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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 91 TO FACILITY OPERATING LICENSE NO. DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-301

Introduction

On November 9, 1984 Wisconsin Electric Power Compan (icensee) requested Technical Specification changes for the Point Beach ...clear Plant Units 1 and 2. These changes would incorporate additions to Specifications 15.2.3.1.B(4), "Overtemperature ΔT", and 15.2.3.1.B(5), "Overpower ΔT", to revise certain time constants which are part of the sensing circuitry. As a result of the staff's review, the licensee provided supplemental information in a letter dated November 15, 1984.

This Safety Evaluation addresses only Point Beach Unit No. 2 as the amendments were requested to be issued by November 16, 1984 and in accordance with the provisions of 10 CFR 50.91(a)5, a valid emergency situation exists in that failure to act in a timely way would result in delaying a nuclear unit from startup. Sufficient time does not allow for prior notice of proposed determination on significant hazards considerations for Unit 2; however, sufficient time exists for prior notice with respect to Unit 1.

Discussion and Evaluation

On October 5, 1984 the NRC issued to Wisconsin Electric Power Company License Amendments 86 and 90 to Facility Operating Licenses DPR-24 and DPR-27, respectively. These license amendments include Technical Specification revisions to allow the use of Westinghouse optimized fuel assemblies (OFAs) at Point Beach Nuclear Plant, Units 1 and 2. The safety evaluation provided with these amendments also approved several changes to the analysis and operating procedures for the reactors, including use of the Westinghouse improved thermal design procedures for the OFA fuel.

In preparation for use of OFA fuel and the improved thermal design procedures, the licensee observed that the primary system resistance temperature detectors (RTDs) are required to satisfy an enhanced calibration accuracy. The licensee discovered that electrical noise associated with switching between a calibration standard RTD and the Sostman RTDs installed at Point Beach interfered with the calibration procedure. The licensee determined that replacing the Sostman RTDs with Rosemont RTDs would satisfy the calibration requirements. The licensee therefore, expedited procurement of Rosemont RTDs and informed Westinghouse of this action.

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Westinghouse advised the licensee that the more accurate Rosemont RTD's are also fast-response RTD's and likely to produce extraneous noise spikes during plant operation. The originally installed reactor protection system instrumentation channels included lag circuits for the ΔT and Tave measurements, which had been set for zero intentional delay (lag) for use with the slower responding Sostman RTD's. To avoid spurious plant trips, Westinghouse recommended that the lag circuits be adjusted to provide a lag with a two second time constant when the Rosemont RTD's are being used.

The licensee and Westinghouse have stated that the response time of the original Sostman RTD's is believed to be 2 - 2.5 seconds, based upon results of testing performed by the manufacturer some years ago. (The licensee has agreed to provide copies of these test results or the best available documentation to support this response time value within 30 days.) The response time of the original RTD plus the associated intentional lag (for the ΔT and Tave measurements) was therefore 2 - 2.5 seconds.

The licensee and Westinghouse have stated that the response time of the new RTD's is believed to be 0.5 seconds, based upon results of testing performed by the manufacturer. (The licensee has agreed to provide copies of these test results within 30 days.) The response time of the new RTD plus the proposed intentional lag is therefore 2.5 seconds.

The licensee and Westinghouse have stated that the uncertainty value used by Westinghouse in the overpower-delta T trip and the overtemperature-delta T trip analyses is greater than the possible 0.5 second difference between the worst case Sostman RTD value (2 seconds) and the new Rosemont RTD value (2.5 seconds). In fact, the uncertainty value would also encompass any possible future degradation in the response time of the RTD from 0.5 second to 1.0 seconds. Therefore, this shifting of time allocations amongst various terms in the overpower-delta T and overtemperature-delta T equations is acceptable.

To assure that the response time of the new fast-response RTD stays within limits, the licensee has agreed to monitor indirectly the response time of these RTD's on a periodic basis over the rest of the plant life. The method to be used is to establish the signature of the noise response of the RTD and periodically compare the noise signature to the base case. If the response time of the RTD degrades, the noise being generated should also change. This method is to be developed and proven during this plant operating cycle and then used routinely on a refueling outage basis thereafter. We believe that this method is an adequate and acceptable method for monitoring response time performance for this application for this particular nuclear plant.

The proposed Technical Specifications have been modified to reflect the mathematical equivalent of the entire circuit. Indeed, the change to the overtemperature delta T and overpower delta T equations requested in this application does no more than add a mathematical term (1/1 + ts) which was always implicit in the equations in the existing Technical Specifications, but was never explicitly stated because, with the Sostman RTDs, t was equal to 0 and 1/1 + 0 was equal to 1. Thus, the term previously had no mathematical significance. As stated above, the system response with the new lag filter setting and new RTD compared to the old RTD is acceptable.

Based on the information provided by the licensee and the commitments given, the staff finds the licensee's proposed Technical Specification acceptable for Point Beach Unit 2. Point Beach Unit 1 Technical Specifications will be issued at a later date following the appropriate noticing period in the Federal Register. The emergency circumstances noted below require issuance of the Point Beach Unit 2 Technical Specifications without prior notice.

Emergency Circumstances

The licensee did not learn of the calibration problems which necessitated changing the RTDs until approximately two weeks prior to their submittal. Further, the licensee did not learn of the vendor's recommendation to utilize a two-second filter with the new RTDs to minimize the potential for spurious reactor trips and runbacks until approximately one week prior to their submittal. Upon the licensee's receipt of this information from the vendor, they immediately contacted the staff to confirm whether Technical Specification changes were necessary. The staff determined that Technical Specification changes were necessary prior to startup of Unit 2 scheduled for November 16, 1984. The licensee immediately prepared an application for license amendment to modify the Technical Specifications, however, it was not received in time to permit prior notice and opportunity for public comment. The staff has reviewed the emergency circumstances associated with the licensee's request and determined that, in accordance with 10 CFR 50.91(a)(5), a valid emergency situation exists.

No Significant Hazards Consideration Determination

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new of different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

The information in this Safety Evaluation provides the basis for evaluating this license amendment against these criteria. Since the requested operational mode, plant operating conditions, the physical status of the plant, system response, and dose consequences of potential accidents are the same as without the requested change, the staff concludes that:

(1) Operation of the facility in accordance with the amendment would not significantly increase the probability or consequences of an accident previously evaluated.

(2) Operation of the facility in accordance with the amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Operation of the facility in accordance with the amendment would not involve a significant reduction in a margin of safety.

The staff also consulted with the State as summarized below in making its determination as to whether the requested amendment involved a significant hazards consideration.

Accordingly, we conclude that the amendment to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant Unit No. 2, modifying the overpower and overtemperature delta T equations, involves no significant hazards considerations.

State Consultation

In accordance with the Commission's regulations, consultation was held with the State of Wisconsin by telephone on November 9, 1984. The State expressed no concern either from the standpoint of safety or with respect to the staff's proposed no significant hazards consideration determination, concerning this amendment. The State considered the amendment administrative in nature.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to this amendment. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors:
J. T. Beard
T. Colburn

Dated: November 16, 1984