

Public Service  
Electric and Gas  
Company

**Corbin A. McNeill, Jr.**  
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July 23, 1987

NLR-N87042

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

Gentlemen:

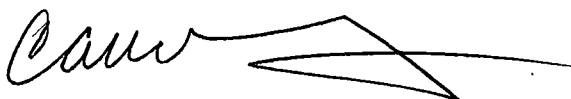
REQUEST FOR AMENDMENT  
FACILITY OPERATING LICENSE DPR-70 AND DPR-75  
SALEM GENERATING STATION - UNIT NOS. 1 AND 2  
DOCKET NOS. 50-272 AND 50-311

In accordance with the Atomic Energy Act of 1954, as amended, and the regulations thereunder, 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 Generating Station (SGS), Unit Nos. 1 and 2, respectively. In accordance with the requirements of 10 CFR 170.21, a check in the amount of \$150.00 is enclosed. Pursuant to the requirements of 10 CFR 50.91(b)(1), a copy of this request has been sent to the State of New Jersey as indicated below.

This amendment request revises Technical Specification 3/4.5.2 and 3/4.5.3, and their associated bases for the Emergency Core Cooling System (ECCS) limiting conditions for operation and surveillance requirements (see Enclosures 2 and 3 for Unit Nos. 1 and 2, respectively). The changes, identified by revision bars in the right margin, provide clarity and ensure the ECCS subsystems are aligned as assumed in the ECCS Loss of Coolant Design Basis Accident. Enclosure 1 contains further discussion and justification for the proposed revisions. This submittal includes one (1) signed original, including affidavit, and thirty-seven (37) copies pursuant to 10 CFR 50.4(b)(2)(ii).

Should you have any questions on the subject transmittal, please do not hesitate to contact us.

Sincerely,



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\$150  
#1062  
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Enclosures (3)  
Affidavit  
Enclosure (check)

C Mr. D. C. Fischer  
Licensing Project Manager

Mr. T. J. Kenny  
Senior Resident Inspector

Mr. W. T. Russell, Administrator  
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Ref: SGS LCR 87-03

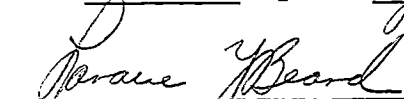
STATE OF NEW JERSEY     )  
                                  )     SS.  
COUNTY OF SALEM         )

Corbin A. McNeill, Jr., being duly sworn according to law deposes and says:

I am Senior Vice President of Public Service Electric and Gas Company, and as such, I find the matters set forth in our letter dated July 23, 1987 concerning Request for Amendment to Salem Generating Station Facility Operating Licenses DPR-70 and DPR-75, is true to the best of my knowledge, information and belief.



Subscribed and Sworn to before me  
this 23rd day of July, 1987

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

LARAIN Y. BEARD  
Notary Public of New Jersey  
My Commission Expires May 1, 1991

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

ENCLOSURE 1

PROPOSED CHANGE TO TECHNICAL SPECIFICATIONS  
SALEM GENERATING STATION, UNIT NOS. 1 AND 2  
FACILITY OPERATING LICENSES DPR-70 AND DPR-75  
DOCKET NOS. 50-272 AND 50-311

LCR 87-03  
Page 1 of 7

This amendment request proposes to modify the following Technical Specification sections:

1. Technical Specification 3.5.2. This section contains the Limiting Condition for Operation (LCO) for the Emergency Core Cooling System (ECCS) subsystems when  $T_{avg} \geq 350^{\circ}\text{F}$ .
2. Technical Specification 4.5.2. This section presents the Surveillance Requirements for ECCS subsystems when  $T_{avg} \geq 350^{\circ}\text{F}$ .
3. Technical Specification 3.5.3. This section contains the LCO for ECCS subsystems when  $T_{avg} < 350^{\circ}\text{F}$ .
4. Technical Specification Bases Section 3/4.5.2 and 3/4.5.3. These sections provide the bases for the contents of Technical Specifications 3/4.5.2 and 3/4.5.3.

The following four sections contain a description, justification, and Significant Hazards Consideration Evaluation for each of the four Technical Specification (TS) sections being modified.

1. Technical Specification 3.5.2 (Salem Unit 1 and 2 - TS page 3/4 5-3)

Description of Change

This section is being modified to explicitly identify the flow paths into the RCS which are required to be OPERABLE. The suction and discharge flow paths have been grouped with their associated ECCS component. These components, or injection systems, together comprise one ECCS subsystem.

