JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.6.2.1

Suppression Pool Average Temperature

A1

JAFNPP

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS	4.7 CONTAINMENT SYSTEMS
Applicability: Applies to the operating status of the primary and secondary containment systems.	**Applicability:** Applies to the primary and secondary containment integrity.
Objective: To assure the integrity of the primary and secondary containment systems.	**Objective:** To verify the integrity of the primary and secondary containment systems.
Specification:	**Specification:**

[3.6.2.1] A. ~~Primary Containment~~

[LCO 3.6.2.1]

The ~~level from the bottom of the torus and~~ temperature of the water in the torus shall be maintained within the following limits ~~whenever the reactor is critical or~~ whenever the reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel:

see ITS: 3.6.2.2

M4

[Applicability MODES 1, 2 and 3]

a. Maximum level of 14.00 feet.

b. Minimum level of 13.88 feet.

see ITS: 3.6.2.2

[SR 3.6.2.1.1]

The torus water level may be outside the above limits for a maximum of four (4) hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell - Torus Vacuum Relief System.

c. Maximum water temperature

A5

[LCO 3.6.2.1.a]

(1) During ~~normal power operation~~ maximum water temperature shall be 95°F.

[3.6.2.1] A. ~~Primary Containment~~

see ITS: 3.6.2.2

Suppression Pool Average Temperature

See ITS 3.6.1.1

A3

1. The torus water ~~level~~ and temperature shall be monitored as ~~specified~~ in Table 4.2-8. (every 24 hours)

The accessible interior surfaces of the drywell and above the water line of the torus shall be inspected once per 24 months for evidence of deterioration.

L4

Whenever there is indication of relief valve operation or testing which adds heat to the suppression pool, the pool temperature shall be continuously recorded until the heat addition is terminated. The operator will verify that average temperature is within applicable limits every 5 minutes. In lieu of continuous recording, the operator shall log the temperature every 5 minutes.

A4

A4

L3

Whenever there is indication of relief valve operation with the temperature of the suppression pool reaching 160°F or more and the primary coolant system pressure greater than 200 psig, an external visual examination of the torus shall be conducted before resuming power operation.

RAI 3.6.2.1-2

Specification 3.6.2.1

A1

JAFNPP

add proposed Required Action A.1 — M1

add proposed Required Action A.2 — L1

add proposed ACTION B — L2

3.7 (cont'd)

4.7 (cont'd)

RAI 3.6.2.1-1
RAI 3.6.2.1-6

[LCO 3.6.2.1.b]

(2) During testing which adds heat to the suppression pool, the water temperature shall not exceed 10°F above the normal power operation limit specified in (1) above. In connection with such testing, the pool temperature must be reduced to below the normal power operation limit specified in (1) above within 24 hours.

add proposed ACTION C — L5

[ACTION A]

[Required Action D.1]

(3) The reactor shall be scrammed from any operating condition if the pool temperature reaches 110°F. Power operation shall not be resumed until the pool temperature is reduced below the normal power operation limit specified in (1) above.

[LCO 3.6.2.1.c]

add proposed Required ACTIONS D.2 and D.3 — M2

[LCO 3.6.2.1 & LCO 3.0.4]

[ACTION E]

M3

(4) During reactor isolation conditions, the reactor pressure vessel shall be depressurized to less than 200 psig at normal cooldown rates if the pool temperature reaches 120°F.

add proposed Required Action E.2

2. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212°F, and fuel is in the reactor vessel, except while performing low power physics tests at atmospheric pressure at power levels not to exceed 5 MWt.

see ITS: 3.6.1.1

2. a. Perform required visual examination and leakage rate testing of the Primary Containment in accordance with the Primary Containment Leakage Rate Testing Program.

see ITS: 3.6.1.1

b. Demonstrate leakage rate through each MSIV is ≤ 11.5 scfh when tested at ≥ 25 psig. The testing frequency is in accordance with the Primary Containment Leakage Rate Testing Program.

c. Once per 24 months, demonstrate the leakage rate of 10AOV-68A,B for the Low Pressure Coolant Injection system and 14AOV-13A,B for the Core Spray system to be less than 11 scfm per valve when pneumatically tested at ≥ 45 psig at ambient temperature, or less than 10 gpm per valve if hydrostatically tested at ≥ 1,035 psig at ambient temperature.

See ITS: 3.6.1.3

Specification 3.6.2.1

A1

3.7 (Cont'd)

4.7 (Cont'd)

(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.

(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.

See ITS: 3.6.2.4

ACTION B

8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.

8. Not applicable.

Reduce THERMAL POWER to ≤ 1% RTP 12 hours

L2

Specification 3.6.2.1

A1

JAFNPP

TABLE 4.2-8

MINIMUM TEST AND CALIBRATION FREQUENCY FOR ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
1.	Stack High Range Effluent Monitor	18M	18M	D
2.	Turbine Building Vent High Range Effluent Monitor	18M	18M	D
3.	Radwaste Building Vent High Range Effluent Monitor	18M	18M	D
4.	Containment High Range Radiation Monitor	R	R	D
5.	Drywell Pressure (narrow range)	N/A	R	D
6.	Drywell Pressure (wide range)	N/A	R	D
7.	Drywell Temperature	N/A	R	D
8.	Torus Water Level (wide range)	N/A	R	D
9.	Torus Bulk Water Temperature	N/A	R	D
10.	Torus Pressure	N/A	R	D
11.	Primary Containment Hydrogen/Oxygen Concentration Analyzer	N/A	Q	D
12.	Reactor Vessel Pressure	N/A	R	D
13.	Reactor Water Level (fuel zone)	N/A	R	D
14.	Reactor Water Level (wide range)	N/A	R	D

A3

D

See ITS 3.3.3.1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted that do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4", Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

RAI 3.6.2.1-1

A2 Not used.

A3 CTS 4.7.A.1 requires the torus temperature to be monitored as specified in CTS Table 4.2-8. The Frequency of the Surveillance in CTS Table 4.2-8 is daily. The cross reference in CTS 4.7.A.1 to Table 4.2-8 is being deleted and the Frequency of 24 hours is being included in ITS SR 3.6.2.1.1. Since the current Surveillance Frequency in Table 4.2-8 is daily, this change is administrative. This change is consistent with the requirements and format of NUREG-1433, Revision 1.

A4 During testing that adds heat to the suppression pool, CTS 4.7.A.1 requires the pool temperature to be continuously recorded until heat is terminated or in lieu of continuously recording, the operator shall log the temperature every 5 minutes. In addition, the CTS requires the operator to verify the average temperature is within applicable limits every 5 minutes. Under the same conditions, ITS SR 3.6.2.1.1 requires the suppression pool temperature to be verified to be within the applicable limit once per 5 minutes when performing testing that adds heat to the suppression pool. The requirements to record or log the suppression pool temperature has been deleted from the Technical Specifications. This requirement duplicates the requirements of 10 CFR 50 Appendix B, Section XVII (Quality Assurance records): maintain records of activities affecting quality, including the results of tests (i.e., Technical Specification Surveillances). Compliance with 10 CFR 50 Appendix B is required by the JAFNPP Operating License. The details of the regulations within the Technical Specifications are repetitious and unnecessary. Therefore, retaining the requirement to perform the associated surveillances and eliminating the details from Technical Specifications that are found in 10 CFR 50 Appendix B is considered a presentation preference, which is administrative.

