PSE&G

Public Service Electric and Gas Company 80 Park Place Newark, N.J. 07101 Phone 201/430-7000

December 10, 1980

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Frank J. Miraglia, Chief
Licensing Branch 3
Division of Licensing

Gentlemen:

REQUEST FOR EXEMPTION
10 CFR 50, APPENDIX A
NO. 2 UNIT
SALEM NUCLEAR GENERATING STATION
DOCKET NO. 50-311

PSE&G hereby requests an exemption to the requirements of 10CFR50, Appendix A, GDC 57, for the Steam Generator Feedwater System. The following information supports this request.

The Westinghouse philosophy at the time of the Salem design was to consider the steam generator and associated feedwater piping inside the containment as an extension of the containment boundary. The feedwater lines outside containment were not required to meet the containment isolation criteria, in accordance with the then Westinghouse guidelines.

The Steam Generator Feedwater System is considered to be a Class C piping system in accordance with FSAR Section 5.4 and requires one check valve or auto trip valve outside the containment for isolation. This criterion was established prior to the publication of GDC-57. The stop check valves (BF22) automatically and positively isolate the containment boundary. The feedwater piping non-compliance was not included in our response to FSAR question 5.19, since our interpretation was that a stop check valve is not a simple check valve. Other piping systems associated with the containment boundary meet the GDC-57 criteria by being equipped with containment isolation valves that can be actuated remote manually or automatically, as indicated in FSAR Table 5.4-1.

B006
S 1/0

Further information related to the subject feedwater piping is provided below which we believe provides the necessary confidence to grant this exemption.

(1) The stop check valves that now serve as containment isolation valves are tested for operational reliability in accordance with the ASME Section XI requirements. These valves are checked and tested for operational reliability at every cold shutdown and refueling.

(2) The check function of the stop check valve provides the containment isolation. The stop function of the valves could be exercised by station personnel if warranted.

(3) The feedwater piping upstream of the check valve is not designed for a seismic event. However for a feedwater piping break occuring between the condenser - condensate pumps - feedwater pumps - feedwater isolation valves (BF13), the break can additionally be isolated by these feedwater isolation valves. On a safety injection signal such isolation is automatic and is achieved through closed feedwater isolation valves as well as feedwater regulator valves.

(4) A leakage path created by failure of any feedwater isolation stop check valve to close would be from any primary-to-secondary leakage inside a steam generator. We have analyzed the radiological release assuming a primary-to- secondary leak rate of 500 GPD as permitted by Technical Specifications and activity concentrations equivalent to 1% fuel defects. The radiological consequences of this scenario were found to be within the guideline values of 10 CFR 100.

SAFETY EVALUATION

We have reviewed the most likely combination of conditions which could induce a fracture in the feedwater inlet piping outside of containment. The pipe section of concern is between the stop check valve and the containment penetration pipe. These conditions are, that during hot standby, cold auxiliary feedwater is injected into the feedwater piping at steam generator pressure. This produces the greatest potential stresses, which, in combination with a SSE seismic event, could potentially initiate brittle fracture. At other conditions, the system is either at higher operating temperature or depressurized. Residual stresses in the system, when cold and depressurized, have been reduced below design stress levels by post-fabrication heat treatments applied to weldments. Inspections of components and welds assure that any flaws would be within the acceptable code limits.

Based on our review, we believe that the plant design is acceptable for continued full power operation and look forward to a prompt and favorable response to this request for exemption.

Should you have any questions in this regard, please do not hesitate to contact us.

Very truly yours,

R L Mittl/RPD

R. L. Mittl
General Manager
Licensing & Environment

MRD/RWS/EAL:dlh

CC: Mr. Leif J. Norrholm
Senior Resident Inspector

KB 5 01/03-F