



J. Phillip Bayne
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Nuclear Generation

February 24, 1984
JPN-84-14

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
Containment Vent and Purge Valve Operability

- References:
1. NRC letter, D. B. Vassallo to J. P. Bayne, dated January 13, 1984, "Containment Vent Valve Operability."
 2. PASNY letter, J. P. Bayne to T. A. Ippolito (NRC), dated May 12, 1981 (JPN-81-34), "Containment Purging and Venting During Normal Operation."
 3. PASNY letter, J. P. Bayne to T. A. Ippolito (NRC), dated June 13, 1980 (JPN-80-29), "Containment Vent and Purge System."
 4. PASNY letter, P. J. Early to T. A. Ippolito (NRC), dated May 6, 1980 (JPN-80-26), "Containment Purge and Vent System Isolation Valve Operability."

Dear Sir:

Reference 1 identified NRC concerns regarding the ability of containment vent and purge valves to close under conditions of non-uniform flow. The NRC considers operability questionable if the valve is downstream of, and in close proximity to, a pipe fitting such as an elbow or tee. In response to these concerns, the Authority has performed a preliminary reassessment of the FitzPatrick plant vent and purge valves. This is in addition to previous operability reassessments which were performed by the Authority and described in References 2, 3 and 4.

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Plant drawings show that valves 27-AOV-117 and 27-AOV-118 are located downstream of the nearest pipe fitting by distances of 11.5 and 13 pipe diameters respectively. These valves are located in a region of fully developed, uniform flow and meet the criteria of Reference 1 for operability. Therefore, the Authority will continue to use these valves in accordance with our normal operating procedures. Currently, these valves are only opened to maintain the drywell to torus differential pressure, as required by the FitzPatrick Technical Specifications, and to inert and deinert the containment.

The Authority could not complete a comprehensive test program to reaffirm the operability of valves 27-AOV-111 through 27-AOV-116 prior to responding to Reference 1. However, a program is currently being planned and the results will be provided to the NRC as soon as the program can be completed. The Authority anticipates that program development, valve testing and data analysis will require several months to complete. Since valves of the type installed in the FitzPatrick plant are made to order, valves for testing are not available from the manufacturer. If suitable valves cannot be located, several additional months will be required for valve fabrication.

In the interim, the Authority considers the use of these valves, which is strictly limited, necessary to preserve the ability to safely operate the plant. Valves 27-AOV-111 through 27-AOV-116 are normally closed in order to maintain containment in the inerted condition. Valves must be opened to perform the monthly surveillance test of the drywell to torus vacuum breaker valves which is required by the Technical Specifications. However, as an interim measure, containment isolation will be maintained during this test by other non-safety related valves which are located downstream.

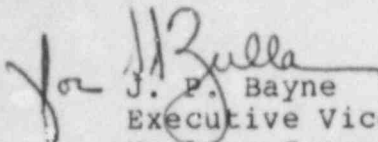
These valves must also be opened in order to inert the containment following a visual inspection of the reactor coolant system pressure boundary, or to deinert prior to such an inspection. This visual inspection of the reactor coolant system is conducted during startup and shutdown, while the plant is hot. This inspection provides additional assurance of reactor coolant pressure boundary integrity, which is of prime importance in light of intergranular stress corrosion concerns. If the vent and purge valves cannot be opened unless the plant is in cold shutdown, then containment must be inerted prior to heatup (and cannot be deinerted before cooldown) and this inspection cannot be performed.

Although testing remains to be completed, the Authority considers the probability of the failure of these valves to close to be extremely low for the following reasons. The valves are only opened for short periods of time to allow for inerting and deinerting. All of the valves are blocked so that they cannot be opened more than 50 degrees, which is

little more than half way. As shown in Attachment 1, at least one valve in each line tends to close due to the effects of flow. These valves close in under 5 seconds, as required by Technical Specifications. Finally, the probability of an accident occurring while the valves are open is very low.

In summary, the Authority considers it beneficial to continue to operate the vent and purge valves for the purposes of inspecting the reactor coolant system pressure boundary. Authority personnel are available to discuss our plans or the information we have submitted at any time. If you have any questions, please contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,

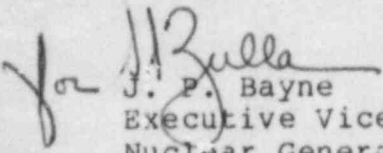

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Attachment 1

VENT AND FURGE VALVE DATA

<u>Valve No.</u>	<u>Size</u>	<u>Valve Location</u>	<u>Orientation (in degrees)</u>	<u>Flow Tends To</u>
27-AOV-111	24"	Directly on outlet of elbow	90	(See Note 3)
27-AOV-112	24"	Directly on branch of reducing tee	90	Close Valve
27-AOV-113	24"	Directly on run of tee	90	Close Valve
27-AOV-114	24"	2D from branch of tee	0	(See Note 3)
27-AOV-115	20"	Approx. 2.5D from elbow	60	Close Valve
27-AOV-116	20"	Approx. 1.5D from elbow	60	Open Valve
27-AOV-117	20"	Approx. 11.5D from elbow	N/A	Valve is in a region of fully developed flow.
27-AOV-118	20"	Approx. 13D from elbow	N/A	Valve is in a region of fully developed flow.

Notes:

1. "D" is defined as one pipe diameter.
Distance from fitting is taken from drawing.
2. The orientation is zero degrees when the valve shaft and
pipe fitting are in the same plane.
3. The tendency of the flow to either open or close the
valve cannot be determined without more detailed analysis.