RAI 3.6.2.1-1

A5 Not used.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 ITS 3.6.2.1 Required Action A.1 is proposed to be added to CTS 3.7.A.1.c to verify that temperature is ≤ 110°F once per hour, anytime temperature has exceeded 95°F and no testing that adds heat to the suppression pool is being performed. This is an additional restriction on plant operation but is necessary to ensure the suppression pool temperature remains ≤ 110°F since additional Actions are required at suppression pool temperatures greater than 110°F (see ACTION D).

M2 CTS 3.7.A.1.c.(3) requires the reactor to be scrammed if the pool temperature reaches 110°F. ITS 3.6.2.1 ACTION D requires, in addition to scramming the reactor by placing the reactor mode switch in the shutdown position immediately (ITS 3.6.2.1 Required Action D.1), that suppression pool temperature be verified ≤ 120°F once per 30 minutes (ITS 3.6.2.1 Required Action D.2) and that the reactor be placed in MODE 4 within 36 hours (ITS 3.6.2.1 Required Action D.3) if the suppression pool temperature is > 110°F but ≤ 120°F. These changes are more restrictive but necessary since the new requirement places the plant outside the conditions of the LCO. This is an additional restriction on plant operation necessary to ensure plant operations remain within the bounds of the containment analyses.

M3 CTS 3.7.A.1.c.(4) and ITS 3.6.2.1 Required Action E.1 require that the reactor pressure vessel be depressurized to less than 200 psig if pool temperature reaches 120°F. However, CTS 3.7.A.1.c.(4) is applicable only "during reactor isolation conditions" when the only methods available for depressurizing (cooling) the reactor vessel rely on the suppression pool and require that this depressurization (cooldown) be performed "at normal cooldown rates." ITS 3.6.2.1 ACTION E is applicable whether or not the reactor is isolated. Additionally, ITS 3.6.2.1 Required Action E.2 requires the reactor be in MODE 4 within 36 hours. Therefore, the proposed change is more restrictive. The completion time for depressurizing the reactor to less than 200 psig is changed from proceeding "at normal cooldown rates" to within 12 hours because it is a reasonable time considering that cooling the reactor (if isolated) may involve adding additional heat to the suppression pool that is already greater than 120°F. This change ensures the appropriate actions are taken in the event the plant operates outside the bounds of the containment analysis.

DISCUSSION OF CHANGES
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

RAI 3.4.2.1-2

TECHNICAL CHANGES - MORE RESTRICTIVE

M4 CTS 3.7.A.1.c (1) requires the torus (suppression pool) water temperature to be within limits whenever the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel. The scope of the current Applicability covers MODE 1, 3 and portions of MODE 2 operations. The Applicability in ITS 3.6.2.1 is MODES 1, 2 and 3. This change is considered more restrictive since the suppression pool water temperature will be required to be Operable at all times in MODE 2 even prior to any plant startup when reactor coolant temperature may be below 212°F. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 3.7.A.1.c.(1) requires the suppression pool temperature to be ≤ 95°F during normal power operation. If this limit is exceeded CTS 3.7.A.8 must be entered and the reactor must be in cold condition within 24 hours. ITS 3.6.2.1 Required Action A.2 requires that the suppression pool temperature be restored to ≤ 95°F within 24 hours if temperature is > 95°F but ≤ 110°F, power is > 1% RTP and no testing that adds heat to the suppression pool is being performed. This change is less restrictive than CTS 3.7.A.1.c.(1), which does not allow any time to restore the temperature to within limits. This change is consistent with CTS 3.7.A.1.c.(2), which allows 24 hours to restore temperature only in connection with testing which adds heat to the suppression pool. The proposed Required Action is reasonable based on the fact that the CTS currently allow 24 hours to restore suppression pool temperature for the condition most likely to result in temperatures > 95°F in the suppression pool.

L2 CTS 3.7.A.1.c.(1) requires the suppression pool temperature to be ≤ 95°F during normal power operation. If this limit is exceeded CTS 3.7.A.8 must be entered and the reactor must be in cold condition within 24 hours. ITS 3.6.2.1 ACTION B requires power to be reduced to ≤ 1% RTP

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 (continued)

within 12 hours if the Required Actions and associated Completion Times of Condition A (see L1 and M1) are not met. Currently the plant would be required to enter CTS 3.7.A.8 and the reactor placed in a cold condition within 24 hours. Proposed ACTION B is less restrictive in that it deletes the requirement that the reactor must be in a cold condition. The 12 hour Completion Time is reasonable, based on operating experience, to reduce power from full power conditions in an orderly manner and without challenging plant systems. The requirement to only reduce power to ≤ 1% RTP is acceptable since it places the plant outside of the conditions of the LCO.

L3 CTS 4.7.A.1 requires an external visual inspection of the suppression chamber whenever there is indication of relief valve operation with the local suppression pool temperature reaching 160°F or greater and the primary coolant system pressure greater than 200 psig. This surveillance is being deleted in accordance with NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," dated December 1984. The basis for deleting this surveillance is that testing has demonstrated that there are no undue loads on the suppression pool or its components at elevated temperatures and pressures when SRVs discharge through "quenchers" (spargers). At JAFNPP each relief valve discharge line terminates in a T-quencher (sparger). Therefore, the requirement for an external visual inspection of the suppression chamber is being deleted.

L4 CTS 4.7.A.1 requires monitoring suppression pool temperature when "there is indication of relief valve operation or testing which adds heat to the suppression pool." ITS SR 3.6.2.1.1 requires frequent monitoring of the suppression pool while performing testing which adds heat to the suppression pool. The requirement to monitor suppression pool temperature whenever there is indication of relief valve operation is proposed to be deleted. If a relief valve is not opened for testing, monitoring suppression pool temperature is part of the coordinated response to an unplanned transient which is governed by plant procedures. ITS SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. ITS SR 3.0.1 also states that failure to meet a Surveillance even if experienced between performances of the Surveillance, shall be failure to meet the LCO. Therefore, the limits on suppression pool temperature in ITS 3.6.2.1 and the associated Surveillance Requirement, to periodically monitor suppression pool temperature, are still applicable during the transient and are adequate to ensure the suppression pool temperature is appropriately monitored.

RAI 3.6.2.1-1
RAI 3.6.2.1-6

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CTS 3.7.A.1.c.(2) allows the suppression pool normal power operation temperature limit of ≤ 95°F specified in CTS 3.7.A.1.c.(1) to be exceeded by no more than 10°F during testing that adds heat to the suppression pool and requires the temperature of the suppression pool to be restored to ≤ 95°F within 24 hours if the limit of CTS 3.7.A.1.c.(1) is exceeded. In addition, if the CTS 3.7.A.1.c (2) limit of ≤ 105°F (95°F plus the 10°F increase allowed during testing) is exceeded, or if the suppression pool temperature is not restored to ≤ 95°F within 24 hours, CTS 3.7.A.8 requires the reactor to be placed in the cold condition within 24 hours.

