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

JUL 1 4 2005

LR-N05-0342

PSEG
Nuclear LLC

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION – 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

Reference:
1. LR-N05-0003, Request for Change to Technical Specifications Emergency Core Cooling Systems Tavg < 350° F, dated February 10, 2005.
2. NRC letter, Request for Additional Information, dated June 21, 2005.

By letter dated June 21, 2005 (reference 2), you requested additional information necessary for the NRC staff to complete its review of PSEG's amendment request to revise Technical Specification – Emergency Core Cooling Systems Tavg < 350° F. The attachment to this letter provides the responses to the NRC staff's questions.

Should you have any questions regarding this response, please contact Wayne P. Grau at (856) 339-1172.

Sincerely,

Thomas P. Joyce
Site Vice President
Salem Generating Station

Attachment (1)

A001

JUL 1 4 2005

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

Mr. S. Bailey, Project Manager
U. S. Nuclear Regulatory Commission
Mail Stop 08B1
Washington, DC 20555

USNRC Senior Resident Inspectors (Salem - X24)

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

NRC INFORMATION REQUESTS

1. The application states, "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 which low temperature over-pressurization is not an issue." Please explain which modes, in which low temperature over-pressurization is not an issue, are being hindered by this Surveillance Requirement.

   Response:

   The requested amendment change would be applicable 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. It is not the modes that are the hindrance, but rather the inability to use the safety injection and charging pumps for reasons other than testing in these modes, when the pumps are isolated from the RCS. As an example, filling ECCS accumulators with the safety injection pumps takes substantially less time than filling them with the RHR pumps.

2. NUREG-1431 Section 3.4.12 contains several other aspects that are not covered in the application.

   a. Deleted

   b. NUREG-1431 Section 3.4.12 contains several Actions and Surveillance Requirements. Provide information showing how Salem Unit Nos. 1 and 2 TSs meet or exceed those Actions and Surveillance Requirements. Where Salem Unit Nos. 1 and 2 TSs do not meet or exceed those Actions and Surveillance Requirements, provide information to justify any difference.

   Response:

   The following tables provide a comparison between the existing Salem TS and the NUREG-1431 Section 3.4.12 Actions and Surveillances.

LCO Actions

NUREG-1431			SALEM TS	DELTA
Condition	**Required Action**	**Completion Time**		
A.Two or more [HPI] pumps capable of injecting into the RCS.	Initiate action to verify a maximum of [one] [HPI] pump capable of injecting into the RCS.	Immediately	3.5.3a (Note 1)	Meet
B.[Two or more charging pumps capable of injecting into the RCS.	Initiate action to verify a maximum of [one] charging pump is capable of injecting into the RCS.	Immediately]	3.5.3a (Note 1)	Meet
C.An accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.	Isolate affected accumulator.	1 hour	(Note 2)	(Note 2)
D.Required action and associated completion time of Condition [C] not met.	Increase RCS cold leg temperature to >[275° F] OR Depressurize affected accumulator to less than the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.	12 hours 12 hours	(Note 2)	(Note 2)
E. One required RCS relief valve inoperable in MODE 4.	Restore required RCS relief valve to OPERABLE status.	7 days	3.4.9.3.a (S1) 3.4.10.3.a (S2)	Meet
F. One required RCS relief valve inoperable in MODE 5 or 6.	Restore required RCS relief valve to OPERABLE status.	24 hours	3.4.9.3.b (S1) 3.4.10.3.b (S2)	Meet
G. Two required RCS relief valves inoperable. OR Required Action and associated Completion Time of Condition A, [B], D, E or F not met. OR LTOP System inoperable for any reason other than Condition A,[B],C,D,E or F.	Depressurize RCS and establish RCS vent of ≥ [2.07] square inches.	12 hours	3.4.9.3.c (S1) 3.4.10.3.c (S2)	Exceed

