FPL.

July 15, 2015
L-2015-185
10 CFR 50.90

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

Re: Turkey Point Nuclear Plant, Units 3 and 4
Docket Nos. 50-250 and 50-251

Supplement to License Amendment Request 230, Application to Revise Technical Specifications to Adopt Technical Specifications Task Force (TSTF) Traveler-523, "Generic Letter 2008-001, Managing Gas Accumulation," Using the Consolidated Line Item Improvement Process

References:

1. Florida Power & Light Company letter L-2014-028, "License Amendment Request No. LAR 230, Application to Revise Technical Specifications to Adopt Technical Specifications Task Force (TSTF) Traveler-523, "Generic Letter 2008-01, Managing Gas Accumulation," Using the Consolidated Line Item Improvement Process," July 8, 2014 [ML14205A278]

2. Florida Power & Light Company letter L-2014-033, "License Amendment Request No. 229, Application for Technical Specification Change Regarding Risk-Informed Justifications for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program," April 9, 2014 [ML14105A042]

In Reference 1, Florida Power & Light Company (FPL) submitted license amendment request (LAR) 230 to revise the Technical Specifications (TS) for Turkey Point Units 3 and 4. The amendment would modify the TS as described in TSTF-523, "Generic Letter 2008-001, Managing Gas Accumulation." This supplement proposes to modify the surveillance frequency for the new and revised surveillance requirements included in the LAR 230 TS changes.

TSTF-523 modifies the existing surveillance requirements (SRs) related to gas accumulation for the emergency core cooling system and adds new SRs on entrained gas to the TS governing the residual heat removal and containment spray systems. The frequency for these SRs, as discussed in TSTF-523, will be 31 days for licensees without a Surveillance Frequency Control Program (SFCP), and for licensees with a SFCP, the frequency will be "In accordance with the Surveillance Frequency Control Program."

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Turkey Point does not have a SFCP; therefore, LAR 230 proposed a frequency of 31 days for the revised and new SRs. However, in Reference 2, FPL submitted LAR 229 with a request to modify the TS by relocating specific surveillance frequencies to a licensee controlled program with implementation of Nuclear Energy Institute (NEI) 04-10, "Risk-Informed Technical Specification Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies," consistent with TSTF-425, "Relocate Surveillance Frequencies to Licensee Control- RITSTF Initiative 5b." The NRC staff is nearing completion of its review of LAR 229 and expects to issue a license amendment within approximately one month. At the same time, the NRC staff is completing its review of LAR 230 and will be preparing to issue an amendment around the same time. Therefore, FPL is proposing to modify the frequencies for the new and revised SRs in LAR 230 from "at least once per 31 days" to "in accordance with the Surveillance Frequency Control Program."

The proposed modification to the surveillance frequencies in LAR 230 is a deviation from TSTF-523 because Turkey Point does not currently have a SFCP. However, the NRC expects to issue the amendment for LAR 229, which will establish a SFCP at Turkey Point, prior to issuing the amendment for LAR 230. Therefore, Turkey Point will have a SFCP when the amendment for LAR 230 is issued. This change to the originally proposed surveillance frequency, which is consistent with TSTF-523, is administrative in nature and will provide consistency between the TS changes in the amendments for LAR 229 and LAR 230. With the proposed change, implementation of the amendment for LAR 230 cannot precede implementation of the amendment for LAR 229. Therefore, FPL requests an implementation period for the amendment for LAR 230 of 120 days following issuance of the amendment.

Attachment 1 provides markups of the TS pages showing the proposed changes. Attachment 2 contains the TS Bases marked up to show the proposed changes. Attachments 1 and 2 supersede the corresponding markups provided in Reference 1.

The changes provided in this supplement do not alter the conclusion in the LAR that the proposed changes do not involve a significant hazards consideration.

This supplement to the LAR contains no new regulatory commitments and does not modify any existing commitments.

These changes have been reviewed by the Turkey Point Plant Nuclear Safety Committee.

Pursuant to 10 CFR 50.91(b)(1), a copy of this submittal is being forwarded to the designated State of Florida official.