In the proposed ITS, when suppression pool temperature exceeds 95°F (with thermal power > 1% RTP and during testing that adds heat to the suppression pool), no action is required until the suppression pool temperature exceeds 105°F (ITS 3.6.2.1, ACTION C.1). Once testing that adds heat to the suppression pool is suspended (due to action taken as required by ITS 3.6.2.1, ACTION C.1 or for any other reason such as test completion), ITS 3.6.2.1, CONDITION A becomes applicable and if the suppression pool temperature is > 95°F, ACTION A.2 requires the suppression pool temperature be restored to ≤ 95°F within 24 hours. In the proposed ITS the time period that the suppression pool temperature may be > 95°F may be more than 24 hours since no action is required to restore the temperature to ≤ 95°F until: 1) the temperature exceeds 105°F during testing (ACTION C.1 is applicable) and, 2) ACTION A.2 becomes applicable when testing is suspended as required by ACTION C.1. This sequence may result in the suppression pool temperature being > 95°F for more than 24 hours because action to restore the suppression pool temperature to ≤ 95°F is not required to be initiated until testing is terminated. While this combination of conditions allowed in ITS 3.6.2.1 is less restrictive than CTS 3.7.A.1.c (2) and CTS 3.7.A.8, the proposed ITS 3.6.2.1 ACTIONS are acceptable for the following reasons.

The ITS 3.6.2.1 ACTION C.1 requirement to only require the immediate suspension of testing that adds heat to the suppression pool (rather than also requiring the plant be placed in the cold condition) when the suppression pool temperature is > 105°F (and with thermal power > 1 % RTP while testing that adds heat to the suppression pool is being performed) is acceptable because once the testing that adds heat is suspended the suppression pool cooling function of the Residual Heat Removal (RHR) System is capable of restoring the temperature to within limits.

RAI 3.6.2.1-1
RAI 3.6.2.1-6

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 (continued)

The ITS 3.6.2.1 ACTION A.2 requirement to restore suppression pool temperature to ≤ 95°F within 24 hours is the same as the CTS 3.7.A.1.c.(2) requirement (once ITS 3.6.2.1, CONDITION A is entered).

The ACTIONS associated with ITS 3.6.2.1, CONDITIONS A and C, maintain the suppression pool temperature within the bounds of the assumptions used in the containment analyses and the changes are consistent with NUREG-1433, Revision 1.

TECHNICAL SPECIFICATIONS - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change allows suppression pool temperature to be restored to ≤ 95°F within 24 hours when it is between 95°F and 110°F, and testing is not being conducted. The proposed change does not increase the probability of an accident because the time provided to restore temperature is not increased, only the conditions leading to the temperature increase are being changed. The consequences of an accident occurring from an increased temperature in the suppression pool for up to 24 hours remain the same as with the current specifications which allow the same plant conditions to exist (elevated suppression pool temperature for up to 24 hours). Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   This change will not physically alter the plant (no new or different types of equipment will be installed). The changes in methods governing normal plant operation are consistent with the current safety analysis assumptions. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The proposed change is considered to be acceptable since in this condition (suppression pool temperature ≤ 110°F) the primary containment cooling capability continues to exist and the primary containment pressure suppression function will occur at temperatures well above those assumed in the safety analyses. In addition, this change provides the benefit of the potential avoidance of a plant shutdown and the associated risk of the potential transients during such forced shutdowns. The margin of safety is not being reduced because the time period that suppression pool temperature is above 95°F continues to be

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

3. (continued)

limited to 24 hours. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change modifies the Completion Times and the shutdown/power reduction Actions when a Required Action and associated Completion Time specified in the Technical Specifications cannot be met. These Required Actions and Completion Times are intended to require a power reduction whenever the required plant parameters are outside of limits. The proposed change will require that reactor power be reduced to ≤ 1% RTP within 12 hours whenever a Required Action and associated Completion Time cannot be met rather than the current requirement to be in Cold Shutdown within 24 hours. Shutdown/power reduction actions are not assumed to be the initiator of any analyzed accident. The proposed change does not increase the probability of an accident because the change still requires that plant power be reduced to a level at which heat is no longer being added to the primary coolant. In addition, the consequences of an accident occurring during the proposed power reduction are the same as the consequences of an accident occurring during the existing shutdown requirements. Therefore, this change will not involve a significant increase in the probability of an accident previously evaluated.

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

   This change will not physically alter the plant (no new or different type of equipment will be installed). The changes in methods governing normal plant operation are consistent with the current safety analysis assumptions. Therefore, this change will not create the possibility of new or different kind of accident from any accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

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

The proposed change modifies the Completion Times and the shutdown/power reduction Actions when a Required Action and associated Completion Time specified in the Technical Specifications cannot be met. These Required Actions and Completion Times are intended to require a power reduction whenever the required plant parameters are outside of limits. The proposed change will require that reactor power be reduced to ≤ 1% RTP within 12 hours whenever a Required Action and associated Completion Time cannot be met rather than requiring the plant be in cold shutdown within 24 hours. The change in not requiring a plant shutdown is acceptable since the safety analyses assumptions can be met at ≤ 1% RTP and with suppression pool temperature between 95°F and 110°F. In addition, the time provided to be at ≤ 1% is adequate to reduce the chances for a plant transient which could challenge safety systems. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change involves elimination of a requirement to perform an external visual inspection of the suppression chamber whenever there is indication of safety/relief valve (S/RV) operation with the local suppression pool temperature reaching 160°F or greater and primary coolant system pressure is greater than 200 psig. The probability of an accident is not increased because performance of a visual inspection following a S/RV operation is not considered as an initiator of any accidents previously evaluated. The consequences of an accident will not be increased because the basis for deleting this surveillance is that testing has demonstrated that there are no undue loads on the suppression pool or its components at elevated temperatures and pressures when S/RVs discharge through "quenchers" (spargers). This testing is discussed in NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," dated December 1984. Each of the JAFNPP S/RV discharge lines terminates in a T-quencher (sparger). Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   This proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, or tested. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The proposed change involves elimination of a requirement to perform an external visual inspection of the suppression chamber whenever there is indication of S/RV operation with the local suppression pool temperature

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

3. (continued)

reaching 160°F or greater and primary coolant system pressure is greater than 200 psig. This change will not reduce the margin of safety because testing has demonstrated that there are no undue loads on the suppression pool or its components at elevated temperatures and pressures when S/RVs discharge through "quenchers" (spargers). This testing is discussed in NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," dated December 1984. Each JAFNPP S/RV discharge line terminates in a T-quencher (sparger). As a result, the change does not affect the current analysis assumptions and adequate assurance of suppression chamber integrity will be maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change proposes to delete the requirement to monitor suppression pool temperature whenever there is indication of safety/relief valve (S/RV) operation. Suppression pool temperature during S/RV operation is not considered as an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the frequency of such accidents. If an S/RV is opened for testing, monitoring of the suppression pool temperature is required by ITS SR 3.6.2.1.1. If an S/RV is not opened for testing, monitoring suppression pool temperature is part of a coordinated response to an unplanned transient governed by plant procedures. ITS SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. ITS SR 3.0.1 also states that failure to meet a Surveillance even if experienced between performances of the Surveillance, shall be failure to meet the LCO. Therefore, the limits on suppression pool temperature in ITS 3.6.2.1 and the associated Surveillance Requirement, to periodically monitor suppression pool temperature, are still applicable during the transient and are adequate to ensure the suppression pool temperature is appropriately monitored. Since monitoring of the suppression pool temperature will still occur as part of the coordinated response to the transient, consequences of previously analyzed accidents are not impacted by the proposed change. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

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

   This change proposes to delete the requirement to monitor suppression pool temperature whenever there is indication of S/RV operation. Since monitoring of the suppression pool temperature will still occur as part of the coordinated response to the transient, the possibility for a new or different kind of accident is not created. Therefore, this change does not create the possibility of a new or different kind of accident

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

2. (continued)

from any previously analyzed accident.

