

Public Service  
Electric and Gas  
Company

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Vice President - Nuclear Operations

JAN 04 1990  
NLR-N90005  
LCR 90-02

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Gentlemen:

EMERGENCY LICENSE AMENDMENT REQUEST  
TECHNICAL SPECIFICATION 3.5.2  
FACILITY OPERATING LICENSE DPR-75  
SALEM GENERATING STATION  
UNIT NO. 2  
DOCKET NO. 50-311

Public Service Electric and Gas Company (PSE&G) hereby submits an emergency request to amend Appendix A of Facility Operating Licensing DPR-75 in accordance with 10CFR50.90. This request modifies Technical Specification 3.5.2, (ECCS Subsystems - Tav<sub>g</sub> ≥ 350°F), by adding a footnote to Surveillance requirement 4.5.2.h.2.b stating that a one time waiver of the 550 gpm maximum flow requirement is in place from January 4, 1990 until initial entry into Mode 5 during the Unit 2 Fifth Refueling outage. The requested change is necessary to avoid a plant shutdown and the relatively severe plant transient associated with cooldown and depressurization to support entry into Mode 5 and performance of a new flow test. The need for this change would not have been foreseen as it is the result of a recently identified error in calculating the actual flow.

The error was discovered during a review of Salem Unit 2 fourth refueling outage surveillance test data. When the calculational error was corrected, the total pump flow rate was in excess of the value allowed by TS surveillance requirement 4.5.2.h.2.b. This has resulted in declaring both trains of ECCS inoperable and entering Specification 3.0.3.

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It has been determined that the proposed amendment does not involve a significant hazards consideration as defined in 10CFR50.92. A description of the amendment request and the basis for a no significant hazards consideration determination is provided in Attachment 1. Attachment 2 provides the marked up Unit 2 pages.

In accordance with the requirements of 10CFR50.91(b)(1), a copy of this request has been sent to the State of New Jersey as indicated below.

PSE&G respectfully requests your immediate attention and issuance of an emergency amendment. Should you have any questions, please do not hesitate to contact us.

Sincerely,



Affidavit  
Attachment

C Mr. J. C. Stone  
Licensing Project Manager

Ms. K. Halvey Gibson  
Senior Resident Inspector

Mr. W. T. Russell, Administrator  
Region I

Mr. Kent Tosch, Chief  
New Jersey Department of Environmental Protection  
Division of Environmental Quality  
Bureau of Nuclear Engineering  
CN 415  
Trenton, NJ 08625

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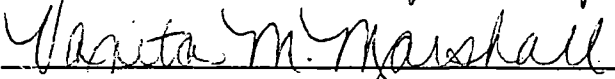
STATE OF NEW JERSEY            )  
  ) SS.  
COUNTY OF SALEM                )

S. LaBruna, being duly sworn according to law deposes and says:

I am Vice President - Nuclear Operations of Public Service Electric and Gas Company, and as such, I find the matters set forth in our letter dated January 4, 1990, concerning the Salem Generating Station, Unit No. 2, are true to the best of my knowledge, information and belief.

  
\_\_\_\_\_

Subscribed and Sworn to before me  
this 4th day of January, 1990

  
\_\_\_\_\_  
Notary Public of New Jersey

VANITA M. MARSHALL  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires May 6, 1993

My Commission expires on \_\_\_\_\_

EMERGENCY LICENSE AMENDMENT REQUEST  
FACILITY OPERATING LICENSE DPR-75  
SALEM GENERATING STATION - UNIT NO. 2  
DOCKET NO. 50-311

I. Description of Proposed Change

The proposed change would add a footnote to Surveillance Requirement 4.5.2.h.2.b stating that a one time waiver of the 550 gpm maximum flow requirement is in place from January 4, 1990 until initial entry into Mode 5 during the Unit 2 Fifth Refueling outage.

