PSE&G

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

September 17, 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:

ADDITIONAL INFORMATION
CONTAINMENT SUMP PERFORMANCE
NO. 2 UNIT
SALEM NUCLEAR GENERATING STATION
DOCKET NO. 50-311

PSE&G hereby submits, in the enclosure to this letter, additional information regarding containment sump post - LOCA performance to supplement the information transmitted to you by letter dated August 25, 1980.

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

Very truly yours,

R. L. Mittl
General Manager -
Licensing and Environment
Engineering and Construction

CC: Mr. Leif Norrholm
Salem Resident Inspector

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ADDITIONAL INFORMATION
CONTAINMENT SUMP POST-LOCA PERFORMANCE
NO. 2 UNIT
SALEM NUCLEAR GENERATING STATION

The following information supplements PSE&G's August 25, 1980 submittal in response to NRC request for additional information dated July 21, 1980. Item numbers refer to the August 25, 1980 submittal.

3. We have reviewed our Emergency Instructions for ECCS operation during the recirculation cooling mode and have determined that adequate guidance is provided to the operators for monitoring ECCS systems performance. During this mode, one operator will be delegated the principal responsibility of monitoring the performance of the ECCS systems. Assessment of pump status and ECCS degradation will be made by cognizant technical personnel utilizing appropriate reference material (pump curves, etc.) to be made available in the Technical Support Center. This assessment and other technical information will be readily available to the operators in the Control Room. Additionally, a post-accident log will be initiated as part of the Emergency Duty Officer's Check Sheet for the purpose of monitoring and trending low pressure injection system performance.

4a. A specific, detailed insulation survey, together with insulation drawings, will be submitted prior to startup following the first refueling.

4c. Paint chips accumulating on sump screens have previously been considered by use of coatings that can endure accident conditions without peeling (FSAR Question 5.18). Other sources of debris include Colemanite (used instead of sand in blowout plugs), thermal insulation, and debris from failed structures or components. Thermal insulation consists of mirror insulation (RCS and other related systems) as well as other types of engineered insulation. In all cases, the insulation is designed to remain intact and in place under accident conditions, except for insulation directly impinged upon by a high energy pipe failure or missile. Since insulation is likely to remain in large fragments and not float well, it is unlikely that any significant quantity of insulation debris would be

transported to the sump. This conclusion is based on the great number of obstructions in the form of piping of varying sizes, pipe hangers, snubbers, pipe support members, structural steel, platforms, cables, motors and stairways, to the passage of large insulation debris to the sump. Similarly, other large fragments or debris, if substantially heavier than water, will not float and therefore, not be transported to the sump, or, if substantially lighter, will float on the water surface above the sump screens.

4d. Mirror insulation consists of stainless steel sheet metal and foils engineered to be structurally stable except in event of direct impingement, etc. The only other material in this type insulation at Salem is Johns-Manville Cerablanket, a ceramic fibrous insulating material with a density of 6 lbs/ft^3. Less than 5 ft^3 of this material is used within the Salem No. 2 containment, and it is applied to irregularly shaped areas where reflective insulation alone would be ineffective, such as edges or tops of pumps, etc. The Cerablanket is enclosed in 0.006-in. metal foil, and then further enclosed in reflective insulation structure. Given the small amount of this material in use, its distribution over several locations, and its integration into the insulation design, it is unlikely that any significant amount would become debris at all. In any event, the great number of obstructions to passage to the sump (see 4c., above) would further reduce the quantity arriving at the sump.

5,6. The referenced drawings were inadvertently omitted from the August 25, 1980 submittal. The following drawings have subsequently been submitted:

204804 A 8752	201118 A 8707
204805 A 8752	201120 A 8707
204806 A 8752	201121 A 8707
204807 A 8752	201122 A 8707
204808 A 8752	201123 A 8707
204809 A 8752	201124 A 8707
201111 A 8707	208055 A 8811
201114 A 8707	208056 A 8811
201116 A 8707	208915 A 8823
201117 A 8707	

6. Colemanite is used in lieu of sand for blowout plugs. We have calculated that assuming one RPV nozzle breaks and drives all the nearby blowout plugs up into the air, and further assuming that 25% of this coarse, heavy material is transported to the sump screens, where it all spreads uniformly over the screens to block them, that the screens will be only 16% blocked. Clearly, the assumptions made are conservative, and even if realized in an accident, the 16% blockage does not hinder sump performance since the sump screen design assumes 50% blockage while retaining full design capability. Model testing is being conducted to verify the design.

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