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 50-251 Turkey Point Plant, Unit 4, Florida Power and Light Co 05000251
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 UHRIG, R.E. Florida Power & Light Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
 VARGA, S.A. Operating Reactors Branch 1

SUBJECT: Forwards partial response to 820316 request for addl info re purge & vent valve operability.

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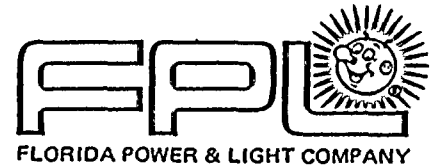
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July 14, 1982
L-82-291

Office of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactor Branch #1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Varga:

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 & 50-251
Containment Purge And Vent
Valve Operability

Please find attached a partial response to your letter of March 16, 1982 which requested additional information be submitted concerning Purge and Vent Valve Operability for Turkey Point Units 3 & 4. The attachment contains our responses to questions 2, 3, and 4. A response to question 1 requires an analysis which is currently being performed by the valve manufacturer. We intend to submit a response to question 1 by August 15, 1982.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/PKG/cab

Attachment

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire

A001

8207200116 820714
PDR AD0CK 05000250
P. PDR

ATTACHMENT

Re: Turkey Point Units 3 & 4.
Docket Nos. 50-250 & 50-251
CONTAINMENT PURGE AND VENT
VALVE OPERABILITY

Response to NRC Questions on Purge and Vent Valve Operability for Turkey Point 3 and 4.

QUESTION 2

Stress allowables used in the stress analysis were not conservative in all cases. Example: ASME Section III allowables were used for material not included in ASME allowable materials. S_y was substituted for S_m for this material (A-276) as an S_m was not available. The allowable stresses used should be reevaluated, revised and justified in all cases. Three dimensional stress conditions and their interaction must be considered.

RESPONSE

The allowable stress values used in the stress analysis are conservative with respect to the Turkey Point FSAR. As listed in Table 5A-1 for the loading combinations considered, the allowable stress for piping system components is S_y . In the stress analysis the stress allowable used in all cases is less than S_y and is therefore conservative.

Three dimensional loads have been considered combined with pressure and flow induced loads (see page 30 of Attachment #2 to the report).

QUESTION 3

All four installations of these valves at Turkey Point 3 and 4 show elbows located shortly upstream. Tests performed to develop the torque loads on these valves were done for strictly uniform approach flow. Tests performed for other butterfly valves have indicated significantly higher torques may occur as a result of non-uniform approach flow. Non-uniform approach flow may occur from elbows, bends, or tees located upstream of the valve or from a partially open valve located upstream of the valve. The licensee should submit the following information: orientation of the valve shafts with respect to the elbow immediately upstream, closure direction of the valve disc with respect to the upstream elbow, and separation distances between valves. Additional testing may be required to confirm straight-line, uniform approach flow is conservative.

RESPONSE

As noted in Section III.A.8 of the reports for both the 48" and 54" valves, the valve shaft orientation is out of plane with respect to any differential velocity resulting from upstream piping, and thus, does not affect the torque calculation for the inside containment valve. The outside containment valve is connected to a straight spool piece (approximately 10') which would tend to stabilize flow conditions, and thus, does not affect torque calculations. (See drawings 5610-M-89, 90 and 91 for details, these drawings were previously transmitted to you in letter L-82-22 dated January 20, 1982.)

QUESTION 4

Pratt model tests for dynamic torque experienced pressure losses in the piping upstream of the valve. As a result, the test valves did not experience the full differential pressure from containment pressure to atmospheric pressure. Verify the pipe losses from the test are conservative with respect to the actual installation taking no credit for non-safety-related (Seismic Category I) piping.

RESPONSE

The Pratt model tests were conducted in accordance with the ASME Report on Fluid Meters, Fifth Edition, in order to determine the pressure drop across the valve. The upstream pressure tap was located two pipe diameters upstream of the valve, thus the measurement of piping losses would be minimal. Also, a conservative factor was applied to the pressure drop to assure a conservative torque coefficient. These torque coefficients were in turn applied in the report thereby conservatively evaluating actual piping losses.