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

This change proposes to delete the requirement to monitor suppression pool temperature whenever there is indication of S/RV operation. If an S/RV is opened for testing, monitoring of the suppression is required by ITS SR 3.6.2.1.1. If an S/RV is not opened for testing, monitoring suppression pool temperature is part of a coordinated response to an unplanned transient governed by plant procedures. ITS SR 3.0.1 states that SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. ITS SR 3.0.1 also states that failure to meet a Surveillance, even if experienced between performances of the Surveillance, shall be failure to meet the LCO. Therefore, the limits on suppression pool temperature in ITS 3.6.2.1 and the associated Surveillance Requirement, to periodically monitor suppression pool temperature, are still applicable during the transient and are adequate to ensure the suppression pool temperature is appropriately monitored. Since monitoring of the suppression pool temperature will still occur as part of the coordinated response to the transient, the margin of safety is not impacted by this change. Therefore, the change does not involve a significant reduction in the margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE

The Licensee has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change modifies the Required Actions to be taken to restore suppression pool temperature to ≤ 95°F while thermal power is > 1% and during testing that adds heat to the suppression pool. The Required Actions are intended to provide the flexibility needed for testing while requiring suspension of testing at a temperature (105°F) that provides a margin to the temperature that requires plant shutdown (110°F), and to restore suppression pool temperature to a value that is less than or equal to initial condition value assumed in the safety analyses (95°F) within 24 hours. The proposed change is less restrictive because the time period that suppression pool temperature may be > 95°F may be longer because initiation of action to restore the suppression pool temperature to ≤ 95°F is not required until temperature reaches 105°F (and testing is suspended) or until testing is suspended for any reason (and the suppression pool temperature is > 95°F). The change is also less restrictive because the action required when suppression pool temperature reaches 105°F is to suspend testing rather than to require the plant be placed in the cold condition within 24 hours. The probability of accidents previously evaluated is not increased because design basis accidents are assumed to not occur during required testing. The consequences of accidents previously evaluated are not significantly increased because the time period that suppression pool temperature is > 95°F continues to be short and the increase in the time period is also short. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

RAI 3.6.2.1-1
RAI 3.6.2.1-6

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L5 CHANGE (continued)

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

   This proposed change will not involve any physical changes to plant systems, structures, or components (SSCs), or the manner in which these SSCs are operated, maintained, modified, or tested. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The proposed change modifies the Required Actions associated with suppression pool temperature exceeding the normal power operation limit of ≤ 95°F during testing that adds heat to the suppression pool. During testing that adds heat to the suppression pool, while thermal power is > 1% RTP, action to restore suppression pool temperature to ≤ 95°F is not required to be initiated while the testing continues. Once testing is suspended due to suppression pool temperature reaching 105°F (or for any other reason) restoration of suppression pool temperature to ≤ 95°F within 24 hours is required. The proposed change may result in a small increase in the time that the suppression pool temperature is > 95°F; however, a margin to other suppression pool temperature limits (110°F and 120°F) is maintained and the small probability of accident initiation during the small increase in time is acceptable. The action to be taken when suppression pool temperature reaches 105°F is also modified by requiring suspension of testing rather than requiring the plant to be placed in the cold condition. Requiring the testing that caused the suppression pool temperature to reach 105°F to be suspended removes the source of additional heating of the suppression pool and avoids the challenge to plant systems and the potential risk associated with the forced plant shutdown required to place the plant in the cold condition. Therefore, this change does not involve a significant reduction in a margin of safety.

RAI 3.6.2.1-1
RAI 3.6.2.1-6

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.2.1 Suppression Pool Average Temperature

LCO 3.6.2.1 Suppression pool average temperature shall be:

a. ≤ [95]°F when any OPERABLE intermediate range monitor (IRM) channel is > [25/40] divisions of full scale on Range 7 and no testing that adds heat to the suppression pool is being performed;

b. ≤ [105]°F when any OPERABLE IRM channel is > [25/40] divisions of full scale on Range 7 and testing that adds heat to the suppression pool is being performed; and

c. ≤ [110]°F when all OPERABLE IRM channels are ≤ [25/40] divisions of full scale on Range 7.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool average temperature > [95]°F but ≤ [110]°F. AND Any OPERABLE IRM channel > [25/40] divisions of full scale on Range 7. AND Not performing testing that adds heat to the suppression pool.	A.1 Verify suppression pool average temperature ≤ [110]°F. AND A.2 Restore suppression pool average temperature to ≤ [95]°F.	Once per hour 24 hours

(continued)

Revision E

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met.	B.1	Reduce THERMAL POWER until all OPERABLE IRM channels ≤ [25/40] divisions of full scale on Range 7.	12 hours
C. Suppression pool average temperature > 105°F. AND Any OPERABLE IRM channel > [25/40] divisions of full scale on Range 7. AND Performing testing that adds heat to the suppression pool.	C.1	Suspend all testing that adds heat to the suppression pool.	Immediately
D. Suppression pool average temperature > 110°F but ≤ 120°F.	D.1 AND D.2 AND D.3	Place the reactor mode switch in the shutdown position. Verify suppression pool average temperature ≤ 120°F. Be in MODE 4.	Immediately Once per 30 minutes 36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Suppression pool average temperature > [120]°F.	E.1 Depressurize the reactor vessel to < [200] psig. AND E.2 Be in MODE 4.	12 hours [36 hours]

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1.1	Verify suppression pool average temperature is within the applicable limits.	24 hours AND 5 minutes when performing testing that adds heat to the suppression pool

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 THERMAL POWER in the range of 1% RTP is not readily quantified with much accuracy. While range 7 on the IRMs approximates 1% RTP, this power level can also be approximated from SRMs and even by determining the point of adding heat. These acceptable options are desired to be maintained in plant procedures, with the ITS requirement as it is in the JAFNPP Technical Specifications; i.e., 1% RTP (in accordance with the definition of reactor power operation). Therefore, the LCO and ACTIONS have been modified to reflect the 1% RTP requirement. The changes marked "CLB1" use words and phrases that are identical to those used in TSTF-206, R0, and are also marked "TA1." See JFD TA1 below.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 206, Revision 0, have been incorporated into the revised Improved Technical Specifications. These changes also make the revised Improved Standard Technical Specifications identical to the current Technical Specification requirements as noted in JFD CLB1 above.

