July 31, 2001

Mr. Harold W. Keiser
Chief Nuclear Officer and President
PSEG Nuclear LLC - X04
P. O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: **DENIAL OF NOTICE OF ENFORCEMENT DISCRETION REQUEST FOR PSEG NUCLEAR REGARDING SALEM UNIT 2**

Dear Mr. Keiser:

On July 19, 2001, PSEG Nuclear verbally requested that the NRC exercise discretion not to enforce compliance with the actions required in Technical Specification (TS) 3.0.3. PSEG Nuclear provided a draft request letter supporting this request to Ray Lorson via email at 6:40 p.m. on July 19. This verbal request was subsequently discussed with the NRC in a telephone conference at 9:00 p.m. on July 19. At the conclusion of the conference, I stated that the NRC was not granting enforcement discretion at that time. This letter documents our telephone conversation when enforcement discretion was denied for your verbal request.

You requested that a Notice of Enforcement Discretion (NOED) be issued pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.C of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, because compliance with TS 3.0.3 regarding the repacking of valve 2SJ12 would involve an unnecessary plant transient (i.e., reactor shutdown).

On the basis of the staff's evaluation of your verbal request, we concluded that an NOED was not warranted. The staff determined that enforcement discretion was not the most appropriate means to resolve the issue given 1) the expectation that time was available for you to pursue a license amendment if you considered your current license requirements too restrictive for your situation, and 2) that your risk assessment was not thorough and convincing to the NRC staff. Therefore, your verbal request was denied.

Should you have any questions, please free to call me or Glenn Meyer (610-337-5211). We understand that during the period July 20 through July 25, PSEG Nuclear engineering reviewed and approved a method to repair the degraded valve without impacting the continued operability of your high head safety injection system. Subsequently, maintenance technicians completed the planned repair activity on July 26.

Sincerely,

/RA/

A. Randolph Blough, Director
Division of Reactor Projects

Enclosure: PSEG Nuclear letter sent via email on July 19, 2001

Docket No. 50-311
License No. DPR-75

cc w/encl:
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M. Bezilla, Vice President -Technical Support
D. Garchow, Vice President - Operations
G. Salamon, Manager - Licensing
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United States Nuclear Regulatory Commission
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Gentlemen:

REQUEST FOR ENFORCEMENT DISCRETION
TECHNICAL SPECIFICATION 3.5.2
SALEM GENERATING STATION UNIT NO. 2
FACILITY OPERATING LICENSES DPR-75
DOCKET NO. 50-311

Pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.C, of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, PSEG Nuclear LLC hereby requests enforcement discretion from the provisions of Technical Specification (TS) 3.0.3 for Salem Generating Station Unit No. 2.

As discussed in Attachment 1 to this letter, PSEG Nuclear concludes that granting this request would not be a potential detriment to the public health and safety and would involve neither a significant hazards consideration nor any adverse environmental consequences.

The requested enforcement discretion would permit completion of the maintenance, post-maintenance, and surveillance test activities required to demonstrate the OPERABILITY of the 2SJ12 Boron Injection Tank outlet isolation valve. The maintenance and testing activities cannot be completed within the one-hour allowed outage time of TS 3.0.3. In view of the current circumstances, PSEG Nuclear has concluded that that there would be no safety benefit from a plant shutdown in accordance with Technical Specification 3.0.3. Granting this enforcement discretion would allow for the completion of maintenance activities and would not jeopardize public health and safety.

The requested duration of this enforcement discretion is 12 hours, beginning at XXXX hours on July XX, 2001 when TS 3.03 was entered, and lasting until YYYY hours on July XX, 2001, when the six hours to HOT STANDBY would begin. Absent the exercise of enforcement discretion, Technical Specification 3.5.2 action a requires the station to be in HOT SHUTDOWN by 1408 hours on July 22, 2001.

PSEG Nuclear understands that, if granted, the requested enforcement discretion is for the conditions described in this request. For any other conditions that would affect operability of the Emergency Core Cooling System, the appropriate Technical Specification action statement would apply.

If you have any questions concerning this request, we will be pleased to discuss them with you.

Sincerely,

D. F. Garchow
Vice President – Operations

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Program Manager - Nuclear Review Board (N38)
Manager - Financial Control & Co-Owner Affairs (N07)
J. Keenan, Esq. (N21)
Records Management (N21)
Microfilm Copy
File No. 2.10

ATTACHMENT 1
REQUEST FOR ENFORCEMENT DISCRETION
SALEM GENERATING STATION UNIT NO. 2
FACILITY OPERATING LICENSE DPR-75

This request for enforcement discretion includes the following information pursuant to NRC Inspection Manual Part 9900: Operations - Notices of Enforcement Discretion.