Should you have any questions regarding this submittal, please contact Mr. Mitch Guth, Licensing Manager, at 305-246-6698.

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

Executed on July 15, 2015.

Sincerely,

Thomas Summers
Site Vice President
Turkey Point Nuclear Plant

Attachments (2)

cc: NRC Regional Administrator, Region II
NRC Senior Resident Inspector
NRC Project Manager
Ms. Cindy Becker, Florida Department of Health

ATTACHMENT 1

Turkey Point

Mark-ups of Technical Specifications Pages

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required reactor coolant pump(s), if not in operation, shall be determined OPERABLE by verifying correct breaker alignments and indicated power availability in accordance with the Surveillance Frequency Control Program.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 10% in accordance with the Surveillance Frequency Control Program.

4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation and circulating reactor coolant in accordance with the Surveillance Frequency Control Program.

4.4.1.3.4 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water in accordance with the Surveillance Frequency Control Program. *

* Not required to be performed until 12 hours after entering MODE 4.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation*, and either:

a. One additional RHR loop shall be OPERABLE**, or

b. The secondary side water level of at least two steam generators shall be greater than 10%.

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

a. With one of the RHR loops inoperable or with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible.

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits in accordance with the Surveillance Frequency Control Program.

4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant in accordance with the Surveillance Frequency Control Program.

4.4.1.4.1.3 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water in accordance with the Surveillance Frequency Control Program.

* The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE.

*** A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 275°F unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS NOT FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.2 Two residual heat removal (RHR) loops shall be OPERABLE* and at least one RHR loop shall be in operation.**

APPLICABILITY: MODE 5 with reactor coolant loops not filled.

ACTION:

a. With less than the above required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

4.4.1.4.2.1

SURVEILLANCE REQUIREMENTS

~~4.4.1.4.2~~ At least one RHR loop shall be determined to be in operation and circulating reactor coolant in accordance with the Surveillance Frequency Control Program.

4.4.1.4.2.2 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water in accordance with the Surveillance Frequency Control Program.

* One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE.

** The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS component and flow path shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by verifying by control room indication that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
864A and B	Supply from RWST to ECCS	Open
862A and B	RWST Supply to RHR pumps	Open
863A and B	RHR Recirculation	Closed
866A and B	H.H.S.I. to Hot Legs	Closed
HCV-758*	RHR HX Outlet	Open

To permit temporary operation of these valves for surveillance or maintenance purposes, power may be restored to these valves for a period not to exceed 24 hours.

ECCS locations susceptible to gas accumulation are sufficiently filled with water

b. In accordance with the Surveillance Frequency Control Program by:

1) Verifying ~~that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping~~, and

2) 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. **

c. By verifying that each SI and RHR pump develops the indicated differential pressure applicable to the operating conditions when tested pursuant to Specification 4.0.5:

1) SI pump ≥ 1083 psid at a metered flowrate ≥ 300 gpm (normal alignment or Unit 4 SI pumps aligned to Unit 3 RWST), or

≥ 1113 psid at a metered flowrate ≥ 280 gpm (Unit 3 SI pumps aligned to Unit 4 RWST).

2) RHR pump Develops the indicated differential pressure applicable to the operating conditions in accordance with Figure 3.5-1.

** Not required to be met for system vent flow paths opened under administrative control.

*Air Supply to HCV-758 shall be verified shut off and sealed closed in accordance with the Surveillance Frequency Control Program.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and manually transferring suction to the containment sump via the RHR System.

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

ACTION:

a. With one Containment Spray System inoperable restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With two Containment Spray Systems inoperable restore at least one Spray System to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore both Spray Systems to OPERABLE status within 72 hours of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program 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 and that power is available to flow path components that require power for operation; *

b. By verifying that on recirculation flow, each pump develops the indicated differential pressure, when tested pursuant to Specification 4.0.5:

Containment Spray Pump $\geq$241.6 psid while aligned in recirculation mode.

c. In accordance with the Surveillance Frequency Control Program by verifying containment spray locations susceptible to gas accumulation are sufficiently filled with water.

