

August 5, 1981

Docket No. 50-155
LS05-81-08-018

Mr. David P. Hoffman
Nuclear Licensing Administrator
Consumers Power Company
1945 W. Parnall Road
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Dear Mr. Hoffman:

We are continuing our review of the Probabilistic Risk Assessment results relating to the efficacy of a recirculation pump trip for the Big Rock Point Plant. We have found that additional information described in the enclosure to this letter is needed. We request your response within 30 days of your receipt of this letter.

Sincerely,

Original signed by

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page



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SURNAME	WPaulson:cc	DCrutchfield	GLamas				
DATE	8-5-81	8/5/81	8/5/81				

August 5, 1981

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Ms. JoAnn Bier
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QUESTIONS FOR BIG ROCK POINT
PROBABILISTIC RISK ASSESSMENT
RECIRCULATION PUMP TRIP ANALYSIS

1. Provide information confirming that the RETRAN code provides an appropriate representation of the plant transient behavior as presented in the risk assessment analyses for recirculation pump trip. This information should include any available comparisons of code predictions with experimental data and discussions of differences and similarities between RETRAN and other established industry codes. The specific applicability of RETRAN to ATWS analyses should be included.
2. Compare the current risk analysis for recirculation pump trip (References 1 and 2) with the earlier assessment described in Reference 3. In particular, discuss the difference in predicted steady state power level following a turbine trip - 110% in the earlier analysis vs 80% in the current analysis using RETRAN.
3. The ATWS analyses presented in References 1 and 2 did not include the case of ATWS for inadvertent control rod withdrawal. Provide an ATWS analysis for this case or provide a discussion justifying its omission.
4. Your analyses assumed nominal values for the volumes of the condenser hot well and the steam drum. Provide sensitivity analyses or discussion of the sensitivity of the risk analyses to the use of minimum and maximum values for these two volumes.
5. The Big Rock Point liquid poison system (LPS) is presently not qualified. Describe any program planned for qualifying this system or, if no such program exists, discuss the possible effects of the expected environment on the operation of the LPS during the ATWS transients included in the risk assessment. In particular, address the effect of the steam released from the pressure relief valves on the LPS.

6. Your analysis for loss of feedwater appears to neglect the time delay for operator response until the operator is made aware that an automatic reactor trip has not actuated. Justify and discuss the effect of this time delay on your analysis.
7. Your analysis states that a delay of LPS injection until after RDS actuation is assumed to cause limited core damage with releases similar to the TMI accident. It would seem that such a failure, in conjunction with predicted containment failure, would cause a significant contribution to risk but that it has not been included in your risk calculations. Address the contribution for this case.

References:

- (1) Letter from G. C. Withrow, CPC, to D. M. Crutchfield, Big Rock Point Plant - Probabilistic Risk Assessment Results Relating to the Efficacy of a Recirculation Pump Trip, February 26, 1981.
- (2) Letter from D. P. Hoffman, CPC, to D. M. Crutchfield, Big Rock Point Plant - Submittal of the Probabilistic Risk Assessment and Request for Deferral of Requirements Identified as Non-essential by the Probabilistic Risk Assessment, March 31, 1981.
- (3) "Anticipated Transients Without Scram Study for Big Rock Point Power Plant," NEDE-21065, P. M. Guraraj, October 1975.