1. THE TECHNICAL SPECIFICATION OR OTHER LICENSE CONDITIONS THAT WILL BE VIOLATED

Technical Specification (TS) 3.0.3 will be violated during the period of requested enforcement discretion.

TS 3.5.2 requires that two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of one centrifugal charging (high head) pump, one safety injection (SI) (intermediate head) pump, one residual heat removal (RHR) (low head) pump and associated flow paths.

TS 3.5.2 action a states:

> With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

TS 3.0.3 states:

> When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:
>
> 1. At least HOT STANDBY within the next 6 hours,
> 2. At least HOT SHUTDOWN within the following 6 hours, and
> 3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

Absent the exercise of enforcement discretion, TS 3.5.2 Action a will require Salem Unit 2 to be in HOT SHUTDOWN on by 1408 hours on July 22, 2001.

2. THE CIRCUMSTANCES SURROUNDING THE SITUATION, INCLUDING ROOT CAUSES, THE NEED FOR PROMPT ACTION AND IDENTIFICATION OF ANY RELEVANT HISTORICAL EVENTS:

2SJ12 is one of two redundant motor operated gate valves in the outlet from the Boron Injection Tank (BIT) to the Reactor Coolant System (RCS) cold legs. The valves are normally closed and open automatically in response to a safety injection (SI) signal.

On July 4, 2001, following leakage testing of the 2SJ12, operations personnel noted that leakage through the valve packing had increased to 1500 cc/hr. A corrective action notification was issued to document this increase. On July 7, the packing leak increased to 3100 cc/hr. PSEG Nuclear maintenance personnel verified the valve packing had relaxed and increase the valve packing gland torque to 32 ft-lbs, the as left value from the most recent MOV static (VOTES) test for 2SJ12. The leakage was reduced to approximately 1740 cc/hr, and operations personnel began to monitor and measure the 2SJ12 leakage twice per shift. The leakage rate remained in the 1500 to 1700 cc/hr range until July 18, when the leakage started to increase. The leakage gradually increased from 1740 cc/hr to approximately 2600 cc/hr as of 0300 hrs on July 19.

Leakage from ECCS components located outside containment (including leakage from 2SJ12) is controlled to ensure compliance with the requirements of 10CFR100 and 10CFR50, Appendix A, General Design Criterion 19.

The root cause of the excessive leakage through the gland leak-off line has been attributed to the lower packing set not being properly consolidated when the valve was repacked in October 2000.

The 2SJ12 valve has a double packed stuffing box with an intermediate gland leak-off line. The valve was repacked in October 2000 to 2500 lbs gland stress. Vendor (ARGO) supplied packing instructions recommended a range of 2500 to 4000 lbs gland stress. The packing vendor has since revised their guidance and recommends that packing be compressed to a minimum of at least 1.6 times system pressure or approximately 4000 lbs and recommends that the lower set be compressed to as high as 5000 lbs gland stress and then relaxed. Based on these recommendations, PSEG has concluded that the packing was not properly consolidated in October 2000.

To restore operability of the 2SJ12 valve PSEG Nuclear implemented the vendor's recommendation for packing adjustment.

PSEG Nuclear adjusted the packing gland torque of the 2SJ12 to the 54 ft-lbs (approximately 4000 Lbs gland stress) recommended by the valve vendor. This value is not expected to change the characteristics of the valve. The packing adjustment was performed with the valve in its normal close position. Once the packing was adjusted upwards, the valve was declared inoperable, and TS 3.5.2 action a was entered for one ECCS subsystem inoperable.

To reestablish operability of the 2SJ12 valve and to exit TS action statement 3.5.2 a, PSEG Nuclear performed the recommended packing gland adjustments. However PSEG Nuclear was unsuccessful in reducing the leakage to its desired value and the 2SJ12 valve must be repacked. 2SJ12 can be repacked on its back-seat, but placing the valve in its back-seat (open) necessitates closing the 2SJ4 and 2SJ5 valves. Additionally, these valves must be closed to perform the required post maintenance test and TS surveillance tests, which include demonstrating proper stroke time and motor operated valve static testing. Valves 2SJ4 and 2SJ5 must be closed to prevent injection into the Reactor Coolant System through the safety injection lines during these tests. If flow were to be put through these lines, TS surveillance 4.4.7.2.2 would apply requiring testing that can only be performed during shutdown conditions.

Closing valves 2SJ4 and 2SJ5 renders both ECCS charging pumps inoperable. With both ECCS charging pumps inoperable, TS 3.0.3 applies, requiring the plant to initiate actions to shutdown within one hour. Therefore, repacking and retesting valve 2SJ12 cannot be accomplished within the constrains of TS 3.0.3.

PSEG Nuclear has aggressively pursued identification and resolution of the leakage. To return valve 2SJ12 to operable status the required TS surveillance must be completed; however the surveillance requirements cannot be completed within the allowed one-hour time.