Also, an Action Statement is being added that reads as follows: "With both ECCS subsystems inoperable for Surveillance Testing, restore at least one subsystem to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours, in at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours."

Justification for Change

The first change does not modify the ECCS injection or recirculation mode flow paths in any way. It's purpose is to ensure that the ECCS subsystems are aligned as assumed in the design bases for the ECCS-LOCA (Loss of Coolant Accident). This clarification is being made in response to the Residual Heat Removal (RHR) valve misalignment concern which was identified for Salem Unit 2 on January 13, 1987. On that date, IE Notice 87-01

entitled "RHR Valve Misalignment Causes Degradation of ECCS in PWRs" was received and reviewed by station personnel. The review identified a potential violation of the ECCS-LOCA design bases in that valves associated with the Residual Heat Removal (RHR) injection path into two Reactor Coolant System (RCS) cold legs were tagged out for preventive maintenance.

The second change adds an Action Statement that allows both ECCS subsystems to be inoperable for up to one hour for surveillance testing. Certain valves identified in Technical Specification Surveillance 4.5.2 as being maintained open are also part of the Inservice Testing (IST) program. As such, they must be stroke tested periodically. Some of these periodicities are at least quarterly, which means some stroke testing occurs while the units are at full power. Shutting these valves causes both ECCS subsystems to be inoperable. This conflict, which was identified as a result of IE Notice 87-01, was discussed with NRC staff members in a telecon held January 29, 1987. During this telecon, it was agreed to continue to stroke test the subject valves at the normal intervals by entering Action Statement 3.0.3. This Action Statement allows the LCO to be exceeded for up to one hour. Shutdown must commence if this time limit is exceeded. However, a License Event Report (LER) is required pursuant to 10CFR50.73(a)(2)(i)(b) each time Action Statement 3.0.3 is entered. This change allows IST stroke testing to be conducted under the proposed action statement as opposed to Action Statement 3.0.3, thereby negating the reportability requirements of 10CFR50.73. The proposed statement does not change the time limits associated with Action Statement 3.0.3.

#### Significant Hazards Consideration Evaluation

The proposed changes to Technical Specification 3.5.2 do not involve a significant hazards consideration because operation of Salem Unit 1 and 2 in accordance with these changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The first change is being made for clarification only. Its purpose is to clearly reflect ECCS-LOCA design bases requirements in the Technical Specifications. No physical change to plant systems is involved, nor is there an impact on the licensing bases of the units. Therefore, this change cannot increase the probability or consequences of an accident. The second change allows IST stroke testing of valves listed in Surveillance 4.5.2 to continue without submittal of an LER. The IST stroke testing intervals remain unchanged, as do the Action Statement time limits. Therefore this second change cannot increase the probability or consequences of an accident.
- (2) Create the possibility of a new or different kind of accident from any previously analyzed. The first change only serves to emphasize ECCS-LOCA requirements for injection flow paths into the RCS. These requirements are not new as they are already part of the design and licensing bases of the Salem units. The second change makes no changes to the Action Statement time limits

associated with IST surveillances conducted on valves listed in Technical Specification Surveillance 4.5.2. It only serves to address reporting requirements. Therefore, these changes do not create the possibility of a new or different kind of accident.

- (3) Involve a significant reduction in a margin of safety. The first change serves to maintain the current margin of safety associated with the LOCA accident analysis and ensure that the ECCS subsystems are aligned as assumed in the design bases for the ECCS-LOCA. The second change maintains the Action Statement time limitations associated with IST stroke testing. Therefore, these changes make no reduction in a margin of safety.

The first change corresponds to Example II.1 of 48FR14870 as a purely administrative change in that the change is being made to clarify existing requirements. Likewise, the second change corresponds to Example II.1 of 48FR148 in that its purpose is to address reporting requirements only.

2. Technical Specification 4.5.2 (Salem Unit 1 and 2 - TS page 3/4 5-4)

#### Description of Change

The first change adds a requirement to verify the RH19 valves open once per 12 hours. The second change adds to the Salem Unit 1 Technical Specifications a requirement to vent ECCS pump casings and accessible discharge piping high points once per 31 days. The third change adds a footnote to the CS 14 valves listed under Section a. in both Salem Units 1 and 2 Technical Specifications. The footnote reads "If inoperable, the applicable Technical Specification is 3.6.2.2."

