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Nuclear Business Unit

**SEP 13 1999**

LR-N990405  
LCR S98-13

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

**SUPPLEMENTAL INFORMATION TO  
REQUEST FOR CHANGE TO TECHNICAL SPECIFICATIONS  
3/4.8.1 A. C. SOURCES  
SALEM GENERATING STATION NOS. 1 AND 2  
FACILITY OPERATING LICENSES DPR-70 AND DPR-75  
DOCKET NOS. 50-272 AND 50-311**

Gentlemen:

By letter dated July 23, 1999, (Ref: LR-N990253) Public Service Electric and Gas Company (PSE&G) requested an amendment to modify Technical Specification 3/4 8.1 "AC Power sources." (TAC Nos. MA6154 and MA6155). The proposed Technical Specification changes contained in LR-N990253 changed TS surveillance requirement 4.8.1.1.2. d. 7 by removing the restriction to perform the test every 18 months during shutdown.

In Attachment I to this letter a revised 10CFR50.92 evaluation is provided to clarify PSE&G's response to question number 1.

Should there be any additional questions or comments on this transmittal, please do not hesitate to contact us.

Sincerely,

Mark B. Bezilla  
Vice President -  
Operations

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Affidavit  
Attachments (1)

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The power is in your hands.

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LR-N990405

2

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**ATTACHMENT I**  
**LR-N990405**  
**SALEM GENERATING STATION UNIT NOS. 1 AND 2**  
**FACILITY OPERATING LICENSES DPR-70 AND DPR-75**  
**DOCKET NOS. 50-272 AND 50-311**  
**CHANGE TO TECHNICAL SPECIFICATIONS (TS)**  
**SURVEILLANCE REQUIREMENT 4.8.1.1.2.d. 7**

**10CFR50.92 EVALUATION**

Public Service Electric & Gas (PSE&G) has concluded that the proposed changes to the Salem Generating Station Unit Nos. 1 and 2 TS do not involve a significant hazards consideration. In support of this determination, an evaluation of each of the three standards set forth in 10CFR50.92 is provided below.

**REQUESTED CHANGE**

This proposed License Change Request (LCR) modifies Technical Specification Surveillance Requirement 4.8.1.1.2.d.7 (24-hour endurance run test) by eliminating the restriction to perform the test during shutdown conditions. Specifically, sub item 7 (24-hour endurance test) under item d (At least once per 18 months during shutdown..) is deleted and its requirements moved to a new surveillance item G to be performed once every 18 months. For Salem Unit 1 only the asterisk (\*\*\*) associated with this surveillance is also eliminated. The asterisk (\*\*\*) is defined at the bottom of page 3/4 8-5a. It is associated with a one time extension of this surveillance during cycle 13, and its deletion is purely administrative since it no longer applies.

The purpose of this proposed change is to provide PSE&G with greater flexibility in optimizing its outage schedule and the use of its resources, while still protecting the health and safety of the public and station personnel. While the performance of this surveillance in the past years have not significantly impacted outage critical path, its continued non-impact cannot be assured. Performance of the 24-hour endurance run test surveillance places a significant burden to the operations department and station personnel due to its personnel intensive requirements at a time when resources are most limited.

In support of the proposed amendment, PSE&G will also impose the following administrative controls for the on-line performance of the 24-hour endurance run of the Emergency Diesel Generators (EDGs).

The proposed administrative controls are:

1. Only one Emergency Diesel Generator will be tested at a time.
2. On-line performance of the Emergency Diesel Generator 24-hour endurance run will not be performed under severe weather conditions, or the threat of severe weather conditions.

ATTACHMENT I  
LR-N990405  
SALEM GENERATING STATION UNIT NOS. 1 AND 2  
FACILITY OPERATING LICENSES DPR-70 AND DPR-75  
DOCKET NOS. 50-272 AND 50-311  
CHANGE TO TECHNICAL SPECIFICATIONS (TS)  
SURVEILLANCE REQUIREMENT 4.8.1.1.2.d. 7

3. The remaining emergency diesel generators will be OPERABLE.
4. An operator will continuously attend the EDG during testing.

**BASIS**

1. ***The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.***

The proposed change to Technical Specification Surveillance Requirement (SR) 4.8.1.1.2.d.7 (24-hour emergency diesel generator (EDG) endurance run test) to eliminate the restriction to perform the test during shutdown conditions does not involve a significant increase in the probability of any previously evaluated accident. Although paralleling or connecting the EDG to off-site power for the test could induce an electrical distribution system perturbation, the same possibility exists when the EDG is tested during the monthly 1-hour loaded surveillance test (SR 4.8.1.1.2 a 2). This risk during testing the EDG monthly at power was reviewed and found acceptable by the NRC. Further, none of the automatic actuations and interlocks in the tested portion of the electrical system or the EDG control system are disabled during the 24-hour endurance run. Thus, the onsite safety-related electrical system remains protected from potential faults and perturbations.

