UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NRC PDR

July 2, 1979

Docket No. 50-346

Mr. Lowell E. Roe
Vice President, Facilities
Development
Toledo Edison Company
Edison Plaza
300 Madison Avenue
Toledo, Onio 43652

Dear Mr. Roe:

In determining the peak kilowatt per foot in the rod drop test for Davis-Besse Nuclear Power Station - Unit No. 1, your staff first evaluated the Linear Heat Generation Rate (LHGR) to be too high. This test was performed at 40% power and the LHGR was calculated by extrapolation to the 100% power level through the use coefficients provided by Babcock and Wilcox.

However, by using the on line computer which receives its input from incore detectors the calculated LHGR values are within allowable limits. The NRC Office of Inspection and Enforcement Region III Inspector raised questions as to the adequacy of the data reduction methods and, therefore, the acceptability of the rod drop tests.

We have been reviewing this concern and in order for us to complete our review we need additional information. Therefore, we request you provide the enclosed requested information or schedule for providing it within 30 days of receipt of this letter.

Sincerely,

Robert W. Reid

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosure: Request for
Additional Information

cc w/enclosure: See next
page

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Toledo Edison Company

cc: Mr. Donald H. Hauser, Esq.
The Cleveland Electric
Illuminating Company
P. O. Box 5000
Cleveland, Ohio 44101

Gerald Charnoff, Esq.
Shaw, Pittman, Potts
and Trowbridge
1800 M Street, N.W.
Washington, D.C. 20036

Leslie Henry, Esq.
Fuller, Seney, Henry and Hodge
300 Madison Avenue
Toledo, Ohio 43604

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 420, 7735 Old Georgetown Road
Bethesda, Maryland 20014

Ida Rupp Public Library
310 Madison Street
Port Clinton, Ohio 43452

Enclosure

REQUEST FOR ADDITIONAL INFORMATION

CONCERNING DAVIS-BESSE UNIT NO. 1

DETERMINING CORE PARAMETERS FROM ROD DROP TEST

1. Provide comparisons of calculated and measured radial peaking factors for the "dropped rod" tests at both of the 50% and the 0% withdrawn positions. It is preferrable that these be submitted in the form of core maps.

2. Provide the measured values of maximum linear heat rate and minimum DNBR for the "dropped rod" cases.

3. How did you account for the uncertainties in these measurements? Explain quantitatively what factors are accounted for in these uncertainties.

4. How was the data measured at 40% power extrapolated to 100% power?

5. We have studied BAW-10123 Nuclear Application Software Package for 205-fuel assembly plants and assume that the radial local peaking factors are calculated in a similar manner for 177-fuel assembly plants. Describe in detail how radial local peaking factors are calculated for the "dropped rod" situation which is very different from "fuel-cycle design rod positions" as discussed in section 3.8.2. If a multiplicative correction factor was used, please provide details as to how it was calculated. Also describe how you account for the uncertainties in the radial local peaking factor.

6. Are the values of radial local peaking factor conservative? If this is the case, justify this conclusion. If not, show how this is taken into account.

7. It has been stated that there are other conservatisms in the process computer calculation. Explain in detail (quantitively) what these conservatisms are and what assurance there is that credit for these has not and cannot be taken elsewhere.

8. Are there other factors or parameters used in the process computer that may not be conservative? If so, explain how you justify the process computer calculation.

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