#### Justification for Change

The first change helps ensure that the design bases for the ECCS-LOCA is maintained. The RH19 valves must be open in order for an RHR pump to be capable of injecting into each RCS cold leg. Therefore, the requirement to verify these valves open once per 12 hours is being added.

The second change, which adds the requirement to verify that the ECCS piping is full of water by venting, already appears in the corresponding Salem Unit 2 Surveillance Requirement. This requirement is being added to the Unit 1 Surveillance Requirement section in an effort to make the Salem Unit 1 and 2 Technical Specifications the same, where possible.

The third change clarifies that with the CS 14 valve inoperable, the affected system is the Containment Spray System (Spray Additive Tank). Presently, the Containment Spray System is not addressed in the Limiting Condition for Operation (LCO) for Technical Specification 3.5.2. Technical Specification 3.6.2.2 specifically addresses the inoperability of the Spray Additive

Tank. Consequently, when the Spray Additive Tank discharge valve (CS 14) is inoperable, the Action Requirements of Technical Specification 3.6.2.2 should be followed. The reason for listing the CS 14 valve in Technical Specification Surveillance 4.5.2 is to maintain all the power lock-out valves in the same surveillance. Presently, Technical Specification 3.6.2.2 is administratively restricted such that with the Spray Additive Tank inoperable, Technical Specification 3.0.3 is entered, which limits the time to return the Spray Additive Tank to operable status to one hour. This time limit is consistent with the action requirements of Technical Specification 3.5.2.

#### Significant Hazards Consideration Evaluation

The proposed changes to Technical Specification 4.5.2 do not involve a significant hazards consideration because operation of Salem Unit 1 and 2 in accordance with these changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The first change, which adds the RH19 valves to the surveillance, constitutes an additional means of control. As such, it does not involve a significant increase in the probability or consequences of an accident. This change corresponds to Example II.2 of 48FR14870 as a means of additional control on the plant. The second change adds a surveillance requirement to the Unit 1 Technical Specifications that is already contained in the Salem Unit 2 Technical Specifications. Again, this change corresponds to example II.2 as an additional means of control on plant operation, and will not increase the probability or consequences of an accident. The third change directs the operator from Technical Specification 3.5.2 to 3.6.2.2 if the CS 14 valve is inoperable. Since the time limitation of the Action Requirement remains administratively controlled at one hour, there is no increase in the probability or consequences of an accident previously evaluated.
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated. The first two changes add additional control on plant operation. They do not impact the licensing bases. No new accident can be postulated as a result of these changes. The third change does not change the Action Requirement time limitation associated with the CS 14 valve. Therefore, no new or different kind of accident can be postulated as a result of this change.
- (3) Involve a significant reduction in a margin of safety. These changes add or maintain current surveillance requirements. They do not reduce any margin of safety; instead, they serve to maintain the respective Technical Specification margins of safety.

### Description of Change

Technical Specification 3.5.3 in both Salem Units is being modified to explicitly identify the required OPERABLE flow paths into the RCS for each ECCS subsystem in Mode 4. The suction and discharge paths have been grouped with their associated ECCS component. Secondly, the # footnote associated with Section 3.5.3 that appears at the bottom of the page in both the units Technical Specifications is being modified by adding the phrase "or one centrifugal charging pump". Third, the following note already appears in the Salem Unit 2 Technical Specifications at the bottom of the referenced page; "Note: This particular restriction also applies in Modes 5 and 6." This note is being added to Salem Unit 1 Technical Specification 3.5.3 to achieve consistency between the two documents.

### Justification for Change

The first change makes the Technical Specifications clearly reflect the design bases for the ECCS-LOCA. This will ensure that the required Mode 4 ECCS flow paths are maintained OPERABLE, and thus will preclude an ECCS misalignment from occurring in Mode 4. This first change does not modify the ECCS injection or recirculation flow paths in any way.

The second change is for clarification only. The Safety Injection (SI) pumps are de-energized whenever the RCS temperature is below 312°F except when a special surveillance test is being conducted and then only one SI pump is energized. This restriction allows the Pressurizer Overpressure Protection System (POPS) to maintain the RCS pressure below the 10 CFR 50, Appendix G limit in case of inadvertent mass addition from the single SI pump. The current footnote incorporates this requirement by stating that only one SI pump shall be OPERABLE when the RCS temperature is less than or equal to 312°F. Implicit in this statement is the requirement that the centrifugal charging pump be disabled and therefore not OPERABLE. This change makes this requirement explicitly clear by stating that one SI or one centrifugal charging pump, not one SI pump in addition to one centrifugal charging pump, shall be OPERABLE when the RCS temperature is less than or equal to 312°F.

