



Consumers
Power

**POWERING
MICHIGAN'S PROGRESS**

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October 25, 1989

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 - BIG ROCK POINT PLANT -
RESPONSE TO GENERIC LETTER NO. 88-20 - INDIVIDUAL PLANT EXAMINATION FOR
SEVERE ACCIDENT VULNERABILITIES

The purpose of this submittal is to provide Consumers Power Company's response to Generic Letter 88-20 for the Big Rock Point Plant. As a prelude to Big Rock Point's response Consumers Power Company believes that a brief history of the Probabilistic Risk Assessment (PRA), PRA applications and accident management at Big Rock Point is important.

Big Rock Point first became involved in PRA as a result of the accident at Three Mile Island. The proposed generic modifications resulting from that accident were in excess of 200 million dollars. Since Big Rock Point is a significantly different reactor design than other BWR's, Consumers Power Company was not confident that the proposed modifications would indeed improve safety at Big Rock Point. As a result of these concerns, Consumers Power Company asked for and received a deferral from implementing the TMI action plan until a comprehensive risk analysis could be completed.

On March 31, 1981 Consumers Power Company submitted a level 3 PRA to the Commission. The submittal requested seven exemptions from requirements of the TMI action plan and proposed seven alternative modifications to Big Rock Point that would improve risk. Consumers Power Company also committed to establish a Continued Risk Management Plan (CRMP) which would update and maintain the PRA as a living document for use as a basic tool to evaluate both future generic issues and operating experience to assist in determining the need for modifications to plant systems or procedures. Big Rock's continuing risk management is equivalent to severe accident management.

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By letter dated May 17, 1984 (Crutchfield to Vandewalle) the NRC staff completed its review of the Big Rock Point PRA with the assistance of two contractors, EG&G and Brookhaven National Laboratory (BNL). The subsequent Safety Evaluation Report (SER) concluded that Consumers Power Company had done a credible job in performing the Big Rock Point PRA. The SER went on to state that the fault trees and event trees were adequately developed and properly identified the dominant accident sequences. Appropriate failure data was used and plant systems were accurately represented. The containment failure mode and consequence analysis properly identified the dominant containment failure modes, and estimated consequences in terms of dose and fatalities.

Since the completion of the original Big Rock Point PRA and in order to compliment the CRMP program, Consumers Power Company has created and maintained a risk assessment group consisting of four individuals located at the plant site. The mission of this group has been to support the plant and maintain the risk assessment. Examples of support that our CRMP Program provides are:

- Plant Technical Review Group membership which provides the rankings of issues for the integrated living schedule;
- Plant Review Committee (PRC) technical adviser;
- support to the Training Department with respect to operator training on the dominant accident sequences and Emergency Operating Procedures;
- selected 10CFR50.59 review;
- maintenance scheduling meeting participation;
- reliability centered maintenance development;
- plant accident and transient analysis; and
- emergency drill coordination, support, and management.

In addition to the above mentioned support activities the group has also been responsible for many applications of the Big Rock Point PRA since the original submittal. Attachment 1 is a summary of a number of these applications.

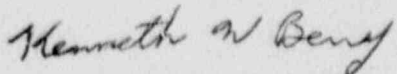
Currently Consumers Power Company is updating the Big Rock Point risk assessment as part of the CRMP commitment in 1981. The schedule calls for the completion of the level 1 analysis and the containment analysis in the spring of 1992. Once these two tasks are complete, Consumers Power Company will assemble a summary document comparing the results of the original PRA to that of the update. It is expected that the core damage frequency will be less than that documented in the 1981 report. The reduction is primarily due to implementation of the 1981 PRA recommended modifications. Submittal is planned in the third quarter of 1992.

The objectives of the IPE as stated in Generic Letter 88-20 and NUREG 1335 are 1) to develop an overall appreciation of severe accident behavior; Consumers Power Company believes that has been accomplished by the completion of the original study; 2) to understand the most likely severe accident sequences that could occur at Big Rock Point; Consumers Power Company has accomplished this through the construction and quantification of the original event trees, by training the operators on the dominant accident sequences, and by coordinating from a risk perspective the new Emergency Operating Procedures and the Detailed Control Room Design Review program; 3) to gain a more quantitative understanding of the overall probability of core damage and radioactive material release; the original study quantified risk and the Big Rock Point risk assessment group is presently updating and requantifying the plant risk models; 4) if necessary, reduce the overall probability of core damage and radioactive material release by appropriate modifications to procedures and hardware that would help prevent or mitigate severe accidents; Consumers Power Company has completed many of the modifications recommended as a result of the original PRA. It is expected that should any new modifications or procedural changes be required as a result of the update, a cost benefit analysis and the integrated living schedule program would be implemented.