II. Reason for Proposed Change

During a recent review of surveillance test data obtained during the Unit 2 fourth refueling outage, an error was found in the ECCS flow calculations for the current fuel cycle. When the error was corrected, the total pump flow rate was in excess of the value allowed by TS surveillance requirement 4.5.2.h.2.b. The final flow values were 553.14 gpm for No. 21 CCP and 554.6 gpm for No. 22 CCP. This has resulted in declaring both trains of ECCS inoperable and entering specification 3.0.3. This emergency license amendment is therefore required to prevent shutdown of SGS Unit 2.

III. Justification for Proposed Change

Operation with existing ECCS conditions will not place the plant in an unsafe condition. PSE&G believes that there is ample technical justification for the requested relief. PSE&G has previously evaluated similar conditions at Unit 1 in LER 89-020-00 dated June 14, 1989. The conditions analyzed in the

Unit 1 LER were on the order of 15% in excess of the 550 gpm requirement. The existing conditions at Unit 2 are on the order of 1% in excess of the 550 gpm limit. As a result, the Unit 1 analysis bounds the existing Unit 2 conditions.

The basis for the ECCS upper limit is pump runout protection. At pump runout, cavitation could occur. Cavitation would result from the loss of sufficient suction pressure to the pump. The required Net Positive Suction Head (NPSH) for the maximum flow is 23 feet. For accident conditions, the minimum possible RWST tank level reached would be at 15.24 feet, which corresponds to 40 feet available NPSH. At this minimum RWST tank level, suction is re-aligned to the discharge of the RHR pumps during ECCS actuation. The minimum NPSH available to the Centrifugal Charging Pumps would occur just before re-alignment with the RWST at 15 feet. As can be seen from the above data, the available NPSH far exceeds the required amount (i.e., 70%).

The increased flow rate would place a higher load requirement on the pump motor. Since the motors of the Unit 1 pumps were determined to be sized to accommodate the increased flow rate, a similar conclusion can be made for the Unit 2 motors since the flow increase is smaller and the Unit 2 motors are identical in design to the Unit 1 motors.

The increased horse power required to produce the increased flow would place an additional load on the emergency D/Gs. Since the increased load for the Unit 1 conditions would not exceed the allowable 2000 hour continuous load rating, a similar conclusion can be made for the Unit 2 conditions since the flow increase is smaller.

The expected increased flow to the RCS during postulated ECCS injection and recirculation phases would not impact the cooling function of the system. We therefore conclude that, with the existing conditions, the affected Unit 2 systems and components would be able to perform their intended safety functions, and temporary operation under existing conditions would not adversely affect the health and safety of the public. Furthermore, we believe that an emergency license change provides a safer course of action than imposing an unnecessarily severe transient to shut down the plant.

#### IV. Significant Hazards Consideration Evaluation

The proposed change to the SGS Technical Specifications:

1. Does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Based on the technical justification provided in Section III, the affected Unit 2 systems and components would be able to perform their intended safety functions during operation under existing conditions. We therefore conclude that operating with existing ECCS conditions until the Unit 2 Fifth Refueling Outage would not adversely affect public health and safety and would not increase the probability or consequences of a previously analyzed accident.

2. Does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change impacts a plant operating parameter associated with the ECCS system; however, since the affected systems and components can perform their intended safety functions while operating with the modified pump parameter,

operation on a temporary basis with the modified parameter will not create the possibility of a new or different kind of accident.

3. Does not involve a significant reduction in a margin of safety.

Based on the technical justification provided in Section III above, the affected Unit 2 systems and components would be able to perform their intended safety functions during operation under existing conditions. We therefore conclude that no safety margin will be significantly reduced while operating under existing ECCS conditions.

#### V. Conclusion

As discussed in Item IV above, PSE&G has concluded that the proposed change to the Technical Specification does not involve a Significant Hazards Consideration since the change (i) does not involve a significant increase in the probability or consequences of a previously analyzed accident, (ii) does not create the possibility of a new or different kind of accident, and (iii) does not involve a significant reduction in a margin of safety.