



John C. Brons  
Senior Vice President  
Nuclear Generation

August 20, 1985  
JPN-85-64

Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Mr. Domenic B. Vassallo, Chief  
Operating Reactors Branch No. 2  
Division of Licensing

Subject: James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
Mark I Containment Long Term Program  
Wetwell to Drywell Vacuum Breaker Response

Reference: 1. NRC Generic Letter 83-08, "Modification of Vacuum  
Breakers on Mark I Containments,"  
dated February 2, 1983.  
2. NRC letter, D. B. Vassallo to H. C. Pfefferlen (GE),  
dated December 24, 1984.

Dear Sir:

Enclosed is a copy of the Mark I Wetwell to Drywell Differential Pressure Load and Vacuum Breaker Response Report for the James A. FitzPatrick Nuclear Power Plant (JAFNPP). This report predicts no vacuum breaker actuation during the chugging phase of a postulated loss of coolant accident (LOCA). This transmittal completes the information required in Reference 1.

The Mark I containment long term program included the construction of a full scale test facility (FSTF) modeling a 1/16 sector of a Mark I torus and ring header, with eight downcomers. A series of tests simulating a LOCA demonstrated a chugging phenomenon occurring at the end of the downcomers.

A vent acoustic model was developed to predict the differential pressure across wetwell to drywell vacuum breakers during the chugging phenomenon. Concurrently, a valve dynamic model was developed to predict actuation velocities.

Application of the above methodology to the JAFNPP results in a negative (opening) differential pressure peak of 0.28 psid, applied across installed 30-inch Atwood Morrill vacuum breakers, with no predicted valve actuation.

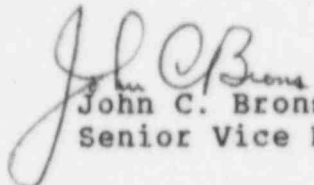
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The methodology used has been reviewed and accepted by the Nuclear Regulatory Commission in Reference 2.

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

Very truly yours,

  
John C. Brons  
Senior Vice President

cc: Office of the Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 136  
Lycoming, New York 13093

ATTACHMENT 1

JPN-85-64

dated

New York Power Authority  
James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333

#### 4. REFERENCES

1. Safety Evaluation by the Office of Nuclear Reactor Regulation on the Acceptability of the Analytical Model for Predicting Valve Dynamics, issued by F. Eltawila, NRC, December 24, 1984.
2. "Mark I Containment Program; Mark I Wetwell to Drywell Vacuum Breaker Functional Requirements," General Electric Company Report No. NEDE 24802, April 1980.
3. "Mark I Wetwell to Drywell Vacuum Breaker Load Methodology, Revision 0," Continuum Dynamics, Inc. Report No. 84-3, February 1984.
4. "Mark I Experimental Determination of External Line Losses for Definition of External Vacuum Breaker Loads, Revision 2," Continuum Dynamics, Inc. Report No. 81-2, September 1984.
5. "Responses to NRC Request for Additional Information on Mark I Containment Program Wetwell to Drywell Vacuum Breaker Load Methodology, Revision 0," Continuum Dynamics, Inc. Technical Note No. 84-11, October 1984.
6. "Mark I Vacuum Breaker Improved Valve Dynamic Model, Revision 0," Continuum Dynamics, Inc. Technical Note No. 82-31, August 1982.