TSTF-206, R0

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 The brackets have been removed and ITS 3.6.2.1 Required Action E.2 Completion Time of 36 hours maintained as justified in M3.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.1 Suppression Pool Average Temperature

BASES

BACKGROUND

The suppression chamber is a toroidal shaped, steel pressure vessel containing a volume of water called the suppression pool. The suppression pool is designed to absorb the decay heat and sensible energy released during a reactor blowdown from safety/relief valve discharges or from Design Basis Accidents (DBAs). The suppression pool must quench all the steam released through the downcomer lines during a loss of coolant accident (LOCA). This is the essential mitigative feature of a pressure suppression containment that ensures that the peak containment pressure is maintained below the maximum allowable pressure for DBAs ([62] psig). The suppression pool must also condense steam from steam exhaust lines in the turbine driven systems (i.e., the High Pressure Coolant Injection System and Reactor Core Isolation Cooling System). Suppression pool average temperature (along with LCO 3.6.2.2, "Suppression Pool Water Level") is a key indication of the capacity of the suppression pool to fulfill these requirements.

DBI

The technical concerns that lead to the development of suppression pool average temperature limits are as follows:

a. Complete steam condensation [—the original limit for the end of a LOCA blowdown was 170°F, based on the Bodega Bay and Humboldt Bay Tests];

PAI

b. Primary containment peak pressure and temperature [—design pressure is [62] psig and design temperature is [340]°F (Ref. 1)];

c. Condensation oscillation loads [—maximum allowable initial temperature is [110]°F]; and

PAI

d. Chugging loads [—these only occur at < [135]°F; therefore, there is no initial temperature limit because of chugging].

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The postulated DBA against which the primary containment performance is evaluated is the entire spectrum of postulated pipe breaks within the primary containment. Inputs to the safety analyses include initial suppression pool water volume and suppression pool temperature (Reference 1 for LOCAs and Reference 2 for the pool temperature analyses required by Reference 3). An initial pool temperature of [95]°F is assumed for the Reference 1 and Reference 2 analyses. Reactor shutdown at a pool temperature of [110]°F and vessel depressurization at a pool temperature of [120]°F are assumed for the Reference 2 analyses. The limit of [105]°F, at which testing is terminated, is not used in the safety analyses because DBAs are assumed to not initiate during [the] testing.

Suppression pool average temperature satisfies Criteria 2 and 3 of the NRC Policy Statement.

LCO

A limitation on the suppression pool average temperature is required to provide assurance that the containment conditions assumed for the safety analyses are met. This limitation subsequently ensures that peak primary containment pressures and temperatures do not exceed maximum allowable values during a postulated DBA or any transient resulting in heatup of the suppression pool. The LCO requirements are:

a. Average temperature ≤ [95]°F when any OPERABLE intermediate range monitor (IRM) channel is > [25/40] divisions of full scale on Range 7 and no testing that adds heat to the suppression pool is being performed. This requirement ensures that licensing bases initial conditions are met.

b. Average temperature ≤ [105]°F when any OPERABLE IRM channel is > [25/40] divisions of full scale on Range 7 and testing that adds heat to the suppression pool is being performed. This required value ensures that the [unit] has testing flexibility, and was selected to provide margin below the [110]°F limit at which reactor shutdown is required. When testing ends, temperature must be restored to ≤ [95]°F within 24 hours according to Required Action A.2. Therefore, the time period that the temperature is > [95]°F is

(continued)

Revision E

DB2

INSERT ASA

Reference 1 was originally performed for the temperature analyses required by Reference 2. The temperature analyses examines the local suppression pool temperature response as a result of transients caused by a stuck open S/RV, small line break, and a primary containment isolation with a depressurization at a rate of 100°F per hour. Subsequently, the containment analyses documented in Reference 3 was performed for higher lake temperatures and examined both the LOCA analyses as well as the temperature analyses required by Reference 2.

BASES

LCO (continued) short enough not to cause a significant increase in risk.

c. Average temperature ≤ [110]°F when all OPERABLE IRM channels are ≤ [25/40] divisions of full scale on Range 7. This requirement ensures that the unit will be shut down at > [110]°F. The pool is designed to absorb decay heat and sensible heat but could be heated beyond design limits by the steam generated if the reactor is not shut down.

Note that [25/40] divisions of full scale on IRM Range 7 is a convenient measure of when the reactor is producing power essentially equivalent to 1% RTP. At this power level, heat input is approximately equal to normal system heat losses.

APPLICABILITY In MODES 1, 2, and 3, a DBA could cause significant heatup of the suppression pool. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining suppression pool average temperature within limits is not required in MODE 4 or 5.

ACTIONS

A.1 and A.2

With the suppression pool average temperature above the specified limit when not performing testing that adds heat to the suppression pool and when above the specified power indication, the initial conditions exceed the conditions assumed for the Reference 1, 3, and 6 analyses. However, primary containment cooling capability still exists, and the primary containment pressure suppression function will occur at temperatures well above those assumed for safety analyses. Therefore, continued operation is allowed for a limited time. The 24 hour Completion Time is adequate to allow the suppression pool average temperature to be restored below the limit. Additionally, when suppression pool temperature is > [95]°F, increased monitoring of the suppression pool temperature is required to ensure that it remains ≤ [110]°F. The once per hour Completion Time is adequate based on past experience, which has shown that pool temperature increases relatively slowly except when testing

(continued)

Revision E

INSERT LCO-1 PA6

Indication of 1% RTP varies with plant conditions and can be determined by more than one method. When at or near normal operating temperature, Reactor Coolant System (RCS) losses such as the Reactor Water Cleanup System, steam line drains and insulation inefficiency are approximately 1% RTP or less and reactor power level can be observed on the intermediate range monitor (IRM) Instrumentation.

INSERT LCO-2 PA6

When RCS temperature is significantly below the normal operating temperature, maintaining reactor power level at or below the "point of adding heat" maintains power level well below 1% RTP.

BASES

ACTIONS

A.1 and A.2 (continued)

that adds heat to the suppression pool is being performed. Furthermore, the once per hour Completion Time is considered adequate in view of other indications in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

B.1

If the suppression pool average temperature cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the power must be reduced to ≤ [25/40] divisions of full scale on Range 7 for all OPERABLE IRMs within 12 hours. The 12 hour Completion Time is reasonable, based on operating experience, to reduce power from full power conditions in an orderly manner and without challenging plant systems.

C.1

Suppression pool average temperature is allowed to be > [95]°F when any OPERABLE IRM channel is > [25/40] divisions of full scale on Range 7, and when testing that adds heat to the suppression pool is being performed. However, if temperature is > [105]°F, all testing must be immediately suspended to preserve the heat absorption capability of the suppression pool. With the testing suspended, Condition A is entered and the Required Actions and associated Completion Times are applicable.

