PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, New Jersey 08038-0236

FEB 1 0 2005

PSEG Nuclear LLC

LR-N05-0003
LCR S05-01

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

REQUEST FOR CHANGE TO TECHNICAL SPECIFICATIONS
EMERGENCY CORE COOLING SYSTEMS Tavg <350°F
SALEM GENERATING STATION - UNIT 1 AND UNIT 2
DOCKET NOS. 50-272 AND 50-311
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75

In accordance with the provisions of 10 CFR 50.90, PSEG Nuclear, LLC (PSEG) hereby transmits a request for amendment of the Technical Specifications (TS) for Salem Generating Station Unit 1 and Unit 2. In accordance with 10 CFR 50.91(b)(1), a copy of this submittal has been sent to the State of New Jersey.

The proposed amendment modifies Emergency Core Cooling System (ECCS), ECCS Subsystems Tavg <350°F Surveillance Requirement 4.5.3.2.b by increasing the flexibility of operating a safety injection pump provided it is isolated from the reactor coolant system.

Attachment 1 provides a description of the proposed changes. Attachment 2 provides the existing TS pages marked up to show the proposed changes.

PSEG requests a 60-day implementation period after amendment approval. Approval of this change is requested by September 9, 2005 to support Salem Generating Station Unit 1 refueling outage 1R17.

Should you have any questions regarding this request, please contact Mr. Courtney Smyth at (856) 339-5298.

A001

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 2/10/05 (Date) Sincerely,

Tom Joyce
Site Vice President
Salem Generating Station

Attachments (2)

C Mr. S. Collins, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

U. S. Nuclear Regulatory Commission
Mr. Daniel Collins, Project Manager – Salem Unit 1 and Unit 2
Mail Stop 08C2
Washington, DC 20555-0001

USNRC Senior Resident Inspector – Salem Unit 1 and Unit 2 (X24)

Mr. K. Tosch, Manager IV
Bureau of Nuclear Engineering
P. O. Box 415
Trenton, NJ 08625

SALEM GENERATING STATION - UNIT 1 AND 2
FACILITY OPERATING LICENSES NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

CHANGE TO TECHNICAL SPECIFICATIONS
EMERGENCY CORE COOLING SYSTEMS Tavg < 350°F

Table of Contents

CHANGES TO TECHNICAL SPECIFICATIONS

1. DESCRIPTION

The purpose of this amendment is to revise Surveillance Requirement 4.5.3.2.b by deleting the restriction of operating a safety injection pump or charging pump for testing purposes only. In addition, a clarification is added that requires the safety injection pump and charging pump be isolated from the reactor coolant system (RCS) when the RCS cold leg temperature is less than 312°F or in Modes 5 or 6 when the head is on the reactor vessel.

2. PROPOSED CHANGE

Salem Technical Specifications require that a maximum of one safety injection pump or centrifugal charging pump be operable in Modes 4, 5 or 6 under certain configurations in order to protect against Low Temperature Overpressurization conditions which could result from the addition of excess emergency cooling water. Associated surveillance requirements assure that the inoperable pumps are indeed inoperable by verifying that the electrical circuit breakers for the pumps are open. To allow testing of the pumps, an alternative means is provided for demonstrating pump inoperability. Testing is allowed provided that the pump being tested is in a recirculation flow path with the manual discharge valve or disabled automatic valve(s) closed. Specifying that a safety injection pump or charging pump can be operated only during testing and verified inoperable is unnecessarily prescriptive and limits the ability to operate the pumps in other modes in which low temperature overpressurization is not an issue. The proposed change would allow either verifying the pump breakers are open or assuring that the RCS injection pathway is blocked at all times, not just during testing, permitting operation in Mode 4 with RCS cold leg temperature less than 312°F or in Modes 5 or 6 when the head is on the reactor vessel.

The requested Technical Specification change will provide increased operational flexibility to operate the safety injection pump at times other than during testing. The proposed changes will provide operational flexibility without impacting safety during shutdown.

3. BACKGROUND

The goal of the affected Technical Specifications is to assure that the vessel is protected from Low Temperature Overpressurization conditions, which could result from mass inventory additions in excess of the relief capability of a single overpressure protection relief valve. In order to accomplish this goal, a maximum of one safety injection or charging pump is permitted to be operable in Mode 4 with the RCS cold leg temperature

less than 312°F or in Modes 5 or 6 when the head is on the reactor vessel. Surveillances are included which verify that the motor circuit breakers for the additional pumps are open. An alternative means is provided for demonstrating pump inoperability to allow testing of the pumps provided that the pump being tested is in a recirculation flow path with the manual discharge valve or disabled automatic valve(s) closed. This proposed change would allow operating the pumps provided that the RCS injection pathway is blocked thus permitting operation in Mode 4 with RCS cold leg temperature less than 312°F or in Modes 5 or 6 when the head is on the reactor vessel. This change would permit use of a safety injection pump to fill the accumulators, which reduces the amount of time to make the accumulators operable. The accumulators are isolated from the RCS whenever pressure is less than 1000 psig.

