SCE&G -- Explanation of Technical Specification Change for ECCS Pump Testing

PAGE	Affected Section	Bar #	Description of Change	Reason for Change
Index III	3.1.2.3 3.1.2.4	1	Deleted	Deleted Pages 3/4 1-9 and 3/4 1-10.
3/4 1-7	4.1.2.2	1	Added new surveillance requirement similar to revised TS 4.5.2.f (see below).	To ensure operability of charging pumps in Modes 5 and 6.
3/4 1-9	All	1	Deleted	Follow guidance of NUREG 1431, Rev. 1.
3/4 1-10	All	1	Deleted	Follow guidance of NUREG 1431, Rev. 1.
3/4 4-34	3.4.9.3 Action d	1	Added new Action d to add action statement to preclude mass addition transient.	Follow guidance of NUREG 1431, Rev. 1, Section 3.4.12.
	3.4.9.3 Action e	2	Renumbered action statements.	Clerical change.
	Note	3	Added note to permit reasonable time frame for pump swap operation	Follow guidance of NUREG 1431, Rev. 1, Section 3.4.12.
3/4 4-35	4.4.9.3.3	1	Added new surveillance to assure mass addition transient will be unlikely.	Follow guidance of NUREG 1431, Rev. 1, Section 3.4.12.
3/4 5-5	4.5.2.f	1	Revised section, remove specific recirculation flow acceptance criteria.	Follow guidance of NUREG 1431, Rev. 1, Section SR 3.5.2.4.
B 3/4 1-3	B 3/4 1-2	1	Deleted bases for charging pumps.	Due to deletion of associated specification.
B 3/4 4-2	B 3/4.4.2	1	Deleted inaccurate statement.	Statement is inaccurate.
B 3/4 4-14a	B 3/4.4.9	1	Added bases for new surveillance that is intended to limit mass input capability.	Follow guidance of NUREG 1431, Rev. 1, Section B 3/4.4.12.

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.1.2 BORATION SYSTEMS

FLOW PATH - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE and capable of being powered from an OPERABLE emergency power source:

a. A flow path from the boric acid tanks via either a boric acid transfer pump or a gravity feed connection and a charging pump to the Reactor Coolant System if the boric acid storage tank in Specification 3.1.2.5a is OPERABLE, or

b. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System if the refueling water storage tank in Specification 3.1.2.5b is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above flow paths OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.1.1 At least one of the above required flow paths shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

4.1.2.1.2 DEMONSTRATE OPERABILITY of the REQUIRED CHARGING PUMP PER SURVEILLANCE 4.5.2.f.

3/4.1.2 BORATION SYSTEMS

FLOW PATH - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE and capable of being powered from an OPERABLE emergency power source:

a. A flow path from the boric acid tanks via either a boric acid transfer pump or a gravity feed connection and a charging pump to the Reactor Coolant System if the boric acid storage tank in Specification 3.1.2.5a is OPERABLE, or

b. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System if the refueling water storage tank in Specification 3.1.2.5b is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above flow paths OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.1.1 At least one of the above required flow paths shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

4.1.2.1.2 Demonstrate operability of the required charging pump per Surveillance 4.5.2.f.

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 One charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required charging pump shall be demonstrated OPERABLE by verifying, on recirculation flow, a differential pressure across the pump of greater than or equal to 2472 psig is developed when tested pursuant to Specification 4.0.5.

4.1.2.3.2 All charging pumps, excluding the above required OPERABLE pump, shall be demonstrated inoperable, at least once per 31 days, except when the reactor vessel head is removed, by verifying that the motor circuit breakers are secured in the open position.

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REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4#.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 2 percent delta k/k at 200°F within the next 6 hours and in HOT SHUTDOWN within the following 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.4.1 At least two charging pumps shall be demonstrated OPERABLE by verifying, on recirculation flow, a differential pressure across each pump of greater than or equal to 2472 psig is developed when tested pursuant to Specification 4.0.5.

4.1.2.4.2 All charging pumps, except the above required OPERABLE pumps, shall be demonstrated inoperable, at least once per 31 days, whenever the temperature of one or more of the RCS cold legs is less than or equal to 300°F by verifying that the motor circuit breakers have been secured in the open position.

