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JPN-90-071

U.S. Nuclear Regulatory Commission
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SUBJECT: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Containment Hydrogen Monitoring
NUREG-0737, Item II.F.1(6)

- References:
1. NRC Generic Letter 82-05, D. Eisenhut to All Licensees, dated March 17, 1982, (Post-TMI Requirements).
 2. NUREG-0737, "Clarification of TMI Action Plan Requirements," dated November, 1980.
 3. NRC letter, D. Vassallo to L. Sinclair, dated March 14, 1983, transmits Confirmatory Order.
 4. PASNY letter, J. Bayne to D. Vassallo, dated May 2, 1983, "Item II.F.1.6 Containment Hydrogen Monitor," (JPN-83-38).
 5. NRC letter D. Vassallo to J. Bayne, dated July 25, 1984, transmits Safety Evaluation.

Dear Sir:

An Appendix of NUREG-0737 and Regulatory Guide 1.97, Revision 2 require that post-accident monitoring systems be "single failure-proof." The existing hydrogen monitoring system at the FitzPatrick plant does not meet this requirement for one hydrogen sampling point in the suppression chamber. For sampling of the drywell and reactor building atmospheres, the system is not only single failure-proof but is redundant.

In response to Generic Letter 82-05 (Reference 1), the Authority committed to implement NUREG-0737 Item II.F.1.6, "Containment Hydrogen Concentration Monitor" (Reference 2) before the start of Cycle 6 (7/83). This commitment was confirmed in the NRC's Order of March 14, 1983 (Reference 3). In a subsequent response (Reference 4) to an NRC request, the Authority provided additional information including the locations of the hydrogen monitor sample points. Based on

this additional information, the containment hydrogen monitoring system was evaluated and approved in an NRC Safety Evaluation (Reference 5).

Based on a walkdown of sample lines for the suppression chamber hydrogen monitor during the 1990 refueling outage, the Authority determined that one line does not sample the suppression chamber atmosphere as intended. This sample line terminates in the suppression chamber ring header. Because the downcomers are submerged, the suppression chamber ring header communicates with the drywell atmosphere and not the suppression chamber atmosphere. The containment hydrogen analyzer modification specified the use of an existing sample line for one train and the installation of a new sample line for the redundant train. This modification plan apparently assumed that the existing containment sample line which runs to the suppression chamber ring header drew a suppression chamber atmosphere sample.

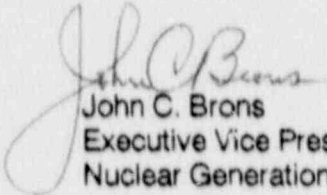
Since the remaining hydrogen monitoring system is fully functional, the Authority still has the capability to monitor the suppression chamber for hydrogen continuously. For this reason, the Authority does not consider this a significant safety concern. To install a new sample point requires a plant shutdown. Shutting the plant down before a scheduled outage of sufficient duration would constitute a financial hardship on the Authority without a commensurate increase in safety. It would also subject the FitzPatrick plant to unnecessary start-up and shutdown transients.

The Authority is currently evaluating possible approaches to resolve this discrepancy and will submit a schedule for corrective action by January 2, 1991.

Because the FitzPatrick plant has the capability to monitor suppression chamber hydrogen continuously using the sample point in the fully functional train of the system, the Authority continues to comply with all applicable FitzPatrick Technical Specifications. Therefore, the Authority does not consider it necessary to implement compensatory actions. If the monitor in the fully functional train of the hydrogen monitoring system becomes inoperable, the Authority will comply with the Limiting Conditions for Operation in Specification 3.7.A.9. This specification allows continued plant operation for 30 days provided that a grab sample is obtained and analyzed once each 24 hours.

If you have any questions, please contact Mr. J. A. Gray, Jr.

Very truly yours,


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