TERA

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 18, 1980

Docket No. 50-333

Mr. George T. Berry
President and Chief Operating
Officer
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Dear Mr. Berry:

By letter dated May 6, 1980, you provided the Fisher Controls Company analysis results regarding Containment Vent and Purge System isolation valve operability. This information was submitted in accordance with NRC letter of October 22, 1979.

We have reviewed your May submittal as well as information previously docketed. The result is a need for additional information (Enclosures 1 and 2) so that our evaluation may proceed. Therefore, the Power Authority of the State of New York is requested either to forward this information or to schedule a meeting in Bethesda to discuss the areas of NRC concern.

Your time and efforts are appreciated. If we can be of assistance, please contact the FitzPatrick project manager.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosure:
Request for Additional
Information

cc w/enclosure:
See next page

8008130 696

P

cc:
Mr. Charles M. Pratt
Assistant General Counsel
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. J. Phillip Bayne
Senior Vice President -
Nuclear Generation
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. Raymond J. Pasternak
Resident Manager
James A. FitzPatrick Nuclear
Power Plant
P. O. Box 41
Lycoming, New York 13093

Director, Technical Development
Programs
State of New York Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223

George M. Wilverding
Manager-Nuclear Licensing
10 Columbus Circle
New York, New York 10019

State University College at Oswego
Penfield Library - Documents
Oswego, New York 13126

Enclosure 1

REQUE FOR ADDITIONAL INFORMATION

JAMES A. FITZPATRICK NUCLEAR POWER STATION

CONTAINMENT PURGING DURING NORMAL PLANT OPERATIONS

ELECTRICAL OVERRIDE CRITERIA

1. The NRC position that the override of one type of safety actuation signal must not cause the blocking of any other type of safety actuation signal to isolation valves[a] is not met. Your response to question 5[b] states "in the current design, bypasses of multiple safety actuation signals can be initiated by a single override action." Describe how you will modify these circuits to eliminate this design deficiency. Provide your schedule for completion of this modification.

2. The NRC position that sufficient physical features need to be provided to facilitate adequate administrative controls[a] is satisfied where you have provided keylock bypass switches. However for the reset of other ESF actuation signals, your responses [b,c] do not indicate that the position is satisfied. Describe the physical features that prevent unintentional reset of the ESF actuation signals, or describe how you will modify the reset function to eliminate this design deficiency. Provide your schedule for completion of each such modification.

References

a. NRC/DL letter (A. Schwencer) to all BWR and PWR licensees, "Containment Purging During Normal Plant Operation," November 28, 1978

b. PASNY letter, Paul J. Early, to Director of Nuclear Reactor Regulation, "Response to NRC Reqeust for Additional Information for the Containment Purge and Vent System," March 19, 1980, JPN-80-16.

c. PANSY letter, Paul J. Early, the Director of Nuclear Reactor Regulation, "Justification for Continued Containment Purging During Normal Plant Operation," August 15, 1979, JPN-79-50.

Enclosure 2

REQUEST FOR ADDITIONAL INFORMATION

JAMES A. FITZPATRICK NUCLEAR POWER STATION

CONTAINMENT PURGING DURING NORMAL PLANT OPERATION

MECHANICAL OPERABILITY DEMONSTRATION

1. Provide the following information for the Purge/Vent System butterfly valves that are under review.

Size	Inside/Outside Containment	Manufacturer	Part Number	Serial Number

Operator Unit Type	Manufacturer	Part Number	Serial Number

(eg, Air Cylinder, etc.)

Solenoid Valve Type	Manufacturer	Part Number	Serial Number

(eg, Three Way, etc.)

2. Provide schematics of the valve assembly air circuits showing solenoid valve(s), regulators, pressure switches, etc.

3. Has each of the butterfly valve assemblies been reviewed to assure that the basis for qualification has been established for each valve assembly, based on the following:

   a. Valve designs may differ.
   b. Valve assemblies may differ, i.e., different operator/valve combinations used.

4. Were the dynamic torque coefficients used for the determination of torques developed, based on data resulting from actual flow tests conducted on the particular disc shape/design/size? What was the basis used to predict torques developed in valve sizes different (especially larger valves) than the sizes known to have undergone flow tests?

5. Were installation effects accounted for in the determination of dynamic torques developed? Dynamic torques are known to be affected for example, by flow direction through valves with off-set discs, by downstream piping backpressure, by shaft orientation relative to elbows, etc. What was the basis (test data or other) used to predict dynamic torques for the particular valve installation?

6. What Code, standards, or other criteria, was the valve designed to? What are the stress allowables (tension, shear, torsion, etc.) used for critical elements such as disc, pins, shaft yoke, etc. in the valve assembly?

7. Where air operated valve assemblies use accumulators as the fail-safe feature, describe the accumulator air system configuration and its operation. Provide necessary information to show the adequacy of the accumulator to stroke the valve i.e., sizing and operation starting from lower limits of initial air pressure charge. Discuss active electrical components in the accumulator system, and the basis used to determine their qualification for the environmental conditions experienced. Is the accumulator system seismically designed?

8. For valve assemblies requiring a seal pressurization system (inflatable main seal) describe the air pressurization system configuration and operation including means used to determine that valve closure and seal pressurization have taken place. Discuss active electrical components in this system, and the basis used to determine their qualification for the environmental condition experienced. Is this system seismically designed?

   For this type valve, has it been determined that the "valve travel stops" (closed position) are capable of withstanding the loads imposed at closure during the DBA-LOCA conditions?

9. Describe the tests and/or analysis performed to establish the qualification of the valve to perform its intended function under the environmental conditions exposed to during the DBA following its long-term exposure to the normal plant environment.

   What basis is used to establish the qualification of the valve, operators, solenoids, valves? How was the valve assembly (valve/operators) seismically qualified (test, analysis, etc.)?

   Where testing was accomplished, describe the type tests performed, conditions used, etc. Tests (where applicable) such as flow tests, aging simulation (thermal, radiation, wear, vibration endurance, seismic) LOCA environment (radiation, steam, chemicals) should be pointed out.

   Where analysis was used, provide the rationale used to reach the decision that analysis could be used in lieu of testing. Discuss conditions, assumptions, other test data, handbook data, and classical problems as they may apply.

10. Have the preventive maintenance instructions (part replacement, lubrication, periodic cycling, etc.) established by the manufacturer been reviewed, and are they being followed? Consideration should especially be given to elastomeric components in valve body, operators, solenoids, etc. where this hardware is installed inside containment.