

ENCLOSURE TO SERIAL: HNP-97-059

ENCLOSURE 5
SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
REFUELING WATER STORAGE TANK

TECHNICAL SPECIFICATION PAGES

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EMERGENCY CORE COOLING SYSTEMS

3/4.5.4 REFUELING WATER STORAGE TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water storage tank (RWST) shall be OPERABLE with:

- a. A minimum contained borated water volume of 436,000 gallons, which is equivalent to 92% indicated level.
- b. A boron concentration of between 2400 and 2600 ppm of boron.
- c. A minimum solution temperature of 40°F, and
- d. A maximum solution temperature of 125°F.

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

ACTION:

With the RWST inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.4 The RWST shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 1. Verifying the contained borated water volume in the tank, and
 2. Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the RWST temperature when the outside air temperature is less than 40°F or greater than 125°F.

* Except that while performing surveillance 4.4.6.2.2, the tank must be returned to OPERABLE status within 12 hours.

EMERGENCY CORE COOLING SYSTEMS

BASES

ECCS SUBSYSTEMS (Continued)

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

3/4.5.4 REFUELING WATER STORAGE TANK

The OPERABILITY of the refueling water storage tank (RWST) as part of the ECCS ensures that a sufficient supply of borated water is available for injection into the core by the ECCS. This borated water is used as cooling water for the core in the event of a LOCA and provides sufficient negative reactivity to adequately counteract any positive increase in reactivity caused by RCS cooldown. RCS cooldown can be caused by inadvertant depressurization, a LOCA, or a steam line rupture.

The limits on RWST minimum volume and boron concentration assure that: (1) sufficient water is available within containment to permit recirculation cooling flow to the core and (2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all shutdown and control rods inserted except for the most reactive control assembly. These limits are consistent with the assumption of the LOCA and steam line break analyses.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

Insert A

Insert "A" at B 3/4 5-2

An RWST allowed outage time of 12 hours is permitted during performance of Technical Specification surveillance 4.4.6.2.2 with a dedicated attendant stationed at valve 1CT-22 in communication with the Control Room. The dedicated attendant is to remain within the RWST compartment whenever valve 1CT-22 is open during the surveillance. The dedicated attendant can manually close valve 1CT-22 within 30 minutes in case of a line break caused by a seismic event. Due to the piping configuration, a break in the non-seismic portion of piping during this surveillance could result in draining the RWST below the minimum analyzed volume.



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