The ability and capability of the EDG to perform their safety function (mitigate the consequences of a previously evaluated accident) is also unaffected. This capability was demonstrated not only by the tests conducted in the EDG manufacturer's plant, but continue to be demonstrated by surveillance testing performed at the station. This testing verifies specific design criteria, which assure continued EDG operability even during testing. Examples of presently performed Technical Specification testing that demonstrate the ability and capability of the EDG to perform its safety functions are:

- SR 4.8.1.1.2. d. 2 requires, in part, that on a load rejection of greater than 820 KW, the voltage and frequency be restored to acceptable values within 4 seconds.

This surveillance demonstrates the ability of the EDGs to withstand a loss of load, as it would occur in a normal safeguards equipment controller (SEC) actuation, without compromising its ability to be ready to accept a new loading sequence and carry its design safety function.

ATTACHMENT I  
LR-N990405  
SALEM GENERATING STATION UNIT NOS. 1 AND 2  
FACILITY OPERATING LICENSES DPR-70 AND DPR-75  
DOCKET NOS. 50-272 AND 50-311  
CHANGE TO TECHNICAL SPECIFICATIONS (TS)  
SURVEILLANCE REQUIREMENT 4.8.1.1.2.d. 7

- SR 4.8.1.1.2. d. 9 requires, in part, that with the EDG operating in a test mode (connected to its bus), a simulated safety injection signal overrides the test mode by (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.

This surveillance demonstrates the ability of the EDGs to be disconnected from the grid, if in a test mode, on an accident signal, and be ready to accept a new loading sequence and carry its design safety function.

- SR 4.8.1.1.2. a. 2 requires, in part, that every 31 days each EDG be demonstrated OPERABLE by synchronizing it to the grid for greater than or equal to 60 minutes.

Note that this proposed amendment request eliminates a discrepancy between the current requirement to perform the 24 hour run during shutdown and SR 4.8.1.1.2.a.2, which would allow a 24 hour run at power.

Additionally, PSE&G performed an assessment of the potentially added risk of an additional 24 hours of on-line EDG testing. The unavailability of all three EDGs was increased in the Probabilistic Safety Analyses (PSA) for both Salem Units 1 and 2 to correspond to an additional 24 hours per cycle out-of-service time each 18-month operating cycle. The unavailability was changed from 1.86E-02/year to 2.0E-2/year. The increase in the baseline internal events core damage frequency (CDF) was determined to be 1.6E-07 events/year for both Salem Units 1 and 2. Based on the definition provided in Regulatory Guide 1.174, Paragraph 2.2.4, this increase is considered a very small increase in risk (less than 1.0E-06 events/year).

Therefore, the proposed amendment, including proposed administrative controls, does not involve a significant increase in the probability or consequences of an accident previously evaluated.

**2. *The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.***

The proposed amendment to Technical Specification Surveillance Requirement 4.8.1.1.2.d.7 (24-hour endurance run test) to eliminate the restriction to perform the test during shutdown conditions does not physically modify the facility, introduce a new

ATTACHMENT I  
LR-N990405  
SALEM GENERATING STATION UNIT NOS. 1 AND 2  
FACILITY OPERATING LICENSES DPR-70 AND DPR-75  
DOCKET NOS. 50-272 AND 50-311  
CHANGE TO TECHNICAL SPECIFICATIONS (TS)  
SURVEILLANCE REQUIREMENT 4.8.1.1.2.d. 7

failure mode, or propose a different operational mode of the AC electrical power sources, or Emergency Diesel Generators.

Therefore, the proposed amendment will not create the possibility of a new or different kind of accident from any previously evaluated.

**3. *The proposed change does not involve a significant reduction in a margin of safety.***

The AC Electrical distribution system has been designed to provide sufficient redundancy and reliability to ensure the availability of the EDGs to provide the required safety function under design basis events to protect the power plant, the public and plant personnel. Specifically, the ability of the EDGs to separate from the off-site power source has been designed and tested per Technical Specifications requirements.

Performance of the 24-hour endurance run during power operations will not affect the availability of any of the required power sources, nor the capability of the EDGs to perform their intended safety function. Furthermore, performing the test when the undervoltage protection of the 4160-V vital buses required by the Salem Station Technical Specification 3.3.2.1 is operable, provides for an added level of protection to the EDG that is not available while shutdown.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

## CONCLUSION

Based on the above, PSE&G has determined that the proposed changes do not involve a significant hazards consideration.