* Not required to be met for system vent flow paths opened under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

d. ~~e.~~ In accordance with the Surveillance Frequency Control Program during shutdown by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on a containment spray actuation test signal, and

2) Verifying that each spray pump starts automatically on a containment spray actuation test signal. The manual isolation valves in the spray lines at the containment shall be locked closed for the performance of these tests.

e. ~~d.~~ In accordance with the Surveillance Frequency Control Program by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

REFUELING OPERATIONS

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation.*

APPLICABILITY: MODE 6, when the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

ACTION:

With no RHR loop OPERABLE and in operation, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to OPERABLE and operating status as soon as possible. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

SURVEILLANCE REQUIREMENTS

4.9.8.1.1 At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 3000 gpm in accordance with the Surveillance Frequency Control Program.

4.9.8.1.2 The RHR flow indicator shall be subjected to a CHANNEL CALIBRATION in accordance with the Surveillance Frequency Control Program.

4.9.8.1.3 Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water in accordance with the Surveillance Frequency Control Program.

*The required RHR loop may be removed from operation for up to 1 hour per 8 hour period, provided no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration.

REFUELING OPERATIONS

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two independent residual heat removal (RHR) loops shall be OPERABLE, and at least one RHR loop shall be in operation*.

APPLICABILITY: MODE 6, when the water level above the top of the reactor vessel flange is less than 23 feet.

ACTION:

a. With less than the required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status, or to establish greater than or equal to 23 feet of water above the reactor vessel flange, as soon as possible.

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

SURVEILLANCE REQUIREMENTS

4.9.8.2.1

~~4.9.8.2~~ At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 3000 gpm in accordance with the Surveillance Frequency Control Program.

4.9.8.2.2 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water in accordance with the Surveillance Frequency Control Program.

* One required RHR loop may be inoperable for up to 2 hours for surveillance testing, provided that the other RHR loop is OPERABLE and in operation.

ATTACHMENT 2

Turkey Point
Mark-ups of Technical Specifications Bases
(For Information Only)

ATTACHMENT 2
Technical Specification Bases
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3/4.4.1 (Continued)

The Technical Specifications for Cold Shutdown allow an inoperable RHR pump to be the operating RHR pump for up to 2 hours for surveillance testing to establish operability. This is required because of the piping arrangement when the RHR system is being used for Decay Heat Removal.

Insert 1

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 313,826 lbs per hour of saturated steam at the valve setpoint. 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 RCS vent opening of at least 2.20 square inches will provide overpressure relief capability and will prevent RCS overpressurization. In addition, the Overpressure Mitigating System provides a diverse means of protection against RCS overpressurization at low temperatures.

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 Trip System Trip Setpoint 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-operated relief valves or steam dump valves.

The pressurizer safety valves are set to open at an RCS pressure of 2465 psig +2% and -3% to avoid exceeding the maximum design pressure safety limit and to maintain accident assumptions. The pressurizer safety valve lift setting is needed to assure acceptable results for the Loss of Load/ Turbine Trip analysis. The upper and lower pressure tolerance limits are based on the tolerance requirements assumed in the safety analyses.

Insert 1

RHR System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the required RHR loop(s) and may also prevent water hammer, pump cavitation, and pumping of noncondensible gas into the reactor vessel.

Selection of RHR System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The RHR System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

SR 4.4.1.3.4 is modified by a Note that states the SR is not required to be performed until 12 hours after entering MODE 4. In a rapid shutdown, there may be insufficient time to verify all susceptible locations prior to entering MODE 4.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

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3/4.5.2
&
3/4.5.3 ECCS Subsystems

Management of gas voids is important to ECCS OPERABILITY.

The OPERABILITY of ECCS components and flowpaths required in MODES 1, 2, and 3 ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming any single active failure consideration. Two SI Pumps and one RHR Pump operating in conjunction with two Accumulators are capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all pipe break sizes up to and including the maximum hypothetical accident of a circumferential rupture of a reactor coolant loop. The integrity of the cold leg injection flowpath can be impacted by the opposite unit if a discharge path is opened in a low pressure condition. This is **NOT** normally a concern based on the opposite unit operating at 2235 psig maintaining cold leg injection check valves closed. In addition, the RHR subsystem provides long-term core cooling capability in the RECIRCULATION mode during the accident recovery period.