#A maximum of one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 300°F.

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REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 At least one of the following overpressure protection systems shall be OPERABLE:

a. Two RHR relief valves with:

1. A lift setting of less than or equal to 450 psig, and

2. The associated RHR relief valve isolation valves open; or

b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 2.7 square inches.

APPLICABILITY:

MODE 4 when the temperature of any RCS cold leg is less than or equal to 300°F, MODE 5, and MODE 6 with the reactor vessel head on.

ACTION:

a. With one RHR relief valve inoperable, restore the inoperable valve to OPERABLE status within 72 hours or depressurize and vent the RCS through a greater than or equal to 2.7 square inch vent within the next 8 hours.

b. With both RHR relief valves inoperable, within 8 hours either:

1. Restore at least one RHR relief valve to OPERABLE status, or

2. Depressurize and vent the RCS through a greater than or equal to 2.7 square inch vent.

c. In the event an RHR relief valve or RCS vent is used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the RHR relief valves or vent on the transient and any corrective action necessary to prevent recurrence.

e ~~d~~. The provisions of Specification 3.0.4 are not applicable.

d. IN The event that two or more charging pumps ARE CAPABLE of injecting into the RCS, immediately initiate action to ensure a maximum of one charging pump is capable of injecting into the RCS#.

TWO CHARGING PUMPS MAY BE CAPABLE of INJECTING INTO THE RCS while swapping pumps, ≤ 15 MINUTES

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

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2. The associated RHR relief valve isolation valves open; or

b. The Reactor Coolant System (RCS) depressurized with an RCS vent of greater than or equal to 2.7 square inches.

APPLICABILITY:

MODE 4 when the temperature of any RCS cold leg is less than or equal to 300°F, MODE 5, and MODE 6 with the reactor vessel head on.

ACTION:

a. With one RHR relief valve inoperable, restore the inoperable valve to OPERABLE status within 72 hours or depressurize and vent the RCS through a greater than or equal to 2.7 square inch vent within the next 8 hours.

b. With both RHR relief valves inoperable, within 8 hours either:

1. Restore at least one RHR relief valve to OPERABLE status, or

2. Depressurize and vent the RCS through a greater than or equal to 2.7 square inch vent.

c. In the event an RHR relief valve or RCS vent is used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the RHR relief valves or vent on the transient and any corrective action necessary to prevent recurrence.

d. In the event that two or more charging pumps are capable of injecting into the RCS, immediately initiate action to ensure a maximum of one charging pump is capable of injecting into the RCS#.

e. The provisions of Specification 3.0.4 are not applicable.

Two charging pumps may be capable of injecting into the RCS while swapping pumps, ≤15 minutes.

4.4.9.3.1 Each RHR relief valve shall be demonstrated OPERABLE by:

a. Verifying the RHR relief valve isolation valves (8701A, 8701B, 8702A, and 8702B) are open at least once per 72 hours when the RHR relief valve is being used for overpressure protection.

b. Testing pursuant to Specification 4.0.5.

c. Verification of the RHR relief valve setpoint of at least one RHR relief valve, at least once per 18 months on a rotating basis.

4.4.9.3.2 The RCS vent shall be verified to be open at least once per 12 hours* when the vent is being used for overpressure protection.

4.4.9.3.3 AT LEAST TWO CHARGING PUMPS SHALL BE VERIFIED INCAPABLE OF INJECTING INTO THE RCS AT LEAST ONCE PER 31 DAYS, EXCEPT WHEN THE REACTOR VESSEL HEAD IS REMOVED, BY VERIFYING THAT THE MOTOR CIRCUIT BREAKERS ARE SECURED IN THE OPEN POSITION.

*Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, verify these valves open at least once per 31 days.

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Each RHR relief valve shall be demonstrated OPERABLE by:

a. Verifying the RHR relief valve isolation valves (8701A, 8701B, 8702A, and 8702B) are open at least once per 72 hours when the RHR relief valve is being used for overpressure protection.

b. Testing pursuant to Specification 4.0.5.

c. Verification of the RHR relief valve setpoint of at least one RHR relief valve, at least once per 18 months on a rotating basis.

