NRC PDR

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

NOV 1 1978

Docket Nos: 50-329
50-330

Mr. S. H. Howell
Vice President
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Dear Mr. Howell:

SUBJECT: ADDITION TO SUPPLEMENTAL REQUESTS OF OCTOBER 13, 1978

The attached supplemental requests for additional information relate to the position on the Main Steam Line Break Accident which we discussed during our meeting of August 20, 1978. During the meeting, B&W stated that the analyses include the effect of a stuck rod on gross core shutdown margin, but that the effect of the stuck rod on localized physics or thermal performance are not considered to be an analysis requirement. We disagree and require that the power distribution distortions caused by the stuck rod be considered during both the initial portion and the later return-to-subcritical-power portion of the Midland analyses.

Also included is our position regarding ECCS recirculation testing in accordance with Regulatory Guide 1.79. This position was inadvertently omitted from our supplemental requests of October 13, 1978.

Please add the enclosure to our supplemental requests of October 13, 1978. Contact us if you desire clarification or other discussions of these requests.

Sincerely,

Steven A. Varga

Steven A. Varga, Chief
Light Water Reactors Branch No. 4
Division of Project Management

Enclosure:
As stated

cc: See next page

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211.0 REACTOR SYSTEMS BRANCH

211.166 (15D) Your response to first round question 222.1-2 is insufficient. We requested a description of the detailed calculational method used, however, Section 15.1.5.3.2 of the FSAR provides only a brief description of TRAP-2 code with reference to RADAR code. Also, recent discussions indicate that the Midland steam line break analysis does not consider the effects of a stuck rod on the power distributions assumed in this analysis. We require that the power distribution distortions caused by a stuck rod be considered during both the initial portion of your analysis and the later return to subcritical power. Provide the detailed calculational method used for the steamline break analysis.

211.167 (15D) Describe how all input parameters were obtained, including the initial values. Other computer codes used to generate input variables should also be identified.

211.168 (15D) Describe how the radial, axial and local power distributions were calculated and used in the RADAR code. First round question 222.1-5 requested transient axial and radial power distributions instead of design peaking factors. Provide the answers to this question.

211.169 (15D) Provide a detailed description of how the radial, axial and local hot channel factors are applied in the RADAR code for the hot channel and the core average channel. Describe how time dependence of the peaking factors is taken into account.

211.170 (15D) The nodalization diagram show on Figure 15D-1 does not include dead volume in the reactor vessel upper head. Justify that the use of this volume is not necessary in the modeling of the steam line break analysis. Describe how flashing in the primary system following emptying of the pressurizer is handled.

211.171 (15D) Describe how the pressure drop and coolant flow rates through the hot channel were obtained and used in the RADAR code.

211.172 (15D) In addition to the total time dependent reactivity feedback, provide each component of reactivity feedback (Moderator, Doppler, rod worth, boron injection).

211.173 (15D) Provide the core average coolant density and core average boron concentration for the first 15 seconds for both BOL and EOL conditions from full power.

211.174 (15D) Provide a detailed description of the borated water flow path into the core following a steamline break accident including a discussion of the boron transport delay time.

211.175 (14.2) (RSP) Your response to question 211.48 with respect to demonstration of ECCS recirculation flow from the reactor building sump to the Reactor Coolant System in accordance with Section C.1.b(2) of Regulatory Guide 1.79 is not acceptable. We require that you perform or reference tests which verify vortex control, available net positive suction head and acceptable pressure drops across screening, suction lines and valves, during the recirculation mode of ECCS operation. Temporary holding facilities and/or scaled testing may be appropriate if suitably justified.