CAUTION

Interim Compensatory Measure

The provision for temporary restoration of power to locked ECCS valves listed in SR 4.5.2.a for up to 24 hours to permit temporary operation for surveillance and maintenance purposes has been determined to be non-conservative with respect to the safety analysis. Therefore, until appropriate changes to SR 4.5.2 via LAR 212 are approved and implemented, restoration of power to the valves listed in SR 4.5.2.a shall be limited to one hour in order to provide alternative valve position indication in the event that the continuous valve position indication (amber light) in the Control Room is unavailable.
Ref AR 1811016.

Motor Operated Valves (MOVs) 862A, 862B, 863A, 863B are required to take suction from the containment sump via the RHR System. PC-600 supplies controlling signals to valves MOVs 862B and 863B, to prevent opening these valves if RHR Pump B discharge pressure is above 210 psig. PC-601 provides similar functions to valves MOVs 862A and 863A. Although all four valves are normally locked in position, with power removed, the capability to power up and stroke the valves must be maintained in order to satisfy the requirements for OPERABLE flow paths (capable of taking suction from the containment sump).

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3/4.5.2 & 3/4.5.3 (Continued)

TS Surveillance 4.5.2.a requires that each ECCS component and flow path be demonstrated operable at least once per 12 hours by verifying by Control Room indication that the valves listed in Section 4.5.2.a are in the indicated positions with power to the valve operators removed. Verifying Control Room indication applies to the valve position and **NOT** to the valve operator power removal. The breaker position may be verified by either the off condition of the breaker position indication light in the Control Room, or the verification of the locked open breaker position in the field. Verifying that power is removed to the applicable valve operators can be accomplished by direct field indication of the breaker (locked in the open position), or by observation of the breaker position status lamp in the Control Room (lamp is off when breaker is open). Surveillance Requirements for throttle valve position stops prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration.

Insert 2

~~ECCS "accessible discharge piping" is defined as discharge piping outside of containment in accordance with NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems interpretation. High point vents (current or added) outside of containment on the HHSI and RHR Systems discharge piping are considered accessible. These valves must be included in the monthly venting procedure to comply with Technical Specification Surveillance Requirement 4.5.2.b.1. This clarification was added as a corrective action to CR# 2009-18558.~~

In the RHR test, differential head is specified in feet. This criteria will allow for compensation of test data with water density due to varying temperature.

Insert 2

ECCS piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the ECCS and may also prevent water hammer, pump cavitation, and pumping of noncondensible gas (e.g., air, nitrogen, or hydrogen) into the reactor vessel.

Selection of ECCS locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The ECCS is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the ECCS is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

ECCS locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

SR 4.5.2b.2 is modified by a Note which exempts system vent flow paths opened under administrative control. The administrative control should be proceduralized and include stationing a dedicated individual at the system vent flow path who is in continuous communication with the operators in the control room. This individual will have a method to rapidly close the system vent flow path if directed.

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3/4.6.1.6 (Continued)

The required Special Reports from any engineering evaluation of containment abnormalities shall include a description of the tendon condition, the condition of the concrete (specially at tendon anchorages), the inspection procedures, the tolerances on cracking, the results of the engineering evaluation, and the corrective actions taken.

The submittal of a Special Report for a failed tendon surveillance is considered an administrative requirement and it does **NOT** impact the plant operability. The administrative requirements for Special Reports are defined in Technical Specifications section 6.9.2.

3/4.6.1.7 Containment Ventilation System

The Containment Purge supply and exhaust isolation valves are required to be closed during a LOCA. When **NOT** purging, power to the purge valve actuators will be removed (sealed closed) to prevent inadvertent opening of these values. Maintaining these valves sealed closed during plant operation ensures that excessive quantities of radioactive materials will **NOT** be released via the Containment Purge System.

Leakage integrity tests with a maximum allowable leakage rate for Containment Purge supply and exhaust supply valves will provide early indication of resilient material seal degradation and will allow opportunity for repair before gross leakage failures could develop. The 0.60 La leakage limit shall **NOT** be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

3/4.6.2 Depressurization and Cooling Systems

Management of gas voids is important to containment spray system OPERABILITY.