Surveillance Requirements

NUREG-1431			SALEM TS	DELTA
Surveillance Number	**Description**	**Frequency**		
3.4.12.1	Verify a maximum of [one] [HPI] pump is capable of injecting into the RCS.	12 hours	4.5.3.2	Meet
3.4.12.2	[Verify a maximum of one charging pump is capable of injecting into the RCS.	12 hours]	4.5.3.2	Meet
3.4.12.3	Verify each accumulator is isolated	12 hours	(Note 2)	(Note 2)
3.4.12.4	[Verify RHR suction valve is open for each required RHR suction relief valve.	12 hours]	(Note 3)	(Note 3)
3.4.12.5	Verify required RCS vent path ≥ [2.07] square inches open.	12 hours for unlocked open vent valve(s) AND 31 days for other vent path(s)	4.4.9.3.2 (S1) 4.4.10.3.2 (S2)	Exceed
3.4.12.6	Verify PORV block valve is open for each required PORV.	72 hours	4.4.9.3.1.c (S1) 4.4.10.3.1.c (S2)	Meet
3.4.12.7	[Verify associated RHR suction isolation valve is locked open with operator power removed for each required RHR suction relief valve.	31 days]	(Note 3)	(Note 3)
3.4.12.8	Perform a COT on each required PORV, excluding actuation.	31 days	4.4.9.3.1.a (S1) 4.4.10.3.1.a (S2)	Meet
3.4.12.9	Perform CHANNEL CALIBRATION for each required PORV actuation channel	[18] months	4.4.9.3.1.b (S1) 4.4.10.3.1.b (S2)	Meet

(Note 1) - TS requirement for a maximum one safety injection pump or one centrifugal charging pump operable in Mode 4 when 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.

(Note 2) - Procedurally accumulators will be isolated when pressure is less than 1000 psig during normal shutdowns. This meets the intent of preventing accumulator injection when accumulator pressure is greater than RCS pressure.

(Note 3) – RHR suction relief valves exist, but are not in TS. Adequate overpressure protection is provided by POPS or RCS vent, which are both TS requirements.

The Salem TS meets the intent of NUREG-1431 Section 3.4.12, by limiting operable pumps capable of injecting into the RCS and providing various methods of relieving pressure if an inadvertent injection did occur.

3. With respect to the No Significant Hazards Consideration determination:

   a. PSEG's request for a more permissive wording and a stated intention to operate the safety injection pumps to fill accumulators indicates more opportunities for equipment malfunction or human error which would allow more than one pump the capability of injecting into the RCS. Please explain how the conclusion that "... the proposed change will not involve a significant increase in the probability or consequences of an accident previously analyzed," was reached.

   Response:

   It is anticipated that the additional run time under this provision will be minimal. This minimal increase in pump operation does not significantly increase the probability or consequences of an accident previously analyzed. Additionally, the same opportunities for equipment malfunction or human error currently exist when using the pumps for testing purposes. Accident mitigation is controlled by procedures with verification of other pumps off.

   b. The current TSs do not permit the operation of safety injection or charging pumps, except for testing. The requested change will allow these pumps to run at any or all times. Please explain how this is not a significant change in operations.

   Response:

   The current TS allows for pump operation for testing purposes, but does not limit the number of tests or total pump run time. The intent of the proposed change is to allow pump operations for surveillance testing, to perform trouble-shooting, system fill and venting, and accumulator filling. The specification is intended to prevent water injection into the RCS during pump operation. Procedural requirements currently ensure that pumps are isolated from the RCS during testing operations. Procedural requirements will also be used to ensure that pumps are isolated from the RCS when used to fill accumulators. There is no significant change in operations.

4. As the current version of Salem TS 3.5.3 only permits the pumps to operate for a limited time, and presumably to not move appreciable amount of water, what impacts are associated with allowing these pumps to run at any or all times? Are there any restrictions which need to be placed on source(s) from which these pumps could draw in these conditions?

Response:

The current version of Salem TS 3.5.3 does not specifically limit the run time on pumps. It does specify that the pumps can run for testing purposes, but does not limit the number or duration of these tests. The intent of the proposed change is to allow pump operations for surveillance testing, to perform trouble-shooting, system fill and venting, and accumulator filling. It is anticipated that the additional run time under this provision will be minimal. There are no adverse impacts resulting from this limited increase in run time. The water sources include the Refueling Water Storage Tank (RWST) and for the high head safety injection/charging pumps, the Volume Control Tank (VCT) is an additional water source. Both tanks have level indication and level alarms in the Control Room, and contain Reactor Coolant System quality water. No additional restrictions are necessary for these water sources.

5. The current version of Salem TS 3.5.2 identifies valves to be verified during the emergency core cooling system train operability verification. Which specific valves would have to be verified closed to ensure a safety injection pump or charging pump cannot inject water into the RCS?

Response:

The requirement to isolate the flow path to the RCS during safety injection or charging pump operation will be controlled through operating procedures. For example, to fill the ECCS accumulators from 21 safety injection pump the following (or equivalent) flowpath isolation valves will be closed: 21SJ40 (hot leg injection), 21SJ134 (cold leg injection) and the 21-24SJ54s (ECCS accumulator isolation valves).