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New York Power Authority

April 1, 1988
JPN-88-011 , IPN-88-008

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing and Services Branch

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Alternative Method for Leakage Rate Testing

Reference: NRC Notice of Proposed Rule, 53 FR 5985, dated February 29, 1988.

Dear Sir:

The New York Power Authority has reviewed and evaluated the proposed amendment to 10 CFR 50, Appendix J concerning an alternative method for leakage rate testing of primary containment structures (Reference 1). The Authority endorses the Mass Point method and its inclusion into the acceptance criteria for the Type "A" Primary Containment Integrated Leakage Rate Test (PCILRT). This method accurately calculates the containment leakage rate with less statistical uncertainty than does the Total Time method with the generally used uncertainty analysis.

The Technical Specifications for the Authority's FitzPatrick plant require a Mass Point analysis, while Appendix J requires the Total Time method. Therefore, the Authority performed both Mass Point and Total Time analyses for the 1987 FitzPatrick PCILRT. This allows a comparison of the two techniques using identical containment conditions.

Measured leakage rates using the two methods were consistant and differed by only 5%. However, the reported leak rates (based on the Bechtel BN-TOP-1 method for calculating the 95% upper confidence level) show the Total Time results to be 40% greater than the Mass Point result. This comparison demonstrates that both methods produce consistent containment leakage measurements and that the Total Time statistical analysis is inherently overconservative. This conservatism may necessitate a long duration (24 hour) test to allow the Total Time upper confidence level (UCL) to meet the leakage rate acceptance criteria.

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The rapid convergence of the Mass Point 95% UCL to the measured leakage rate results in a more accurate reported leakage rate. It also allows a shorter duration test without a significant change in the reported results. This is especially true when test data is collected more frequently than once/hour. The FitzPatrick Mass Point results met the leakage rate acceptance criteria (including UCL) in approximately 2 1/2 hours and fully stabilized within 8 hours using data collected every 20 minutes. The Commission should allow a minimum test duration of 8 hours when using a Mass Point analysis in accordance with the provisions of ANSI/ANS 56.8-1987.

Should you or your staff have any questions regarding this matter, please contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,

John C. Brons

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