4.4.9.3.2 The RCS vent shall be verified to be open at least once per 12 hours* when the vent is being used for overpressure protection.

4.4.9.3.3 At least two charging pumps shall be verified incapable of injecting into the RCS at least once per 31 days, except when the reactor vessel head is removed, by verifying that the motor circuit breakers are secured in the open position.

* Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, verify these valves open at least once per 31 days.

SURVEILLANCE REQUIREMENTS (Continued)

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion

e. At least once per 18 months, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a safety injection actuation and containment sump recirculation test signal.

2. Verifying that each of the following pumps start automatically upon receipt of a safety injection actuation test signal:

a) Centrifugal charging pump

b) Residual heat removal pump

Replace f. with:

f. ~~By verifying that each of the following pumps develops a differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:~~

~~1. Centrifugal charging pump ≥ 2472 psi~~

~~2. Residual heat removal pump ≥ 128 psi~~

By verifying each ECCS pump's developed head at the test flow point for that pump is greater than or equal to the required developed head in accordance with Specification 4.0.5.

g. By verifying the correct position of each mechanical position stop for the following ECCS throttle valves:

1. Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.

2. At least once per 18 months.

HPSI System
Valve Number

a. 8996A
b. 8996B
c. 8996C
d. 8994A
e. 8994B
f. 8994C
g. 8989A
h. 8989B
i. 8989C
j. 8991A
k. 8991B
l. 8991C

SURVEILLANCE REQUIREMENTS (Continued)

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

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g. By verifying the correct position of each mechanical position stop for the following ECCS throttle valves:

1. Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.

2. At least once per 18 months.

HPSI System Valve Number	
a.	8996A
b.	8996B
c.	8996C
d.	8994A
e.	8994B
f.	8994C
g.	8989A
h.	8989B
i.	8989C
j.	8991A
k.	8991B
l.	8991C

BORATION SYSTEMS (Continued)

MARGIN from expected operating conditions of 1.77% delta k/k or as required by Figure 3.1-3 after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs from full power equilibrium xenon conditions and is satisfied by 13269 gallons of 7000 ppm borated water from the boric acid storage tanks or 98631 gallons of 2300 ppm borated water from the refueling water storage tank.

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes inoperable.

~~The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below 275°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.~~

The boron capability required below 200°F is sufficient to provide the required SHUTDOWN MARGIN of 1 percent delta k/k or as required by Figure 3.1-3 after xenon decay and cooldown from 200°F to 140°F. This condition is satisfied by either 2000 gallons of 7000 ppm borated water from the boric acid storage tanks or 23266 gallons of 2300 ppm borated water from the refueling water storage tank.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential effects of rod misalignment on associated accident analyses. OPERABILITY of the control rod position indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits.

BORATION SYSTEMS (Continued)

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3/4.4.2 SAFETY VALVES

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2735 psig. Each safety valve is designed to relieve 420,000 lbs per hour of saturated steam at the valve set point plus 3% accumulation. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that no safety valves are OPERABLE, an operating RHR loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization. ~~In addition, the Overpressure Protection System provides a diverse means of protection against RCS overpressurization at low temperatures.~~ DELETE

During operation, all pressurizer code safety valves must be OPERABLE to prevent the RCS from being pressurized above its safety limit of 2735 psig. The combined relief capacity of all of these valves is greater than the maximum surge rate resulting from a complete loss of load assuming no reactor trip until the first Reactor Protective System trip set point is reached (i.e., no credit is taken for a direct reactor trip on the loss of load) and also assuming no operation of the power operating relief valves or steam dump valves.

Demonstration of the safety valves' lift settings will be performed in accordance with the provisions of Section XI of the ASME Boiler and Pressure Code.

3/4.4.3 PRESSURIZER

The limit on the maximum water volume in the pressurizer assures that the parameter is maintained within the normal steady state envelope of operation assumed in the SAR. The limit is consistent with the initial SAR assumptions. The 12 hour periodic surveillance is sufficient to assure that the parameter is restored to within its limit following expected transient operation. The maximum water volume also ensures that a steam bubble is formed and thus the RCS is not a hydraulically solid system. The requirement that a minimum number of pressurizer heaters be OPERABLE enhances the capability of the plant to control Reactor Coolant System pressure and establish natural circulation.