D.1 and D.2

Suppression pool average temperature > [110]°F requires that the reactor be shut down immediately. This is accomplished by placing the reactor mode switch in the shutdown position. Further cooldown to Mode 4 is required at normal cooldown rates (provided pool temperature remains ≤ [120]°F). Additionally, when suppression pool temperature is > [110]°F, increased monitoring of pool temperature is required to ensure that it remains ≤ [120]°F. The once per 30 minute Completion Time is adequate, based on operating

(continued)

BASES

ACTIONS

D.1 and D.2 (continued) D.3 ?A3

experience. Given the high suppression pool average temperature in this Condition, the monitoring Frequency is increased to twice that of Condition A. Furthermore, the 30 minute Completion Time is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

RAI 3.6.2.1-4

E.1 and E.2

If suppression pool average temperature cannot be maintained at ≤ 120°F, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the reactor pressure must be reduced to < 200 psig within 12 hours, and the plant must be brought to at least MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

DB1

Continued addition of heat to the suppression pool with suppression pool temperature > 120°F could result in exceeding the design basis maximum allowable values for primary containment temperature or pressure. Furthermore, if a blowdown were to occur when the temperature was > 120°F, the maximum allowable bulk and local temperatures could be exceeded very quickly.

DB1

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1.1

The suppression pool average temperature is regularly monitored to ensure that the required limits are satisfied. The average temperature is determined by taking an arithmetic average of OPERABLE suppression pool water temperature channels. The 24 hour Frequency has been shown, based on operating experience, to be acceptable. When heat is being added to the suppression pool by testing, however, it is necessary to monitor suppression pool temperature more frequently. The 5 minute Frequency during testing is justified by the rates at which tests will heat up the suppression pool, has been shown to be acceptable based on

RAI 3.6.2.1-5

Specification 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation, Bases contains a description of the suppression pool temperature monitoring system

DB3

(continued)

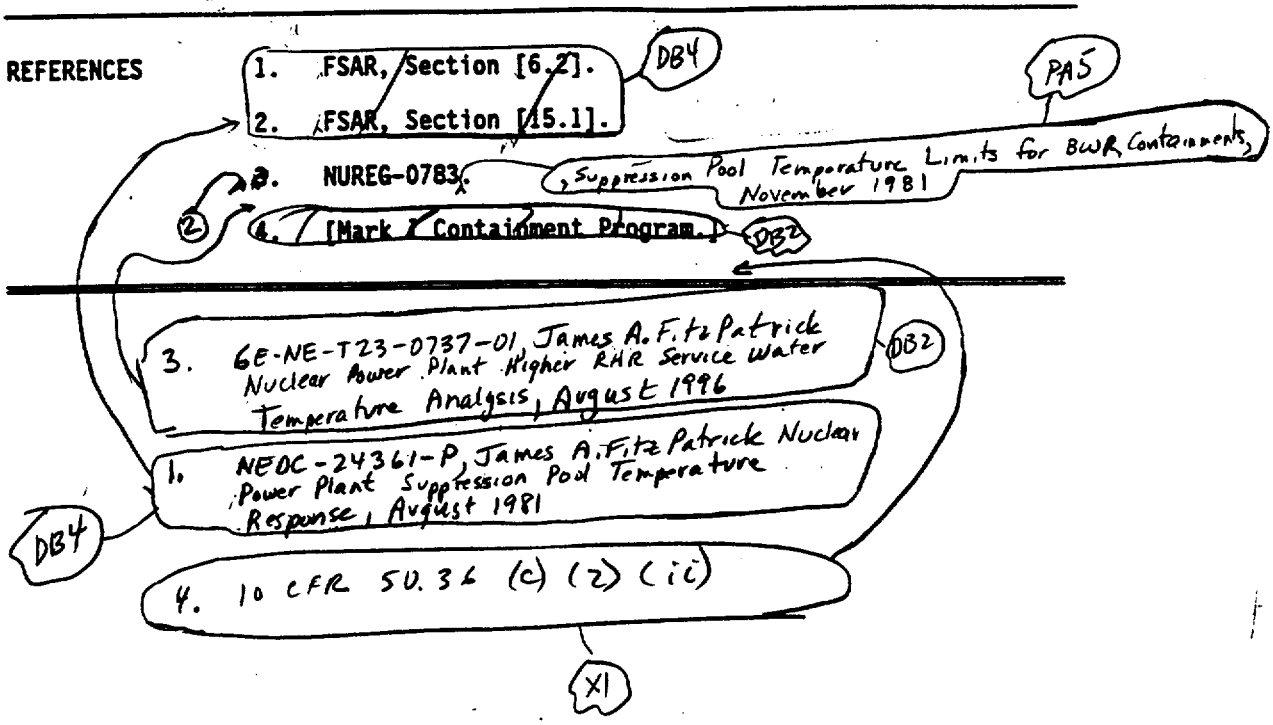
BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1.1 (continued)

operating experience, and provides assurance that allowable pool temperatures are not exceeded. The Frequencies are further justified in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

REFERENCES



JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

TSTF-206, R0

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 THERMAL POWER in the range of 1% RTP is not readily quantified with much accuracy. While range 7 on the IRMs approximates 1% RTP, this power level can also be approximated from SRMs and even by determining the point of adding heat. These acceptable options are desired to be maintained in plant procedures, with the ITS requirement as it is in the JAFNPP Technical Specifications; i.e., 1% RTP (in accordance with the definition of reactor power operation). Therefore, the LCO and ACTIONS have been modified to reflect the 1% RTP requirement. The changes marked "CLB1" use words and phrases that are identical to those used in TSTF-206, R0, and are also marked "TA1." See Bases JFD TA1 below.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 The bracketed discussions of the four different concerns that lead to the development of the suppression pool average temperature limits have been deleted. The discussion in the proposed Bases provides sufficient information to understand this Specification.

PA2 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA3 The Bases have been revised to be consistent with the Specifications.

PA4 A typographical or editorial error has been corrected.

PA5 The correct title of NUREG-0783 has been provided.

PA6 Changes have been made to provide more detailed description of the methods that can be used to determine whether the plant is operating at 1% RTP.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DB2 The Bases have been revised to reflect the JAFNPP specific references.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.1 - SUPPRESSION POOL AVERAGE TEMPERATURE

RAI 3.6.2.1-5

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB3 Changes have been made to delete information that is duplicated in other portions of the Bases. ITS Bases 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation (Function 10) included a detailed description of the suppression pool water temperature monitoring system that need not be duplicated in ITS SR 3.6.2.1.1 Bases.

DB4 The brackets have been removed and the proper plant specific reference has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler Number 206, Revision 0, have been incorporated into the revised Improved Technical Specifications. These changes also make the revised Improved Standard Technical Specifications identical to the current Technical Specification requirements as noted in Bases JFD CLB1 above.

TSTF-206, R0

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases references to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.1

Suppression Pool Average Temperature

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.2.1 Suppression Pool Average Temperature

LCO 3.6.2.1 Suppression pool average temperature shall be:

a. ≤ 95°F with THERMAL POWER > 1% RTP and no testing that adds heat to the suppression pool is being performed.

b. ≤ 105°F with THERMAL POWER > 1% RTP and testing that adds heat to the suppression pool is being performed; and

c. ≤ 110°F with THERMAL POWER ≤ 1% RTP.

