



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

NSIC

October 14, 1980

Docket No. 50-155

Mr. Russell B. DeWitt  
Vice President  
Nuclear Operations  
Consumers Power Company  
1945 Parnall Road  
Jackson, Michigan 49201

Dear Mr. DeWitt:

Your letter dated February 22, 1980, indicated that Consumers Power Company intends to perform an overall risk assessment of the Big Rock Point Plant and proposed that certain plant modifications required by the NRC be deferred until a risk assessment to assess the feasibility of continued plant operation is completed. This proposal was discussed at our meeting of March 20, 1980. Your letter of April 2, 1980, summarized certain issues discussed during the March 20, 1980 meeting, provided additional information for our consideration and indicated that this effort could be completed within one year. Recent discussions with your staff indicate that the work will be completed by April 1981. Additional information was provided in your letters dated August 25, 1980, and September 2, 1980.

We have reviewed the list of ten items that you proposed to be deferred until the risk assessment is completed (Enclosure 1). Based on our review, we conclude that the ATWS recirculation pump trip modifications (Item 6) and the alternate shutdown panel (Item 4) cannot be deferred in view of the Commission Orders addressing these subjects. The Commission Confirmatory Order dated February 21, 1980, discusses the need for implementation of the ATWS recirculation pump trip modifications and establishes a schedule for its implementation, and we believe that this implementation schedule should not be modified. Requirements regarding the alternate shutdown panel are covered by the proposed Appendix R to 10 CFR Part 50. The completion date for this item shall be covered by the requirements of the proposed Section 50.48 to 10 CFR Part 50 when it becomes effective.

You also requested a delay for the construction of a meteorological tower (Item 9). We are currently developing additional guidance regarding the implementation dates for meteorological data capability at all power reactor sites. We expect to issue this guidance within a couple of months. Our current position is that by April 1981 we would expect that some minimum meteorological data capability should be in place at all sites. Accordingly, we believe that an interim meteorological tower at Big Rock Point should be constructed by that date.

The remaining seven items deal with Category B Lessons Learned Items and requirements that flow from NUREG-0626, "Generic Evaluation of Feedwater

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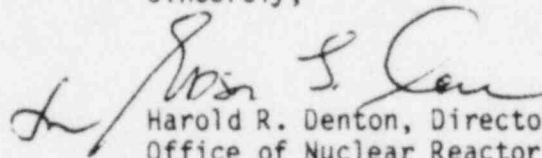
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Transients and Small Break Loss-of-Coolant Accidents in GE-Designed Operating Plants and Near-term Operating License Applications." These remaining items were originally scheduled for implementation by January 1, 1981. We are developing new implementation dates, subject to Commission approval, for most of these remaining items. The current NRC staff position is that only two of these remaining seven items require implementation before October 1, 1981; these items are Automatic Isolation of Emergency Condenser (Item 7) and Installation of Interlocks on Recirculation Loops (Item 8). We conclude for the reasons cited in Enclosure 2 that a one-year deferral until January 1, 1982, for the implementation of these two items is acceptable. The alternate measures that you propose to implement as discussed in Enclosure 2 would provide interim capability to reduce the risk to the public in the event of an accident. We conclude that the one-year deferral for these two items beyond the current implementation date would not significantly increase the risk to the health and safety of the public. Should the required dates for implementation of any of the seven items change, we will contact you and discuss them with you.

It is my understanding that other ongoing items not listed in Enclosure 1, and for which implementation schedules have been established, will not be delayed. This includes the environmental qualification and fire protection activities.

We believe that an overall risk assessment of the Big Rock Point plant is a valuable technique for providing insight into the identification of significant contributors to risk. Accordingly, we encourage you to proceed with this effort. We believe it would be appropriate to discuss your risk assessment with the NRC staff. In this regard, we plan to actively participate in the review of the progress of this effort. Accordingly, please contact the Project Manager (W. Paulson, 301/492-7214) for Big Rock Point in the near future.

Sincerely,



Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Enclosures:

1. Deferred Items
2. Alternate Procedures

cc w/enclosures:

See next page

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Mr. Russell B. DeWitt

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ENCLOSURE 1

ITEMS PROPOSED BY CONSUMERS POWER COMPANY  
TO BE DEFERRED UNTIL COMPLETION OF  
BIG ROCK POINT RISK ASSESSMENT

1. Post Incident Shielding
2. Technical Support Center
3. Post Incident Sampling System
4. Alternate Shutdown Panel
5. Containment Hydrogen Monitor
6. ATWS Modifications (RPT)
7. Automatic Isolation of Emergency Condenser
8. Installation of Interlocks on Recirculation Loops
9. Construction of Meteorological Tower
10. Relocation of Off-Site Operations Center

## ENCLOSURE 2

### ALTERNATE MEASURES PROPOSED TO BE IMPLEMENTED AT BIG ROCK POINT

#### 1. Post Incident Shielding

Radiation levels on the Big Rock Point site following an accident involving significant core damage could preclude access to the site for several hours. The control room and areas designated as the interim technical support center and operational support center are sufficiently shielded, however, to permit continuous occupancy even after an accident involving release of the entire fission product inventory to the containment. The licensee has completed a review of vital areas where occupancy could be limited after an accident. Three modifications were found necessary to ensure that backup systems could be placed in service in the event primary systems fail shortly after an accident involving significant radioactivity release; these modifications are underway and should be completed by January, 1981. The licensee will ensure that food, sanitary facilities, and breathing air will be available for personnel who might be confined in the plant after an accident by high radiation levels; provisions sufficient to last until replenishment/crew change from offsite is possible will be available by January, 1981.