3. THE SAFETY BASIS FOR THE REQUEST, INCLUDING AN EVALUATION OF THE SAFETY SIGNIFICANCE AND POTENTIAL CONSEQUENCES OF THE PROPOSED COURSE OF ACTION. THIS EVALUATION SHOULD INCLUDE AT LEAST A QUALITATIVE RISK ASSESSMENT DERIVED FROM THE LICENSEE'S PRA:

The extension of the allowed outage time for TS 3.0.3 to complete required repair and testing will permit the ECCS to be restored to OPERABLE status without subjecting the plant to an unnecessary shutdown and startup cycle. During the period of requested enforcement discretion, the ECCS would remain capable of performing its safety function.

The ECCS consists of two independent redundant subsystems with each subsystem comprised of a centrifugal charging (high head) pump, a safety injection (intermediate head) pump and a Residual Heat Removal (RHR)(low head) pump and associated flow paths. The ECCS flow paths consist of piping, valves, heat exchangers and pumps such that water from the RWST can be injected into the RCS following an accident that would threaten core cooling or positive reactivity changes, such as a Loss of Core Cooling Accident (LOCA) or Main Steam Line Break (MSLB).

The ECCS subsystems are actuated upon receipt of a Safety Injection (SI) signal. During the injection phase of the accident, water from the RWST is provided to the ECCS pumps for injection to the RCS. The discharge from the Centrifugal Charging pumps combines prior to entering the Boron Injection Tank (BIT) and then divides again, ultimately into four supply lines to each RCS cold leg. This injection of water ensures sufficient core flow to meet the analysis assumptions.

In 1987 PSE&G deleted the Technical Specification requirement for the BIT. In the original design, the BIT isolation valves, SJ 4 and 5 (inlet), and SJ12 and 13 (outlet) were normally closed and received a Safety Injection signal to open. PSE&G opted to leave the BIT in place with the SJ4 and 5 valves open. The safety injection signal to open these valves was not removed.

The normal position of these valves is also their "safety function" position during injection and recirculation phases to provide a path from the centrifugal charging pumps to the RCS cold legs and remain open during the cold leg and hot leg recirculation phases. Because of this, they were removed from the IST program for open stroke time testing for IST purposes. The 2SJ4 and 2SJ5 valves are stroke time tested open to demonstrate Engineered Safety Feature Actuation System (ESFAS) equipment response time requirements of T/S 4.3.2.1.3, Table 3.3-5, Engineered Safety Features Response Times. They are required to stroke open in 10 seconds or less. The most recent performance of the Safety Injection Valves Inservice Testing Surveillance procedure S2.OP-ST.SJ-0003 (Q), performed June 11, 2001, indicated that valves 2SJ4 and 2SJ5 met the acceptance criteria. Those results are shown below:

	Stroke Time, seconds	
Valve	**Open**	**Closed**
2SJ4	8.00	8.72
2SJ5	8.96	9.53

The SJ12 and SJ13 have an active safety function to open upon receipt of a Safety Injection signal. They are in the IST program and are required to stroke full open in 10 seconds or less. They have also been verified operable through their 18 month TS surveillance test.

The proposed action to close the 2SJ4 and 2SJ5 valves does not affect the ability of the valve to function in the event a Safety Injection signal was received. These valves will still function to stroke open within 10 seconds. The work being performed on the 2SJ12 valve is non-intrusive. The extended LCO action statement window for MOV static (VOTES) testing of the 2SJ12 will not impact the ability of the charging system to inject to the RCS.

NUREG-1431, Rev. 2 states in TS 3.5.2 Action Condition A.1 is that if one or more trains are inoperable, and at least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available, the required action is to restore the train(s) to OPERABLE status within 72 hours. An ECCS train is inoperable if it is not capable of delivering design flow to the RCS. Individual components are inoperable if they are not capable of performing their design function or supporting systems are not available.

Although the 2SJ4 and 2SJ5 valves are being closed to facilitate in the repacking of valve 2SJ12, upon receipt of a Safety Injection signal, the valves would reposition themselves to the open "safety function" position.

A Probabilistic Safety Assessment (PSA) for the current condition was performed. The calculated CDF is approximately 2.4 E-5/year. With the base line value of 2.4 E-5/year, the delta CDF at truncation level of E-7 is negligible. Using the Incremental Conditional Core Damage Probability (ICCDP) criteria of 5.0E-7 established in Regulatory Guide 1.177, PSA evaluation indicates that an allowed outage time extension of 11 hours is acceptable.

Using the Incremental Conditional Large Early Release Probability (ICLERP) criteria of 5.0E-8 established in Regulatory Guide 1.177, PSA evaluation indicates that an allowed outage time extension of 11 hours is acceptable.