3/4.4.4 RELIEF VALVES (PORVs)

The pressurizer power operated relief valves (PORVs) and steam bubble function to relieve RCS pressure during all design transients up to and including the design step load decrease with steam dump. The PORVs and block valves may be used to depressurize the RCS when normal pressurizer spray is unavailable. Operation of the air operated PORVs minimizes the undesirable opening of the spring loaded pressurizer code safety valves. Each PORV has a remotely controlled motor-operated block valve to provide a positive shutoff capability should a relief valve become inoperable. The series arrangement of the PORV and its associated block valve permit surveillance while at power.

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Although the pressurizer operates in temperature ranges above those for which there is reason for concern of non-ductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

The OPERABILITY of two RHRSRVs or an RCS vent opening of at least 2.7 square inches ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are less than or equal to 300°F. Either RHRSRV has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either (1) the start of an idle RCP with the secondary water temperature of the steam generator less than or equal to 50°F above the RCS cold leg temperatures or (2) the start of an HPSI pump and its injection into a water solid RCS.

THE LIMITATION for A MAXIMUM of ONE CHARGING Pump to BE CAPABLE of INJECTING INTO THE RCS, AND THE SURVEILLANCE REQUIREMENT to VERIFY AT LEAST TWO CHARGING PUMPS ARE DEMONSTRATED TO BE INOPERABLE AT LEAST ONCE PER 31 DAYS, WHILE the RCS is BELOW 300°F, PROVIDES ASSURANCE THAT A MASS-ADDITION TRANSIENT CAN BE MITIGATED BY A SINGLE RHR SUCTION RELIEF VALVE.

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The limitation for a maximum of one charging pump to be capable of injecting into the RCS, and the Surveillance Requirement to verify at least two charging pumps aredemonstrated to be INOPERABLE at least once per 31 days, while the RCS is below 300°F, provides assurance that a mass addition transient can be mitigated by a single RHR suction relief valve.

SAFETY EVALUATION FOR REVISING THE SPECIFICATION FOR ECCS PUMP TESTING IN THE VIRGIL C. SUMMER NUCLEAR STATION TECHNICAL SPECIFICATIONS

Description of Amendment Request

South Carolina Electric & Gas Company (SCE&G) proposes to revise the Virgil C. Summer Nuclear Station (VCSNS) Technical Specifications (TS) pages 3/4 4-34, 3/4 4-35, and 3/4 5-5; and delete pages 3/4 1-9 and 3/4 1-10. Additionally, several Bases pages require revision resulting from the proposed changes and other reviews. This change is consistent with the guidance of the Westinghouse Standardized Technical Specifications (STS).

The proposed changes are:

- To add a Surveillance Requirement for Boration flow path 4.1.2.2 to ensure operability of the required charging pump in Modes 5 and 6.
- To delete Pages 3/4 1-9 and 3/4 1-10 from the Reactivity Control Systems section. This change conforms with NUREG 1431, Rev. 1, Section 3/4.1.
- To add an action statement to Specification 3/4.4.9.3 that is intended to preclude mass addition transients from occurring at low temperatures as a result of inadvertent SI actuation or makeup from a second charging pump. This Action Statement is similar to one in NUREG 1431, Rev. 1, Section 3.4.9.3.
- To add a note that permits for a short time, two charging pumps to be capable of injection during a pump swap operation.
- To provide a Surveillance Requirement to Specification 3/4.4.9.3 that will demonstrate that a mass addition transient is unlikely and provide assurance that the number of pumps required to be inoperable is maintained. This requirement is similar to one that was previously located in 4.1.2.3.2 and 4.1.2.4.2.
- To revise the Surveillance Requirement for ECCS Subsystems 4.5.2.f. The current requirement is too restrictive and may not indicate actual pump performance due to the testing methodology.
- To delete a paragraph from the Bases Section B 3/4.1 which discusses the reason for a maximum of one operable charging pump below 300°F. The specifications that are associated with this Bases paragraph are being deleted.
- To delete an inaccurate statement for Bases Section B 3/4.4.2. This statement indicates that there are diverse methods of mitigating low temperature overpressure (LTOP) transients.
- To add the basis for the new Surveillance Requirement associated with Specification 3.4.9.3. This basis is very similar to the paragraph being deleted on page B 3/4.1-3.

