



OFFICE OF THE SECRETARY

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

November 30, 1979

Denton - Action Cys: Gossick Smith Rehm Shapar Stello

Handwritten notes: 'C. Trammell' in a circle with an arrow pointing to the signature 'SJC' below it, and another signature 'E. Hendrie' to the right.

MEMORANDUM FOR: Lee V. Gossick, EDO FROM: Samuel J. Chilk, Secretary SUBJECT: RESTART OF PT. BEACH UNIT 1

On the basis of the briefing it received on November 28, the Commission believes the staff's decision is a responsible one and does not intend to take any action inconsistent with it at this point. The Commission will have the opportunity to review the Director's Decision through the normal procedures for petitions filed under 10 CFR 2.206.

The Commission recognizes that its decision to accept the staff's views at this point means that the Pt. Beach reactor will be operating during its evaluation of the Director's Decision. The Commission endorses the conditions under which operation was proposed at the briefing but believes such conditions should be legally enforceable obligations of the licensee. The staff is therefore instructed to issue an order requiring the licensee to conform to the conditions discussed at the 11/28/79 briefing.

All five Commissioners agree with this memorandum but Commissioner Ahearne was unavailable to concur in the final language.

- CC: Chairman Hendrie Commissioner Gilinsky Commissioner Kennedy Commissioner Bradford Commissioner Ahearne Commission Staff Offices NRR

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MEMORANDUM FOR: Chairman Ahearne
 Commissioner Gilinsky
 Commissioner Kennedy
 Commissioner Hendrie
 Commissioner Bradford

FROM: H. R. Denton, Director, Office of Nuclear Reactor Regulation

THRU: L. V. Gossick, Executive Director for Operations (Signed) T. A. Rehr

SUBJECT: POINT BEACH UNIT 1 - PLANT SHUTDOWN DUE TO STEAM GENERATOR TUBE LEAK

On Wednesday November 28, the staff briefed the Commission on the steam generator tube degradation problems at Point Beach Unit 1. Steam generator tube inspections conducted in August and October 1979 indicated that the Point Beach Unit 1 steam generators are experiencing extensive degradation due to a phenomenon called "deep crevice corrosion." Deep crevice corrosion is characterized by general intergranular attack and stress corrosion cracking of the steam generator tubes in the crevice between the unexpanded portion of the tubes and the tubesheet. On November 30, 1979, after thorough examinations and preventative actions had been performed by the utility, the NRC issued an order imposing additional conservative operating restrictions and granting an operating period of two effective full power months. The unit returned to power on November 30, 1979.

Upon returning to power the plant reported low activity levels in the secondary coolant, indicative of a 40 to 50 gpd leak. These leaks had been "background" or "fantom" leaks, had existed for a number of years, and had escaped all detection.

On December 11, 1979 at approximately 5:00 p.m. CST, the plant informed the Region III Office of Inspection and Enforcement that the unit had experienced a rapid increase in leak rate, exceeding the limitations imposed by the November 30 Order. The increase in leakage was first noticed at 4:13 p.m. CST by a step increase in the activity level in the steam jet air ejector. No significant loss of primary coolant inventory was noted. At 4:35 p.m. CST, the plant's chemical department quantified the leak rate at approximately 260 gpd. At 5:05 p.m. CST, the leak rate was holding steady at approximately 260 gpd with the greatest leakage coming

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from steam generator B. At 5:10 p.m. CST, the unit reduced load and began a 6-hour ramp down leading to taking the unit off line at approximately 11:00 p.m. CST. (At 7:09 p.m. CST, the unit was at approximately 52% power and the leak rate was stable at 260 gpd.) The incident resulted in no offsite releases of radiation.

Both NRR and IE staff closely monitored the plant throughout the event. The plant operators will continue to keep the IE Region III Office informed of any abnormal changes in plant conditions. The unit should be in a cold shutdown, Mode V condition by late Wednesday afternoon.