TSTF-206-RO

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool average temperature > 95°F but ≤ 110°F. AND THERMAL POWER > 1% RTP. AND Not performing testing that adds heat to the suppression pool.	A.1 Verify suppression pool average temperature ≤ 110°F. AND A.2 Restore suppression pool average temperature to ≤ 95°F.	Once per hour 24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met.	B.1 Reduce THERMAL POWER to ≤ 1% RTP.	12 hours
C. Suppression pool average temperature > 105°F. AND THERMAL POWER > 1% RTP. AND Performing testing that adds heat to the suppression pool.	C.1 Suspend all testing that adds heat to the suppression pool.	Immediately
D. Suppression pool average temperature > 110°F but ≤ 120°F.	D.1 Place the reactor mode switch in the shutdown position. AND D.2 Verify suppression pool average temperature ≤ 120°F. AND D.3 Be in MODE 4.	Immediately Once per 30 minutes 36 hours

TSTF-206, R0

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
		(continued)
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig. AND E.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1.1	Verify suppression pool average temperature is within the applicable limits.	24 hours AND 5 minutes when performing testing that adds heat to the suppression pool

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.1 Suppression Pool Average Temperature

BASES

BACKGROUND

The suppression chamber is a toroidal shaped, steel pressure vessel containing a volume of water called the suppression pool. The suppression pool is designed to absorb the decay heat and sensible energy released during a reactor blowdown from safety/relief valve (S/RV) discharges or from Design Basis Accidents (DBAs). The suppression pool must quench all the steam released through the downcomer lines during a loss of coolant accident (LOCA). This is the essential mitigative feature of a pressure suppression containment that ensures that the peak containment pressure is maintained below the maximum allowable pressure for DBAs (62 psig). The suppression pool must also condense steam from steam exhaust lines in the turbine driven systems (i.e., the High Pressure Coolant Injection System and Reactor Core Isolation Cooling System). Suppression pool average temperature (along with LCO 3.6.2.2, "Suppression Pool Water Level") is a key indication of the capacity of the suppression pool to fulfill these requirements.

The technical concerns that lead to the development of suppression pool average temperature limits are as follows:

a. Complete steam condensation;

b. Primary containment peak pressure and temperature;

c. Condensation oscillation loads; and

d. Chugging loads.

APPLICABLE SAFETY ANALYSES

The postulated DBA against which the primary containment performance is evaluated is the entire spectrum of postulated pipe breaks within the primary containment. Inputs to the safety analyses include initial suppression pool water volume and suppression pool temperature. Reference 1 was originally performed for the temperature analyses required by Reference 2. The temperature analyses examines the local suppression pool temperature response as a result of transients caused by a stuck open S/RV, small

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

line break, and a primary containment isolation with a depressurization at a rate of 100°F per hour. Subsequently, the containment analyses documented in Reference 3 was performed for higher lake temperatures and examined both the LOCA analyses as well as the temperature analyses required by Reference 2. An initial pool temperature of 95°F is assumed for the Reference 1 and Reference 3 analyses. Reactor shutdown at a pool temperature of 110°F and vessel depressurization at a pool temperature of 120°F are assumed for the temperature analyses of References 1 and 3. The limit of 105°F, at which testing is terminated, is not used in the safety analyses because DBAs are assumed to not initiate during plant testing.

Suppression pool average temperature satisfies Criteria 2 and 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

LCO

A limitation on the suppression pool average temperature is required to provide assurance that the containment conditions assumed for the safety analyses are met. This limitation ensures that peak primary containment pressures and temperatures do not exceed maximum allowable values during a postulated DBA or any transient resulting in heatup of the suppression pool. The LCO requirements are:

a. Average temperature ≤ 95°F with THERMAL POWER > 1% RTP and no testing that adds heat to the suppression pool is being performed. This requirement ensures that licensing bases initial conditions are met.

b. Average temperature ≤ 105°F with THERMAL POWER > 1% RTP and testing that adds heat to the suppression pool is being performed. This required value ensures that the plant has testing flexibility, and was selected to provide margin below the 110°F limit at which reactor shutdown is required. When testing ends, temperature must be restored to ≤ 95°F within 24 hours according to Required Action A.2. Therefore, the time period that the temperature is > 95°F is short enough not to cause a significant increase in plant risk.

TSTF-206, RO

(continued)

BASES

LCO (continued)

c. Average temperature ≤ 110°F with THERMAL POWER ≤ 1% RTP. This requirement ensures that the plant will be shut down at > 110°F. The pool is designed to absorb decay heat and sensible heat but could be heated beyond design limits by the steam generated if the reactor is not shut down.

Indication of 1% RTP varies with plant conditions and can be determined by more than one method. When at or near normal operating temperature, Reactor Coolant System (RCS) losses such as the Reactor Water Cleanup System, steam line drains and insulation inefficiency are approximately 1% RTP or less and reactor power level can be observed on the intermediate range monitor (IRM) Instrumentation. At this condition 25/40 divisions of full scale on IRM Range 7 is a convenient measure of reactor power essentially equivalent to 1% RTP. At 1% RTP, heat input is approximately equal to normal system heat losses. When RCS temperature is significantly below the normal operating temperature, maintaining reactor power level at or below the "point of adding heat" maintains power level well below 1% RTP.

TSTF-206, R0

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause significant heatup of the suppression pool. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining suppression pool average temperature within limits is not required in MODE 4 or 5.

ACTIONS

A.1 and A.2

With the suppression pool average temperature above the specified limit when not performing testing that adds heat to the suppression pool and when above the specified power indication, the initial conditions exceed the conditions assumed for the Reference 1 and 3 analyses. However, primary containment cooling capability still exists, and the primary containment pressure suppression function will occur at temperatures well above those assumed for safety analyses. Therefore, continued operation is allowed for a limited time. The 24 hour Completion Time is adequate to

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

allow the suppression pool average temperature to be restored below the limit. Additionally, when suppression pool temperature is > 95°F, increased monitoring of the suppression pool temperature is required to ensure that it remains ≤ 110°F. The once per hour Completion Time is adequate based on past experience, which has shown that pool temperature increases relatively slowly except when testing that adds heat to the suppression pool is being performed. Furthermore, the once per hour Completion Time is considered adequate in view of other indications in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

B.1

If the suppression pool average temperature cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, THERMAL POWER must be reduced to ≤ 1% RTP within 12 hours. The 12 hour Completion Time is reasonable, based on operating experience, to reduce power from full power conditions in an orderly manner and without challenging plant systems.

C.1

Suppression pool average temperature is allowed to be > 95°F when THERMAL POWER > 1% RTP, and during testing that adds heat to the suppression pool. However, if the temperature is > 105°F, all testing must be immediately suspended to preserve the heat absorption capability of the suppression pool. With the testing suspended, Condition A is entered and the Required Actions and associated Completion Times are applicable.