Safety Evaluation

The design function of the ECCS is to provide borated water to the RCS quickly enough and in sufficient quantity to prevent significant damage to the reactor core in the event of an accident. The borated water provides both for core cooling (short and long term) and for adding negative reactivity to prevent the core from staying or becoming critical. The ECCS pumps are required to inject a minimum flow rate into the RCS at a specific pressure to mitigate the accident consequences. The accidents of concern are:

- Loss of Coolant Accident
- Rod Ejection
- Loss of Secondary Coolant
- Steam Generator Tube Rupture

Periodic testing of the ECCS pumps should detect early signs of pump degradation and is a requirement of the ASME Boiler and Pressure Vessel Code, Section XI, Article IWP. This testing is performed by measuring pump performance at a reference flow point. The surveillance requirements are specified in the Inservice Testing Program which is based on Section XI of the Code and Generic Letter 89-04. The proposed change will not alter or invalidate the surveillance requirements, but will permit the following enhancements in testing:

- Residual Heat Removal Pumps will be tested at a substantial flow rate vs. the original Technical Specification requirement of minimum flow.

- Centrifugal Charging Pumps will be tested at minimum flow during normal plant operation and at a substantial flow rate during each Refueling Outage vs. the original Technical Specification requirement of minimum flow.

The proposed change will not alter or invalidate the surveillance requirements, but will permit testing the pumps at a value more representative of pump parameters required for accident mitigation without duplication of testing efforts.

The deletion of the Reactivity Control System Specifications (Charging Pumps - Operating and Charging Pump - Shutdown) does not impact the availability of the charging pumps to mitigate a design basis accident. The safety related functions of the charging pumps are addressed in the ECCS Subsystems Section of the Technical Specifications.

The need to limit overpressure conditions while shutdown ensures the pressure temperature limits of the RCS system are not exceeded. The low temperature overpressure system is capable of mitigating a mass addition transient resulting from the inadvertent operation of a charging/SI pump, or an energy addition resulting from the inadvertent startup of a RCP. The LTOP system will assure the pressure temperature limits are not exceeded.

In order to provide this assurance, provisions were made to preserve the design capabilities of the LTOP System. By maintaining a maximum of one charging capable of injection into the RCS, below 300°F, the capacity of one RHR suction relief valve will not be challenged by a mass addition transient. The surveillance was moved from the Reactivity Control Systems section to the RCS section to assure this design assumption is maintained. The immediate initiation of actions provides assurance that requirements are met in the event that two or more charging pumps are discovered capable of RCS injection while in Mode 4 (below 300°F), Mode 5, and Mode 6 (with the reactor vessel head on).

SIGNIFICANT HAZARDS EVALUATION FOR REVISING THE SPECIFICATION FOR ECCS PUMP TESTING IN THE VIRGIL C. SUMMER NUCLEAR STATION TECHNICAL SPECIFICATIONS

Description of Amendment Request

South Carolina Electric & Gas Company (SCE&G) proposes to revise the Virgil C. Summer Nuclear Station (VCSNS) Technical Specifications (TS) pages 3/4 4-34, 3/4 4-35, and 3/4 5-5; and delete pages 3/4 1-9 and 3/4 1-10. Additionally, several Bases pages require revision resulting from the proposed changes and other reviews. This change is consistent with the guidance of the Westinghouse Standardized Technical Specifications (STS).

