Public Service
Electric and Gas
Company

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

Gentlemen:

REQUEST FOR AMENDMENT
EMERGENCY DIESEL GENERATOR HOT RESTART TEST
SALEM GENERATING STATION UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSES DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

In accordance with the requirements of 10CFR50.90, Public Service Electric and Gas Company (PSE&G) hereby transmits a request for amendment of Facility Operating Licenses DPR-70 and DPR-75 for Salem Unit Nos. 1 and 2. Pursuant to the requirements of 10CFR50.91(b)(1), a copy of this request for amendment has been sent to the State of New Jersey.

This request would revise the Emergency Diesel Generator (EDG) hot restart test by separating it from the 24 hour endurance run and from load sequence testing. The proposed changes are consistent with the improved Standard Technical Specifications for Westinghouse plants (NUREG-1431), and are similar to changes approved for the Nine Mile Point Unit 2 Technical Specifications (Amendment 50, dated October 18, 1993). The changes would result in a substantial refueling outage schedule benefit compared to the present Technical Specification surveillance test criteria, which are based on Generic Letter 84-15 and Regulatory Guide 1.108, rev. 1.

In response to the NRC's Cost Beneficial Licensing Action (CBLA) initiative, PSE&G met with the NRR staff on November 12, 1993, to discuss our CBLA Program. PSE&G considers this submittal a CBLA. We have estimated a cost savings of $667k/yr at each Salem Unit. Savings over the life of the plants would be $14.3m for Unit 1 and $16.9m for Unit 2.

Attachment 1 includes the description and justification for the proposed changes, including PSE&G's Determination of No Significant Hazards Consideration. Attachment 2 contains the Technical Specification pages revised with pen and ink changes. Approval of this proposed amendment is requested prior to the Unit 2 eighth refueling outage, which is scheduled to begin in

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October, 1994. PSE&G requests an amendment requiring implementation no later than during the first refueling outage beginning after amendment issuance for each Salem unit.

Sincerely,

Affidavit
Attachments (2)

C Mr. T. T. Martin, Administrator - Region I
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REF: NLR-N94008

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

J. J. Hagan, 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 the above referenced letter, concerning the Salem Generating Station, Unit Nos. 1 and 2, are true to the best of my knowledge, information and belief.

Subscribed and Sworn to before me
this 12th day of April, 1994

Ronald T. Peters
Notary Public of New Jersey

My Commission expires on June 23, 1998

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ATTACHMENT 1

I. **DESCRIPTION OF THE PROPOSED CHANGES**

Revise the Salem Generating Station (SGS) Unit 1 and 2 Technical Specifications (TS) as shown in Attachment 2:

1) Revise Surveillance Requirement (SR) 4.8.1.1.2.d.7 to delete the requirement to perform SR 4.8.1.1.2.d.6.b within 5 minutes of completing the 24 hour endurance run. SR 4.8.1.1.2.d.6.b is the simulated Loss of Offsite Power (LOOP) plus Engineered Safety Feature (ESF) signal.

2) Add SR 4.8.1.1.2.f, which would require an 18 month surveillance test to restart the diesel within 5 minutes of diesel shutdown after at least one hour of operation at approximately the continuous rated load. The test would require a diesel engine speed of 900 rpm to be reached within 10 seconds, and generator voltage and frequency to be within their acceptable ranges within 13 seconds. These proposed acceptance criteria are consistent with the present criteria for monthly testing. The proposed EDG hot restart test also includes a note requiring the diesel start to be consistent with manufacturer's recommendations for starting and loading the diesel generator.

3) Delete the "***" footnote, which applies to the EDG hot restart test presently required by SR 4.8.1.1.2.d.7.

II. **REASON FOR THE PROPOSED CHANGES**

The present Surveillance Requirement for the Emergency Diesel Generator (EDG) hot restart test requires a diesel start using a simulated LOOP + ESF signal, within five minutes of completing the 24 hour endurance run. This requirement is consistent with an earlier version of the standard Technical Specifications (TS), as endorsed by Generic Letter 84-15. Performing the test per the present TS requires the major ESF loads sequenced during a LOCA to be available immediately following the 24 hour endurance run. Coordination of the 24 hour endurance run with availability of the ESF systems results in a scheduling burden because it may preclude modifications, maintenance and testing of ESF systems from being performed in parallel with the 24 hour endurance run. This constraint on scheduling flexibility is estimated to cost a minimum of two days of critical path time per refueling outage at SGS.