Thus the risk of extending the 3.0.3 one-hour Action Statement time by 11 hours (for a total of 12 hours) is less than the risk associated with a unit manual shutdown. This conclusion is based on the following. Quantitatively, the CDF from the turbine trip with the Power Conversion System available scenarios contribute about 13% of the base CDF. The CDF from the continued operation for about 11 hours is about 0.1% of the base CDF. Thus, it is deemed that the continued operation of additional 11 hours is less risky than the unit shutdown.

4. THE BASIS FOR THE LICENSEE'S CONCLUSION THAT THE NONCOMPLIANCE WILL NOT BE OF POTENTIAL DETRIMENT TO THE PUBLIC HEALTH AND SAFETY AND THAT NO SIGNIFICANT HAZARD CONSIDERATION IS INVOLVED:

Since the ECCS will remain capable of performing its safety function during the requested period of enforcement discretion, extending the allowed outage time from one hour to 12 hours will not be of potential detriment to the public health and safety.

Determination of No Significant Hazards Consideration

This proposed enforcement discretion:

1. Does not involve a significant increase in the probability or consequences of any accident or malfunction of equipment important to safety previously evaluated.

During the requested enforcement discretion period, the Safety Injection system will remain capable of performing its required safety function. The additional 11 hours (for a total of 12 hours) to enter HOT STANDBY would not significantly increase the probability or consequences of an accident previously evaluated, since the capability of Emergency Core Cooling System subsystems is maintained for the enforcement discretion period.

Therefore, the enforcement discretion for TS 3.0.3 will not significantly increase the probability or consequences of any accident previously evaluated.

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

   The maintenance activity, the post maintenance testing, and the surveillance testing associated with demonstrating OPERABILITY of 2SJ12 will not result in plant operation in a manner that will create the possibility of a new or different kind of accident from any previously evaluated.

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

   For the duration of the requested enforcement discretion, safety-related systems will remain capable of performing their required safety functions. Sufficient safety-related equipment and systems will remain available to ensure that the consequences of design basis transients and accidents are mitigated as assumed in the Salem UFSAR.

   Therefore, the requested enforcement discretion involves no significant reduction in the margins of safety as discussed in the bases for the Technical Specifications.

5. THE BASIS FOR THE LICENSEE'S CONCLUSION THAT THE NONCOMPLIANCE WILL NOT INVOLVE ADVERSE CONSEQUENCES TO THE ENVIRONMENT:

The requested enforcement discretion does not cause any increase in effluents that may be released offsite, does not involve an increase in radiation exposure to the public, and does not involve a Significant Hazards Consideration. Therefore, the request does not involve any irreversible environmental consequences.

6. ANY PROPOSED COMPENSATORY MEASURES:

No elective work that has the potential to adversely affect plant emergency diesel generators or any of the redundant emergency core cooling systems will be performed during the duration of the requested enforcement discretion. Restoration and completion of the Technical Specification required testing of the 2SJ12 valve would be performed in an expeditious manner.

7. THE JUSTIFICATION FOR THE DURATION OF THE NONCOMPLIANCE

Granting enforcement discretion from the requirements of TS action statement 3.0.3 for an additional 11 hours (for a total of 12 hours) will provide sufficient time to be able to perform the required corrective maintenance as well as the post maintenance test, and TS surveillance testing to successfully restore the valve to an operable status without unnecessarily placing the Unit in a shutdown transient.

8. A STATEMENT THAT THE REQUEST HAS BEEN APPROVED BY THE FACILITY ORGANIZATION THAT NORMALLY REVIEWS SAFETY ISSUES (PLANT ONSITE REVIEW COMMITTEE, OR ITS EQUIVALENT):

This request has been reviewed and approved by the Salem Station Operations Review Committee, which normally reviews safety issues.

9. THE REQUEST MUST SPECIFICALLY ADDRESS HOW ONE OF THE NOED CRITERIA FOR APPROPRIATE PLANT CONDITIONS SPECIFIED IN SECTION B IS SATISFIED:

Enforcement discretion is being requested to avoid an undesirable transient (plant shutdown) as a result of forcing compliance with TS 3.0.3, thus minimizing potential safety consequences and operational risks. This satisfies criterion 1.a of Section B.2.1 of Part 9900 Technical Guidance, "Operations – Notices of Enforcement Discretion."

10. IF A FOLLOW UP LICENSE AMENDMENT IS REQUIRED, THE NOED REQUEST MUST INCLUDE MARKED-UP TS PAGES SHOWING THE PROPOSED TS CHANGES. THE ACTUAL LICENSE AMENDMENT REQUEST MUST FOLLOW WITHIN 48 HOURS:

This request is for a noncompliance of short duration. A TS change is impractical because Salem will return to compliance with the existing license requirement before a license amendment could be issued.