The proposed changes are:

- To add a Surveillance Requirement for Boration flow path 4.1.2.2 to ensure operability of the required charging pump in Modes 5 and 6.
- To delete Pages 3/4 1-9 and 3/4 1-10 from the Reactivity Control Systems section. This change conforms with NUREG 1431, Rev. 1, Section 3/4.1.
- To add an action statement to Specification 3/4.4.9.3 that is intended to preclude mass addition transients from occurring at low temperatures as a result of inadvertent SI actuation or makeup from a second charging pump. This Action Statement is similar to one in NUREG 1431, Rev. 1, Section 3.4.9.3.
- To add a note that permits for a short time, two charging pumps to be capable of injection during a pump swap operation.
- To provide a Surveillance Requirement to Specification 3/4.4.9.3 that will demonstrate that a mass addition transient is unlikely and provide assurance that the number of pumps required to be inoperable is maintained. This requirement is similar to one that was previously located in 4.1.2.3.2 and 4.1.2.4.2.
- To revise the Surveillance Requirement for ECCS Subsystems 4.5.2.f. The current requirement is too restrictive and may not indicate actual pump performance due to the testing methodology.
- To delete a paragraph from the Bases Section B 3/4.1 which discusses the reason for a maximum of one operable charging pump below 300°F. The specifications that are associated with this Bases paragraph are being deleted.
- To delete an inaccurate statement for Bases Section B 3/4.4.2. This statement indicates that there are diverse methods of mitigating low temperature overpressure (LTOP) transients.
- To add the basis for the new Surveillance Requirement associated with Specification 3.4.9.3. This basis is very similar to the paragraph being deleted on page B 3/4.1-3.

Basis for No Significant Hazards Consideration Determination

SCE&G has evaluated the propcsed changes to the VCSNS's TS described above against the Significant Hazards Criteria of 10 CFR 50.92 and has determined that these changes do not involve any significant hazards for the following reasons:

1. The probability or consequences of an accident previously evaluated is not significantly increased.

   The implementation of the above described TS changes will have no impact on the probability of an accident occurring. The testing of the ECCS pumps at a more appropriate point on their characteristic curve is not a precursor to an accident. There is no hardware, software, or testing methodology change proposed that would decrease confidence in the reliability of these systems/components.

   The proposed revision to the ECCS Pump testing surveillance will allow greater flexibility for testing and will provide more useful information about the performance capabilities of those pumps.

   The deletion of the Reactivity Control System Specifications (Charging Pumps - Operating and Charging Pump - Shutdown) will have no impact on the capability of the Charging/SI pumps to perform their design function. The additionalAction Statement and Surveillance for low temperature overpressure (LTOP) assure that safety analyses remain valid and initial conditions are not changed. The additional Surveillance Requirement for Boration Systems assures that one charging pump will be operable during Modes 5 and 6.

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

   This proposed TS change does not involve any changes to station hardware, software, or operating practices. The changes do provide for a revision to the testing methodology used in demonstrating the capability of the ECCS pumps.

   This methodology will test the ECCS pumps at a point on the pump's characteristic curve that will more reliably indicate the pump's continued operability at or near the parameters the pump would be required to provide during a postulated accident.

   The deletion of the Reactivity Control System Specifications (Charging Pumps - Operating and Charging Pump - Shutdown) will not provide additional challenges to the capability of the plant to meet normal operational needs or mitigate the conditions of a design basis accident. The ECCS Subsystems TS provides similar surveillance requirements to insure continued operability of the Charging/SI pumps. The LTOP TS will now provide requirements to assure that design assumptions are not challenged and RCS integrity is maintained.

Therefore, as the above described change has no impact on plant performance, the possibility of a new or different kind of accident being created as a result of this change is negligible.

3. The proposed license amendment does not involve a significant reduction in a margin of safety.

   The change in testing philosophy for ECCS pumps should bring an increase in margin of safety, since testing will be conducted at reference flow points closer to actual pump parameters for accident conditions. For the Residual Heat Removal Pumps this will be conducted quarterly and for the centrifugal charging pumps, they will be tested quarterly on minimum flow and each refueling outage at substantial flow per the Inservice Testing Program.

   The surveillance requirements of TS 3/4.1.2.3 and TS 3/4.1.2.4 are essentially the same to those in 3/4.5.2 and 3/4.5.3 (ECCS Subsystems), and the deletion of these requirements will have no adverse impact on margin of safety. The addition of the Action Statement and Surveillance Requirement to 3/4.4.9.3 (Overpressure Protective Systems) provide additional requirements to supplement those above to assure RCS integrity is maintained for all operational modes. The addition of the Surveillance Requirement to 3/4.1.2.1 will provide assurance that reactivity control can be maintained for Modes 5 and 6 through the charging system flow path.