at a time, there are no new safety considerations or consequences. A rod drop time will simply be determined for magnet current greater than the 60 ma. currently allowed by Technical Specifications. The shutdown margin with the most worthwhile rod (Shim Safety #1) full out and the others on the bottom is 2.92% $\Delta K/K$, while Technical Specifications require only 1% $\Delta K/K$ with both the regulating rod and Shim Safety #1 full out.

Prior to 1988, our Technical Specifications allowed operation with magnet currents up to 80 ma. Testing done then with the same control rods and magnets indicated that rods would meet the 600 millisecond (msec.) rod insertion time required by current Technical Specification 3.2.1. We simply want to confirm this with tests up to 100 ma. in each magnet. If rod insertion times are not less than 600 msec. we will not request a Technical Specification change. However, there would be no safety implications since the other rods are already on the bottom.

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2. Provide a discussion to justify the length of time to complete the required testing.

We anticipate testing each rod at eight different currents from seven different heights. Since rod drive times are about 11 centimeters/minute, both in and out, the testing will require about six hours for each rod. Therefore testing for all should be able to be finished in three working days. These may be spread over 30 calendar days to not interfere with scheduled operations.

3. Provide the basis for the conclusion that the request does not involve a significant hazard's consideration per 50.02 (C) (1) (2) OR (3).

50.92 (C) (1) asks whether the request involves a significant increase in the probability or consequences of a previously evaluated accident scenario. Section 8.4 of the SAR discusses two accidents:

1. Loss of heat sink
2. Moved experiment (Design Basis Accident)

Testing of control rods is already done annually as required by Technical Specification 4.2.1(2). It is not credible that the tests we propose would impact the accident scenarios already evaluated since no heating or movement of experiments is involved.

50.92 (C) (2) asks if the request creates the possibility of a new or different kind of accident from one previously evaluated. Again, it is not credible that the proposed testing creates a new scenario. The testing is done with all but one rod on the bottom and the shutdown margin is acceptable.

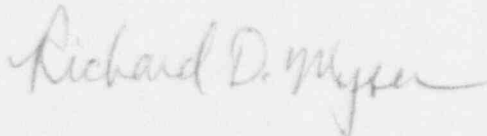
50.92 (C) (3) asks if this involves a significant reduction in a margin of safety. For the testing requested, there is no reduction in the margin of safety since the reactor is shutdown. The testing is designed to show if there would be a reduction in safety if magnet currents are increased from 60 to 100 ma.

4. Provide the basis for the conclusion that the request would not result in irreversible environmental consequences.

The reactor is not operated for these tests, therefore no heating of the pool water or fuel cladding occurs and thus no detrimental environmental effects are credible.

Please contact me if you require additional information.

Sincerely,

A handwritten signature in cursive script that reads "Richard D. Myser". The signature is written in dark ink and is positioned above the printed name.

Richard D. Myser

c. D.W. Miller
T.S. Michaels