

October 9, 1984

Docket No. 50-333

Mr. J. P. Bayne
Executive Vice President,
Nuclear Generation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

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Dear Mr. Bayne:

SUBJECT: CONTAINMENT PURGE/VENT VALVE OPERABILITY

Re: James A. FitzPatrick Nuclear Power Plant

Our letter dated January 13, 1984 transmitted a Safety Evaluation (SE) regarding demonstration of containment purge and vent valve operability under DBA/LOCA conditions. The SE concluded that you had not satisfactorily demonstrated operability of these valves for the FitzPatrick facility. Your letter dated February 24, 1984 responded to the SE but failed to adequately address the issues raised therein. Subsequent conference calls with members of your staff regarding our assessment of your February 24, 1984 response culminated in your letter of June 14, 1984 which supplemented your prior responses.

To complete our review, we have identified the need for the additional information delineated in the enclosure. Pursuant to 10 CFR 50.54(f), you are requested to provide this information, signed under oath and affirmation, within 30 days of receipt of this letter.

Questions concerning this information request should be directed to the NRC Project Manager.

Sincerely,

Original signed by FJMiraglia for/

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
Request for Additional
Information

cc w/enclosure:
See next page

DL:ORB#2
SNorris:ajs
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Mr. J. P. Bayne
Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant

cc:

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REQUEST FOR ADDITIONAL INFORMATION1. Required Closing Torque

Your submittals do not address the effect of an upstream elbow on required closing torque for the 20-inch and 24-inch valves, with the exception of valves 27-AOV-117 and 27-AOV-118. For these two valves, located 11.5 and 13 diameters downstream of an elbow, we agree that the closing torque would not be affected by the elbow's presence. As discussed in our SE, where test data is not available to quantify the effect of an upstream elbow on closing torque, we will accept torque multiplication factors that provide conservative margins. For valves whose shafts lie in the plane of the upstream elbow and for shafts lying out-of-plane, these factors are, respectively, 1.5 and 3.0. The factors are to be applied to the closing torque for an identical valve located in a straight run of pipe with no nearby upstream elbows or other fittings. This is the closing torque value that is normally furnished by the vendor. In lieu of applying these factors, actual closing torque data from tests on the specific valve in the specific installed configuration should be used. As discussed in our recent conference calls, we suggest that you reexamine your closing torque computations for possible conservatism that might result in overestimated torque values. In particular, the containment pressure-time history for DBA/LOCA conditions and the effect of internal aerodynamics on disc closure ought to be considered. Note that opening angles other than the 50° interim position may be considered for demonstrating operability.

For valves 27-AOV-111 through 27-AOV-116, each of which is immediately downstream of an elbow, please provide us with values of the closing torque required from the interim position (50°), or some other opening angle, taking into account the effect of upstream elbows. If you decide to test the valves to determine required closing torques, in the absence of available data and in lieu of applying the above multiplication factors, then provide us with a detailed test plan including schedules.

2. Structural Integrity of Valves and Interfacing Hardware

As part of the demonstration of valve operability, you must demonstrate that each valve maintains its structural integrity (i.e., is not overstressed) under the required closing torque, including the effects of upstream elbows, and that the interfacing hardware between the actuator and the valve maintains its structural integrity as well. Using the information that you provided in your submittals, our own calculations have indicated that the 20-inch valves (27-AOV-115 through 27-AOV-118) would not be overstressed under a closing torque (from the interim 50° position) that includes the 3.0 multiplication factor discussed above. Since the drawings provided in your June 14, 1984 submittal failed to indicate valve shaft orientation with respect to the plane of the upstream elbow, the most conservative case, corresponding to an out-of-plane shaft, was assumed for each valve.

For the 20-inch valves (27-AOV-115 through 27-AOV-118), please provide us with information which demonstrates whether or not the interfacing hardware connecting each of these valves to its actuator would be overstressed under application of the required closing torque. In addition, for the 24-inch valves (27-AOV-111 through 27-AOV-114) provide information which demonstrates whether or not each valve, as well as its interfacing hardware, would be overstressed under application of the required closing torque.

3. Valve Actuator Capability

For the 20-inch and 24-inch valves (27-AOV-111 through 27-AOV-118), please provide us with information which demonstrates whether or not the existing actuator for each valve is capable of furnishing the required closing torque.

4. Seismic Qualification Documentation

For the 20-inch and 24-inch valves (27-AOV-111 through 27-AOV-118), please provide references to seismic qualification documentation (reports, design specifications, purchase specifications, etc.). If no documentation exists, then you should so state.