The utility has informed Westinghouse of the plant condition and steam generator inspections are scheduled to begin late Thursday. In addition, the NRR staff is making arrangements to send a team of steam generator experts to the plant to closely review the steam generator inspections.

H. R. Denton, Director
Office of Nuclear Reactor Regulation

cc: SECY
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DATE	12/12/79	12/12/79	12/12/79	12/12/79	12/ /79	12/ /79



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

December 31, 1979

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Hendrie
Commissioner Bradford

THRU: Executive Director for Operations

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

SUBJECT: POINT BEACH UNIT 1 - STEAM GENERATOR TUBE DEGRADATION

In the Confirmatory Order for Modification of License dated November 30, 1979 (Order), certain requirements were made pertaining to the operation of Point Beach Unit 1. In the Safety Evaluation appended to that Order, certain remedial actions were discussed. Among these remedial actions we noted that the licensee planned to operate the facility at a reactor coolant pressure of 2000 psia rather than 2250 psia to reduce the internal pressure stresses by about 15% during operation (Action No. 3, pp. 15). This action was to be initiated upon NRC approval of an amendment request dated November 2, 1979, which requested permission to operate at that pressure. In the same Safety Evaluation we discussed "Measures for Reducing the Rate of Degradation" on pp. 22 and 23. We indicated that the acceptability of this proposed operation would be addressed separately.

The Order of November 30, 1979, was based on information resulting from the steam generator tube inspection following the October 1979 leak. On December 11, 1979, another steam generator leak occurred. An eddy current test was performed on both steam generators which resulted in eddy current indications below the tube sheet (in the tube crevice) in both steam generators. Twenty tubes were plugged in steam generator A and fifteen tubes were plugged in steam generator B. Since there appears to be evidence of continuing intergranular corrosion attack, the NRC staff has now found that it is not only desirable, but prudent and necessary, to take immediate action to require the reactor coolant pressure to be reduced from 2250 psia to 2000 psia since this will have the effect of substantially reducing the differential pressure across all tubes in both steam generators.

As explained below, operation of Unit 1 at a reactor coolant pressure of 2000 psia is acceptable from an accident analysis point of view. The applicable criteria for transient and accident are still satisfied.

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December 31, 1979

Since the licensee's amendment request was for operation at either 2250 psia or 2000 psia, he has recently withdrawn his amendment request and has made a commitment to operate Unit 1 at a reactor coolant system pressure of 2000 psia.

Summary Evaluation

Operating the facility at a reactor coolant pressure of 2000 psia rather than 2250 psia will reduce the internal pressure stresses during operation by about 15%.

The systems performance aspects of this change ^{were} was evaluated by the licensee. Two trip setting changes are required. These relate to DNBR protection and low reactor pressure protection. Several accidents were reanalyzed using standard Westinghouse methods. These included the LOCA and the Rod Ejection Accident. We have concluded that the appropriate reactor protection criteria continue to be met.

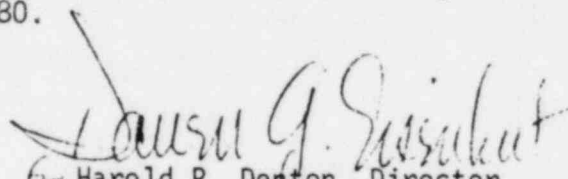
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Degraded Tubes Above the Tube Sheet

Since our November 28, 1979 Commission meeting, the staff has learned of five degraded tubes, located at or above the surface of the tube sheet, that were detected and plugged during the October-November plant outage. The licensee have examined this information and determined that it is not associated with intergranular corrosion attack, the phenomenon occurring in the tube sheet crevice. The staff discussed this experience with the licensee in late December, and concurred that this degradation was associated with the thinning, or wastage phenomenon occurring during the 1972-1975 time frame.

Conclusion

The staff proposes to issue a Conformatory Order, following the Commission briefing now scheduled for January 2, 1980.



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

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