#### 2. Post Incident Sampling System

Routine means of sampling containment atmosphere and primary coolant are not available without entering the containment building. Containment entry would be likely to be impossible after an accident. The licensee has implemented procedures to use available means of quantifying core damage after the accident. For accidents not involving significant core damage, less than approximately 10% fission product release, a sample of the liquid inside containment can be taken from the post incident cooling system; plant design is such that this liquid would be representative of that in the primary coolant system. For greater degrees of core damage, a procedure has been prepared to quantify damage based on evaluation of radiation levels. Training in these sampling methods and estimations has been completed.

#### 3. Containment Hydrogen Monitor

Big Rock Point's design is unique in that it involves a small reactor core housed within a large containment building. These features mean that a smaller amount of hydrogen can be produced and that this hydrogen would be dispersed in a larger volume than at other plants. The licensee has calculated, using conservative assumptions, that the maximum possible hydrogen concentration in containment following an accident is 6.7 v/o; using more realistic assumptions a maximum post-accident concentration of 0.3 v/o has been calculated which is much less than the 4.0 v/o considered flammable;

4. Automatic Isolation of Emergency Condenser

This requirement was developed by the NRC Bulletins and Orders task force as a means of improving availability of an emergency heat sink. This improvement results from changing isolation logic which currently isolates the emergency condenser of many BWRs whenever significant fuel damage occurs to accomplish such isolation only if a subsequent failure occurs in the emergency condenser. Unlike other BWRs, Big Rock Point's emergency condenser currently has no automatic isolation logic which could preclude its use as an emergency heat sink. Implementation of this requirement would therefore involve an extensive modification installing sensors and actuating circuitry. The monitors used to detect radiation in the emergency condenser vent line would require extensive shielding to eliminate the effect of radioactivity present in the containment atmosphere if such elimination is even practical. The emergency condenser is a key component of the Big Rock Point safety systems and it would therefore be appropriate to have the results of the proposed risk assessment available before implementing an extensive modification.

5. Installation of Interlocks on Recirculating Loops

This issue was addressed for Big Rock Point by issuance of Amendment No. 30 to License DPR-6 on October 30, 1979. This amendment added requirements insuring at least one recirculating loop will always be available. The existing administrative requirements embodied within Amendment No. 30 are adequate until evaluation for Big Rock Point is completed.

6. Construction of Meteorological Tower

Procedures currently exist for estimating atmospheric stability and plume direction without a tower. Verification is available by contacting the Federal Aviation Administration at Pellston.

Big Rock Point's small core size limits the amount of radioactivity available for release. The licensee calculated that a combination of poor meteorology (Pasquill F) and a one meter per second or lower windspeed would be required for any event to result in concentrations necessitating evacuation of the closest moderate population density area (Charlevoix, five miles). At this low windspeed, the licensee estimates that at least two hours would be available prior to plume arrival at Charlevoix.

7. Technical Support Center

The licensee has proposed to use the interim Technical Support Center while the risk assessment is being completed and evaluated. Self-contained breathing apparatus is being procured to provide protection against airborne radioactivity which might be present in the event of containment leakage and unfavorable atmospheric distribution. Communications equipment available in the interim Technical Support Center is described in the Big Rock Point Nuclear Plant Site Emergency Plan Implementing Procedures - Volume 9A and are adequate. The

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interim Technical Support Center is immediately adjacent to the control room and the control room displays are visible through the control room window. In addition, an individual will be designated to assure adequate information transfer between the control room and the interim Technical Support Center. The licensee has indicated that exposures to personnel who are assigned to the Technical Support Center and who must be called in from offsite could be as high as 3 rem for 40% core fission product inventory release and 7.2 rem for 100% core fission product release during their ingress from offsite. The bases and assumptions for these estimates are contained in the licensee's August 25, 1980 submittal. Because of the relatively low likelihood of a very large fission product release to the containment during the period of time that the risk assessment is being completed, we believe that the risk of exposure to personnel while gaining access to the interim Technical Control Center is not excessive for the time required to complete the study.

8. Diesel Generator Testing

The licensee performs periodic testing of the deisel generator in accordance with the Big Rock Point Technical Specifications. The current testing procedures are different from those specified in Regulatory Guide 1.108 and these differences are being assessed in the Systematic Evaluation Program. It is the NRC staff's judgment that implementing the Regulatory Guide 1.108 procedures during the interim period while the risk assessment is being completed would provide a reduction in risk of a large accident. The licensee has committed to meet the intent of the recommendations in the Regulatory Guide concerning periodic testing and record keeping. The test frequency and test procedure is described in the licensee's submittal dated August 25, 1980.

9. Staff Experience and Training

A recent discussion with Consumers Power Company's staff indicated that the shift supervisors at the Big Rock Point Plant averaged more than 16 years experience at the plant and that the licensed operators average about 10 years experience at this facility. This lengthy experience implies a good understanding of the performance characteristics of this plant. The NRC staff has been informed that the Big Rock Point shift technical advisors all are degreed engineers and all have completed training on the General Electric Company simulator. A fifth operating shift has also recently been established to provide more training of operational personnel than was previously possible.