The proposed changes are consistent with the content of NUREG-1431, "Standard Technical Specifications Westinghouse Plants." NUREG-1431 contains a requirement in section 3.4.12, "Low Temperature Overpressurization Protection (LTOP) System," to provide overpressure protection in part by having a minimum coolant input capability while the RCS is water solid. In that case, however, the requirement to verify a maximum of one pump is capable of injecting into the RCS is stated in general terms rather than prescriptive requirements of how to achieve the goal.

4. TECHNICAL ANALYSIS

The proposed change does not permit the addition of coolant when the RCS is water solid. The proposed change continues to limit the operation of a safety injection pump in a recirculation flow path to conditions where it is isolated from the RCS. The isolation requirement from the RCS of a safety injection pump is unchanged.

Salem TS 3.4.9.3, "Overpressure Protection Systems," requires adequate relief capability to protect the RCS against overpressurization from the inadvertent start of a safety injection pump into a water solid RCS.

The proposed change would provide added flexibility for safety injection pump operation while maintaining the existing protection against Low Temperature Overpressurization conditions and compliance with the pressure and temperature limits of 10 CFR 50, Appendix G. Salem TS will continue to provide for RCS overpressure protection by having a minimum coolant input capability and having adequate pressure relief capacity.

5. REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

PSEG Nuclear, LLC (PSEG) has evaluated whether or not a significant hazards consideration is involved with the proposed changes to Surveillance Requirement

4.5.3.2.b by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment" as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

In Mode 4 with the RCS coolant temperature less than 312°F or in Modes 5 and 6 when the head is on the reactor vessel, there is a potential risk of a low temperature overpressurization condition. Mass additions of coolant by the safety injection and charging pumps could cause such an event to the extent that these pump flows exceed the ability of a single overpressure protection relief valve to protect the system. In order to eliminate this possibility, provisions are made to allow a maximum of one pump to be in service with the other pumps disabled except for testing with the pump isolated from the RCS. Provisions are made to ensure that a pump being tested cannot inject into the vessel. The proposed change merely adds flexibility to safety injection pump operation while continuing to assure isolation from the RCS. The proposed change continues to offer an equivalent means of affording the required protection against low temperature overpressurization.

Based upon the above, the proposed change will not involve a significant increase in the probability or consequences of an accident previously analyzed.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change permits a minor change in the operation of the plant by adding flexibility to safety injection pump operation while continuing to assure isolation from the RCS. The proposed change continues to offer an equivalent means of affording the required protection against low temperature overpressurization. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated in the UFSAR. No new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of the proposed changes. Specifically, no new hardware is being added to the plant as part of the proposed change, no existing equipment is being modified, and no significant changes in operations are being introduced.

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

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.
The proposed change will not alter any assumptions, initial conditions, or results of any accident analyses. The proposed change maintains the level of protection against a low temperature overpressurization condition.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, PSEG concludes that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The following regulatory requirements are applicable:

10 CFR 50, Appendix G – *Fracture Toughness Requirements.* Pressure-temperature limits are defined by the operating condition, the vessel pressure, whether or not fuel is in the vessel, and whether the core is critical.

There are no changes to safety injection pump operation that threaten integrity of the reactor coolant pressure boundary by violating the pressure and temperature limits of 10 CFR 50, Appendix G. The evaluation performed in Section 4.0 (Technical Analysis) concludes that the proposed change will continue to comply with this regulatory requirement. Salem TS will continue to provide for RCS overpressure protection by having a minimum coolant input capability and having adequate pressure relief capacity.

In conclusion, based on the considerations discussed above:

1) There is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner;

2) Such activities will be conducted in compliance with the Commission's regulations; and

3) Issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6. ENVIRONMENTAL CONSIDERATION

PSEG has determined the proposed amendment relates to changes in a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or relates to changes in an inspection or a surveillance requirement. The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed change is not required.

TECHNICAL SPECIFICATION PAGES WITH PROPOSED CHANGES

The following Technical Specification for Salem Unit 1, Facility Operating License No. DPR-70, is affected by this change request:

Technical Specification	Page
4.5.2.3.b	3/4 5-6a

The following Technical Specification for Salem Unit 2 Facility Operating License No. DPR-75 is affected by this change request:

Technical Specification	Page
4.5.2.3.b	3/4 5-8

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - Tavg < 350°F

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F, MODE 5, or MODE 6 when the head is on the reactor vessel by either of the following methods:

a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits or,

Delete

b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve or disabled automatic valve(s) are closed.

Insert

in flow paths to the reactor coolant system

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - Tavg < 350°F

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All safety injection pumps and centrifugal charging pumps, except the above required OPERABLE pump, shall be demonstrated to be inoperable at least once per 12 hours while in MODE 4 and the temperature of one or more of the RCS cold legs is less than or equal to 312°F, MODE 5, or MODE 6 when the head is on the reactor vessel by either of the following methods:

a. By verifying that the motor circuit breakers have been removed from their electrical power supply circuits or,

Delete

b. For testing purposes, by verifying that the pump is in a recirculation flow path and that the manual discharge valve or disabled automatic valve(s) are closed.

Insert

in flow paths to the reactor coolant system