PSE&G

Public Service Electric and Gas Company 80 Park Plaza, T16D Newark, N.J. 07101 201/430-8217

Robert L. Mittl
General Manager - Licensing and Environment

May 19, 1981

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:

LOSS OF PUMP SUCTION
AUXILIARY FEEDWATER SYSTEM
NO. 2 UNIT
SALEM NUCLEAR GENERATING STATION
DOCKET NO. 50-311

PSE&G has evaluated the design of the Auxiliary Feedwater (AFW) System with regard to tornado-induced loss of suction to the AFW pumps.

The Auxiliary Feedwater Storage Tank (AFST) and AFW pump suction piping have been designed to withstand the design basis tornado wind loadings. (Reference FSAR, Section 5.6.3). This evaluation therefore considers only tornado missiles. For this evaluation it was conservatively assumed that loss of pump suction pressure would result in instantaneous damage to the AFW pumps.

The design basis tornado generated missile is a wooden utility pole and is described in FSAR Section 5.2.4.1. The probability of a missile impact on the AFST outlet piping has been determined to be less than 10^{-7} per year and thus no further evaluation has been performed in this regard.

With regard to the AFST, it has been determined that the design basis utility pole striking the tank at its base would conservatively result in a 490 square inch opening. Such an opening would result in the AFST draining in approximately 5 minutes.

Continuous AFST level indication is provided in the Control Room, as well as low level (100,000 gallon) and low low-level (30,000 gallon) audible and visual alarms. Additional audible and visual alarms are being provided to detect deviation from the technical specification minimum volume (200,000 gallons). The above indications and alarms provide prompt indication of tornado-induced damage to the AFST.

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We have evaluated the potential effects of such a loss of water due to a damaged AFST on various modes of plant operation. In the event of a tornado forecast, the shift crew would operate the unit with an increased sensitivity toward the potential effects of a tornado, and thus, we have concluded that sufficient time is available to recognize and assess the damage, trip the AFW pumps from the Control Room and change over to an alternate suction path without damage to the AFW pumps.

In order to further enhance the overall design of the AFW system, however, we will incorporate a control grade automatic low suction pressure trip for each AFW pump. In order to preclude inadvertent actuation, this modification will be designed such that it would be made operable only during periods when a "tornado warning" has been put in effect by the National Weather Service.

We propose to implement this modification during the first refueling outage. Based upon the above evaluation, we believe that continued operation of the unit until that time is justified.

Should you have any questions, do not hesitate to contact us.

Very truly yours,

R. L. Mittl
/RAL

CC: Mr. Leif Norrholm
Senior Resident Inspector