3/4.6.2.1 Containment Spray System

The OPERABILITY of the Containment Spray System ensures that containment depressurization capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

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3/4.6.2.1 (Continued)

The allowable out-of-service time requirements for the Containment Spray System have been maintained consistent with that assigned other inoperable ESF equipment and do **NOT** reflect the additional redundancy in cooling capability provided by the Emergency Containment Cooling System. Pump performance requirements are obtained from the accidents analysis assumptions.

Motor Operated Valves (MOVs) 862A, 862B, 863A, 863B are required to take suction from the Containment Sump via the RHR system. PC-600 supplies controlling signals to valves MOVs 862B and 863B, to prevent opening these valves if RHR pump B discharge pressure is above 210 psig. PC-301 provides similar functions to valves MOVs 862A and 863A. Although all four valves are normally locked in position, with power removed, the capability to power up and stroke the valves must be maintained in order to satisfy the requirements for OPERABLE flow paths (capable of taking suction from the containment sump).

When PC-600/-601 are calibrated, a test signal is supplied to each circuit to check operation of the relays and annunciators operated by subject controllers. This test signal will prevent MOVs 862A, 862B, 863A, 863B from opening. Therefore, it is appropriate to tag out the MOV breakers, and enter Technical Specification Action Statement 3.5.2.a. and 3.6.2.1 when calibrating PC-600/-601.

Insert 3

3/4.6.2.2 Emergency Containment Cooling System

The OPERABILITY of the Emergency Containment Cooling (ECC) System ensures that the heat removal capacity is maintained within acceptable ranges following postulated design basis accidents. To support both containment integrity safety analyses and component cooling water thermal analysis, two ECCs must start and run within 60 seconds of receipt of a safety injection (SI) signal (one ECC receives an A train SI signal and another ECC receives a B train SI signal). The third (swing) ECC is required to automatically start upon failure of either of the other two ECCs to start.

Insert 3

Containment Spray System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the containment spray trains and may also prevent water hammer and pump cavitation.

Selection of Containment Spray System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The Containment Spray System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the Containment Spray System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

Containment Spray System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations, alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.

SR 4.6.2.1a is modified by a Note which exempts system vent flow paths opened under administrative control. The administrative control should be proceduralized and include stationing a dedicated individual at the system vent flow path who is in continuous communication with the operators in the control room. This individual will have a method to rapidly close the system vent flow path if directed.

ATTACHMENT 2
Technical Specification Bases
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3/4.9.6 (Continued)

A normal refueling consists of 2 CORE ALTERATION sequences: unloading the core, and reloading the core, typically with a suspension of CORE ALTERATIONS in between. The core unload sequence begins with control rod unlatching, followed by removal of upper internals, followed by unloading fuel assemblies to the SFP. The core reload sequence consists of reloading fuel assemblies from the SFP, followed by upper internals installation, followed by latching control rods. The surveillance requirements call for the specified testing to be performed at least once each refueling, and do **NOT** specify additional testing at any particular frequency. Therefore, the manipulator crane testing need only be performed within 100 hours prior to the start of unloading fuel assemblies to the SFP, and likewise, the auxiliary hoist testing need only be performed within 100 hours prior to the start of control rod unlatching.

3/4.9.7 Deleted

3/4.9.8 Residual Heat Removal and Coolant Circulation

The requirement that at least one residual heat removal (RHR) loop be in operation ensures that: (1) Sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor vessel below 140°F as required during the REFUELING MODE, and (2) Sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor vessel flange ensures that a single failure of the operating RHR loop will **NOT** result in a complete loss of residual heat removal capability. With the reactor vessel head removed and at least 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

Insert 4

Insert 4

RHR System piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the RHR loops and may also prevent water hammer, pump cavitation, and pumping of noncondensible gas into the reactor vessel.

Selection of RHR System locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration. Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The RHR System is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the RHR System is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

RHR System locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Surveillance Frequency may vary by location susceptible to gas accumulation.