In summary, Consumers Power Company believes that many aspects of a successful severe accident management program are already in place at the Big Rock Point facility. Upon completion of the update discussed above Consumers Power Company will submit a summary document to the staff. The document will summarize all the applications of the Big Rock Point PRA, including the work performed as a result of the Systematic Evaluation Program.

Consumers Power Company intends to rank this issue in the Big Rock Point Living Schedule. If the ranking results in a change in plans as outlined in this submittal we will review those changes with the staff.

Should the staff have any questions on the above described approach or our conclusions regarding our CRMP, we would be pleased to meet and discuss them.



Kenneth W Berry
Director, Nuclear Licensing

CC Administrator, Region III, USNRC
NRC Resident Inspector - Big Rock Point
Technical Contact - NUMARC

ATTACHMENT 1

Consumers Power Company
Big Rock Point Plant
Docket 50-155

SUMMARY OF BIG ROCK POINT
PRA APPLICATIONS

October 25, 1989

3 Pages

ATTACHMENT 1

<u>Source</u>	<u>Title/Issue</u>	<u>Reference</u>
SEP Topic:		
III-2/III-4.A	Wind and Tornado Loadings Tornado Missiles	SER dated 9/22/87
III-4.B	Turbine Missiles (subsequent to final SER additional comments are included in the final NUREG 0828 report dated 5/84)	SER dated 11/29/82
III-5.A	Effects of Pipe Break On Structures, Systems, And Components Inside Contain- ment (High Energy Line Break)	SER dated 9/22/83
III-5.B	Pipe Break Outside of Containment (Screenhouse Flooding)	NUREG 0828 report 5/84
III-6	Seismic Design Considerations (Seismic "Weak-Link" approach to identify selec- tive plant seismic improvements)	NUREG 0828 report 5/84
III-10.A	Thermal-Overload Protection for Motor- Operated Valves	NUREG 0828 report 5/84
V-5	Reactor Coolant Pressure Boundary (RCPB) Leak Detection (Unidentified Leakage Detection)	NUREG 0828 report 5/84
V-10.A	Residual Heat Removal Heat Exchanger Tube Failures	NUREG 0828 report 5/84
V-11.A	Requirements For Isolation Of High And Low Pressure Systems	SER dated 12/15/82
V-11.B	Residual Heat Removal Interlock System Requirements (Interfacing System Loss Of Coolant Accident)	SER dated 12/15/82
VI-4	Containment Isolation System (sub top- ics listed below); Need for a back-up Main Steam Isolation Valve	NUREG 0828 report 5/84 NUREG 0828 report 5/84

<u>Source</u>	<u>Title/Issue</u>	<u>Reference</u>
	Instrument and Service Air Line Auto Isolation	NUREG 0828 report 5/84
	Heating, Cooling, And Service Water Auto Isolation	NUREG 0828 report 5/84
	Treated Waste Auto Isolation	NUREG 0828 report 5/84
	Containment air lock testing (received Appendix J exemption)	exemption 1/8/86
IX-5	Ventilation Systems	NUREG 0828 report 5/84
Others:		
GL-81-10	Shift Staffing Requirements	SER Jated 12/30/83
10-CFR-50-62	Automatic Recirculation Pump Trip Anticipated Transients Without SCRAM (Alternate Rod Injection)	SER dated 3/20/86 Pending

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Big Rock Point Plant
Docket 50-155 License DPR-6

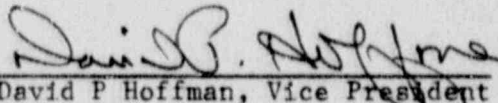
Response to Generic Letter No 88-20

At the request of the Commission and pursuant to the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, as amended, and the Commission's Rules and Regulations thereunder, Consumers Power Company submits our response to NRC letter dated November 23, 1988, entitled, "Initiation of the Individual Plant Examination For Severe Accident Vulnerabilities". Consumers Power Company's response is dated October 10, 1989.

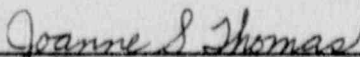
CONSUMERS POWER COMPANY

To the best of my knowledge, information and belief, the contents of this submittal are truthful and complete.

By


David P Hoffman, Vice President *10/25/89*
Nuclear Operations

Sworn and subscribed to before me this 25th day of October, 1989.


Joanne S Thomas, Notary Public
Jackson County, Michigan
My commission expires November 18, 1990