This request proposes changes per the improved standard TS for Westinghouse plants (NUREG-1431), which offer the advantage of increased refueling outage scheduling flexibility by allowing the EDG hot restart test to be performed independent of the 24 hour

endurance run and ESF plus LOOP tests. This would allow the endurance run to be performed in parallel with other major ESF system work activities, while continuing to require all of the surveillance testing needed to demonstrate operability of the EDG's.

The proposed EDG hot restart test may be performed during any plant operating mode, as opposed to the present requirement to perform the test while shutdown. This is because the proposed test would not require auto-loading through the Safeguards Equipment Controller (SEC), and may therefore be performed in a configuration similar to that of the monthly surveillance test.

III. **JUSTIFICATION FOR THE PROPOSED CHANGES**

The purpose of the EDG hot restart test is to demonstrate the ability of the diesel to restart following shutdown after a fully loaded run, and achieve the required voltage and frequency within the time consistent with the safety analyses. This ensures that the EDG's would be capable of performing their safety function if called upon following routine diesel operation (e.g., monthly surveillance testing).

The EDG hot restart test required by the present Technical Specifications are based on Regulatory Guide 1.108, revision 1, as reflected in the standard Technical Specifications of Generic Letter 84-15. These earlier standards coupled the 24 hour endurance run to the ESF load sequencing test via the EDG hot restart requirement. The purpose of the EDG hot restart test, as described in Regulatory Guide 1.108, rev. 1, is to demonstrate functional capability of the diesel generator from full load temperature conditions. As reflected in the latest NRC-approved standard Technical Specifications (NUREG-1431), a diesel start achieving voltage and frequency within the required time is an adequate demonstration of functional capability for the EDG hot restart test.

NUREG-1431 identifies the generator load and time of operation prior to the EDG hot restart test as plant specific values. The generator load is equivalent to that loading range used for the monthly test, which approximates the continuous rated load. The minimum time of operation, nominally two hours in NUREG-1431, is based on the minimum time to achieve hot conditions at full load.

PSE&G has evaluated EDG test data from monthly and 18 month tests performed at SGS Units 1 and 2. The data consistently show that engine operating temperatures reach steady state within 45 minutes of operation at a given generator load. Stator and generator bearing temperatures representative of continuous duty are reached within the same time frame. The continuous rating of the diesel is 2600 kw. The test data therefore demonstrate that operating the diesel with a load of 2500-2600 kw for one hour will establish EDG hot restart test conditions representative of extended full load operating conditions.

The proposed Technical Specifications would continue to require performance of the 24 hour endurance run and ESF load sequencing tests. Because the hot restart, load sequence, and endurance run test objectives will continue to be met, decoupling the tests via the proposed changes would result in improved scheduling flexibility with no reduction in demonstration of diesel operability.

The proposed SR for the EDG hot restart test could be performed during any mode of plant operation. The minimum one hour run prior to the hot restart is similar to the monthly surveillance test required during power operations. Since the EDG's are capable of automatic transfer from the test mode to the accident mode, performing the one hour run and EDG hot restart test during power operation would have no adverse effect on EDG operability.

IV. DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The proposed changes to Technical Specification 4.8.1.1.2.d for Salem Unit Nos. 1 and 2:

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

The proposed changes would revise the Salem Emergency Diesel Generator (EDG) surveillance criteria to allow the hot restart test to be performed independent of the Engineered Safety Features (ESF) load sequencing test and the 24 hour endurance run. The proposed surveillance requirements would continue to demonstrate that the objectives of each of these tests are met. Specifically, the EDG's are shown to be capable of starting the ESF loads in the required sequence, operating at full load for an extended period of time, and restarting from a full load temperature condition. Therefore, the proposed changes would not adversely affect the EDG's ability to support mitigation of the consequences of any previously evaluated accident. The proposed changes to the surveillance requirements do not affect the initiation or progression of any accident sequence.

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

The proposed change affects surveillance test criteria such that increased scheduling flexibility is allowed while the test objectives associated with demonstrating EDG operability continue to be met. The proposed changes do not allow any plant configurations that are presently prohibited by the Salem Technical Specifications.

(3) do not involve a significant reduction in a margin of safety.

Surveillance testing per the proposed Technical Specifications would continue to demonstrate the ability of the EDG's to perform

their intended function of providing electrical power to ESF systems needed to mitigate design basis transients, consistent with the plant safety analyses. The margin of safety demonstrated by the plant safety analyses is therefore not affected by the proposed change.

Therefore, PSE&G has concluded that the changes proposed herein do not involve a Significant Hazards Consideration.

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ATTACHMENT 2