The third change adds a note that already appears in the Salem Unit 2 Technical Specifications to the Unit 1 Technical Specifications. This note is being added in an effort to make the Salem Unit 1 and 2 Technical Specifications identical, where possible.

### Significant Hazards Consideration Evaluation

The proposed changes to Technical Specification 3.5.3 do not involve a significant hazards consideration because operation of Salem Units 1 and 2 in accordance with these changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The first change is being made for clarification only in



order to clearly reflect the design bases ECCS-LOCA requirements in the Technical Specifications. No physical change or procedural changes are involved, nor is there an impact on the licensing bases of the units. In fact, this change helps to ensure adherence to the licensing bases of the units. Since this first change consists of a rewording modification only, it corresponds to Example II.1 of 48FR14870 as a purely administrative change. The second change is also being made for clarification only in order to ensure that the correct maximum number of ECCS injection pumps are maintained OPERABLE when the RCS temperature is less than or equal to 312°F. This change also corresponds to Example II.1 of 48FR14870. The third change, which adds a note that appears in the Unit 2 Technical Specifications to the Unit 1 Technical Specifications, makes the two documents consistent. The note states that the restriction on the number of OPERABLE ECCS injection pumps is also applicable in Modes 5 and 6. Adding this note clarifies the fact that the limit on the number of ECCS injection pumps is also applicable in Modes 5 and 6 for Salem Unit 1. This change corresponds to Example II.2 of 48FR14870. None of these changes increase the probability or consequences of an accident previously evaluated.

- (2) Create the possibility of a new or different kind of accident from any previously evaluated. These changes are for clarification only and present in clearer detail the current requirements associated with the ECCS flow paths and ECCS injection pumps. Since these changes do not delete or alter any existing requirements, they cannot create the possibility of a new or different kind of accident than previously evaluated.
- (3) Involve a significant reduction in the margin of safety. These changes clarify existing requirements only and their purpose is to maintain the Technical Specification margins of safety. Hence, they do not reduce any margin of safety.

- 4. Technical Specification Bases Section 3/4.5.2 and 3/4.5.3 (Salem Unit 1 - TS page B3/4 5-1a and Salem Unit 2 - TS page B3/4 5-2)

#### Description of Change

The following sentence has been added to the end of the last paragraph of Bases Sections 3/4.5.2 and 3/4.5.3 for both Salem units; "Each ECCS subsystem supplies all four cold legs to satisfy minimum flow requirements."

Also, the phrase "or one centrifugal charging pump" has been added to the first sentence of the second paragraph of page B 3/4 5-2 of the Salem Unit 2 Technical Specifications.

### Justification for Change

The first change serves to reiterate the requirement to maintain the capability to supply all four RCS cold legs. The second change reflects the phrase being added to the # footnote of Technical Specification 3.5.3. This footnote addresses the operability requirements for the safety injection and charging pumps in Modes 4, 5 and 6.

### Significant Hazards Consideration Evaluation

The proposed changes to Technical Specification Bases Sections 3/4.5.2 and 3/4.5.3 do not involve a significant hazards consideration because operation of Salem Unit 1 and 2 in accordance with these changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The first change is for clarification only and serves to highlight the ECCS-LOCA requirement to maintain the capability to supply all four RCS cold legs. The second change again only clarifies in the Bases Section existing requirements that serve to maintain the RCS pressure below the 10CFR50, Appendix G limits in case of an inadvertant mass addition.
- (2) Create the possibility of a new or different kind of accident from any previously analyzed. The first change does not involve any hardware or procedure modifications and only serves to identify an existing design bases for the ECCS-LOCA. Likewise, the second change clarifies in the Bases Section existing requirements. No new or different kind of accident can be postulated as a result of these changes.
- (3) Involve a significant reduction in a margin of safety. These changes serve to identify existing design bases for the ECCS-LOCA and RCS pressure limits in Mode 4. They do not impact any margin of safety.

These changes correspond to Example II.1 of 48FR14870 as purely administrative changes in that they only clarify existing requirements in more detail.