Florida Power
CORPORATION

October 22, 1982
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File: 3-0-26

Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Generic Item B-24, Operability of the Purge Valves

Dear Mr. Stolz:

Florida Power Corporation has received and reviewed your letter dated September 20, 1982, on the above subject. Responses to Enclosure 1, Questions 1 and 2 are stated below. Responses to Enclosure 1, Questions 3, 4, 5 and Enclosure 2, Questions 1-9 will be addressed in our November 24, 1982 submittal letter.

Enclosure 1

Question 1
The analysis for these valves appears to take credit for the pressure rise versus time into the accident, and the valve closure time is critical to the qualifications of these valves. T -efore, provide the closure time, the lag time, and the delay to signal time used to ,ualify the valve. In addition, verify by test that these times are within the actu.l valve closure and lag times. Signal delay time should be verified by calibration of the alarm. Data taken during testing or maintenance on these valves within the last six months is acceptable provided no work has been performed on this equipment since. Qualification times and actual times should be submitted.

Aperture Card Dist
A001 1/5 Drawings TO Reg File-1set BC-4sets

Response 1
It has been calculated that it will take appproximately 0.5 seconds for the Engineering Safeguards Actuation Signal to reach the valve actuator following generation. In addition, it will take approximately 0.5 seconds for the Reactor Building pressure to reach 4 psig. Therefore, it can be seen that approximately 1 second elapses from the start of the event to the time the valve actuator will begin valve closure. Valve closure time used in the analysis, from full open, is 6 seconds (i.e., 1 second delay and lag, plus 5 seconds for closure). Note that this is the worse case condition for the inboard valves (Limitorque Operators). The outboard valves close in 3 seconds (i.e., 1 second delay and lag, plus 2 seconds for closure) from full open (Bettis Operators). As the closure angle is decreased, closure time is decreased proportionally since the valve operator gearing is not changed.

Question 2
The actual piping configurations in which these valves were installed were not identified. Since upstream piping configuration can have a significant effect on the dynamic torques, submit sketches for each of the purge valve installations showing the following detail:

Part A: Distance from upstream bends or elbows up to 15 pipe diameter upstream.

Response A: Enclosed are Drawings BS-311-725, BS-311-726, BS-311-715, BS-311-730 and BS-311-741 which show ductwork layout for the inboard and outboard Reactor Building Purge Valves.

Part B: Shaft orientation with respect to the elbows.

Response B: Shaft orientation on inboard valves are horizontal, and on outboard valves they are vertical.

Part C: Disc closure direction with respect to the elbows.

Response C: The inboard valves close top of disc out of Reactor Building, bottom disc into Reactor Building. Outboard valves closure direction will be determined and included in our November 24, 1982 submittal.

Part D: Flow direction during a LOCA (out of containment).

Response D: Flow direction during LOCA is out of containment.

Part E: Hub or flat side of disc downstream.

Response E: For the inboard valves, the hub side of the disc faces the exiting flow during a LOCA, for the outboard valves the flat side of the disc faces the exiting flow during LOCA.

Part F: Distance between valves.

Response F: Centerline to centerline distance between valves is 10' 2-3/8".

Very truly yours,

Patsy Y. Baynard

Dr. Patsy Y. Baynard
Assistant to Vice President
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ALL/myf

cc: Mr. J.P. O'Reilly
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