D.1, D.2, and D.3

Suppression pool average temperature > 110°F requires that the reactor be shut down immediately. This is accomplished by placing the reactor mode switch in the shutdown position. Further cooldown to Mode 4 within 36 hours

(continued)

BASES

ACTIONS

D.1, D.2, and D.3 (continued)

is required at normal cooldown rates (provided pool temperature remains ≤ 120°F). Additionally, when suppression pool temperature is > 110°F, increased monitoring of pool temperature is required to ensure that it remains ≤ 120°F. The once per 30 minute Completion Time is adequate, based on operating experience. Given the high suppression pool average temperature in this Condition the monitoring Frequency is increased to twice that of Condition A. Furthermore, the 30 minute Completion Time is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

RAI 3.6.2.1-4

E.1 and E.2

If suppression pool average temperature cannot be maintained at ≤ 120°F, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the reactor pressure must be reduced to < 200 psig within 12 hours, and the plant must be brought to at least MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

Continued addition of heat to the suppression pool with suppression pool temperature > 120°F could result in exceeding the design basis maximum allowable values for primary containment temperature or pressure. Furthermore, if a blowdown were to occur when the temperature was > 120°F, the maximum allowable bulk and local temperatures could be exceeded very quickly.

RAI 3.6.2.1-5

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1.1

The suppression pool average temperature is regularly monitored to ensure that the required limits are satisfied.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1.1 (continued)

Specification 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation Bases contains a description of the suppression pool temperature monitoring system. An adequate average is obtained if at least 15 of the bays are monitored. The 24 hour Frequency has been shown, based on operating experience, to be acceptable. When heat is being added to the suppression pool by testing, however, it is necessary to monitor suppression pool temperature more frequently. The 5 minute Frequency during testing is justified by the rates at which tests will heat up the suppression pool, has been shown to be acceptable based on operating experience, and provides assurance that allowable pool temperatures are not exceeded. The Frequencies are further justified in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

RAI 3.6.2.1-5

REFERENCES

1. NEDC-24361-P, James A. FitzPatrick Nuclear Power Plant Suppression Pool Temperature Response, August 1981.

2. NUREG-0783, Suppression Pool Temperature Limits for BWR Containments, November 1981.

3. GENE-T23-0737-01, James A. FitzPatrick Nuclear Power Plant Higher RHR Service Water Temperature Analysis, August 1996.

4. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.6.2.2

A1

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS	4.7 CONTAINMENT SYSTEMS
Applicability:	**Applicability:**
Applies to the operating status of the primary and secondary containment systems.	Applies to the primary and secondary containment integrity.
Objective:	**Objective:**
To assure the integrity of the primary and secondary containment systems.	To verify the integrity of the primary and secondary containment systems.
Specification:	**Specification:**
A. Primary Containment	A. Primary Containment
1. The level from the bottom of the torus and temperature of the water in the torus shall be maintained within the following limits whenever the reactor is critical or whenever the reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel:	1. The torus water level and temperature shall be monitored as specified in Table 4.2-8.
a. Maximum level of 14.00 feet.	The accessible interior surfaces of the drywell and above the water line of the torus shall be inspected once per 24 months for evidence of deterioration.
b. Minimum level of 13.88 feet.	Whenever there is indication of relief valve operation or testing which adds heat to the suppression pool, the pool temperature shall be continuously recorded until the heat addition is terminated. The operator will verify that average temperature is within applicable limits every 5 minutes. In lieu of continuous recording, the operator shall log the temperature every 5 minutes.
The torus water level may be outside the above limits for a maximum of four (4) hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell - Torus Vacuum Relief System.	Whenever there is indication of relief valve operation with the temperature of the suppression pool reaching 160°F or more and the primary coolant system pressure greater than 200 psig, an external visual examination of the torus shall be conducted before resuming power operation.
c. Maximum water temperature	
(1) During normal power operation maximum water temperature shall be 95°F.	

3.6.2.2 A Primary Containment — Suppression Pool Water Level — See ITS: 3.6.2.1

[LCO 3.6.2.2] 1. — [SR 3.6.2.2.1] 1.

[Applicability Modes 1, 2, and 3] — M2

[LCO 3.6.2.2] a. — b. — add Required Action A.1 — L1

[Note to SR 3.6.2.2.1] — LA1

c. — (1) — See ITS: 3.6.2.1

See ITS: 3.6.2.1

every 24 hours — A2

See ITS: 3.6.1.1

See ITS: 3.6.2.1

Page 1 of 3

Specification 3.6.2.2

A1

3.7 (Cont'd)	4.7 (Cont'd)
(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.	
(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System.	
(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.	

see ITS: 3.6.2.4

ACTION B

8.	If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within ~~24~~ 36 hours.	8. Not applicable.

MODE 3 in 12 hours

M1

L2

Specification 3.6.2.2

A1

TABLE 4.2-8 (cont'd)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR
ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
15.	Core Spray Flow	N/A	R	D
16.	Core Spray Discharge Pressure	N/A	R	D
17.	LPCI (RHR) Flow	N/A	R	D
18.	RHR Service Water Flow	N/A	R	D
19.	Safety/Relief Valve Position Indicator (Primary and Secondary)	R	N/A	M
20.	Torus Water Level (narrow range)	N/A	R	D A2
21.	Drywell-Torus Differential Pressure	N/A	R	D

See ITS: 3.3.3.1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted that do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4", Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 CTS 4.7.A.1 requires the torus water (suppression pool) level to be monitored as specified in CTS Table 4.2-8. The Frequency of the Surveillance in CTS Table 4.2-8 is daily. The cross reference in CTS 4.7.A.1 to Table 4.2-8 is being deleted and the Frequency of 24 hours is being included in ITS SR 3.6.2.2.1. Since the current surveillance Frequency in Table 4.2-8 is daily, this change is administrative. This change is consistent with the requirements and format of NUREG-1433, Revision 1.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 3.7.A.8 requires the reactor to be in the cold condition within 24 hours if the requirements of Specification 3.7.A.1 cannot be met. ITS 3.6.2.2 ACTION A allows 2 hours to restore suppression pool water level to within limits, however this change is addressed in L1. ITS 3.6.2.2 Required Action B.1 requires the plant to be in MODE 3 in 12 hours if the Required Action and associated Completion Time of ACTION A is not met. In addition, ITS 3.6.2.2 Required Action B.2 requires the plant to be in MODE 4 in 36 hours (L2). This change is more restrictive because it provides an additional requirement to place the plant in MODE 3 in 12 hours. The allowed Completion Times in Required Action B.1 and B.2 are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. However, the 12 hour Completion Time ensures timely action is taken to place the plant in a shutdown condition (MODE 3). The consequences of an accident are significantly reduced when plant is shutdown. This change is consistent with NUREG-1433, Revision 1.

M2 CTS 3.7.A.1 requires the level of the water in the torus to be within limits whenever the reactor is critical or when the reactor water temperature is above 212°F and fuel is in the reactor vessel. The scope of the current Applicability covers MODE 1, 3 and portions of MODE 2 operations. The Applicability in ITS 3.6.2.2 is MODES 1, 2 and 3. This change is considered more restrictive since the suppression pool water

TECHNICAL CHANGES - MORE RESTRICTIVE

M2 (continued)

level will be required to be Operable at all times in MODE 2 even prior to any plant startup when reactor coolant temperature may be below 212°F. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 CTS 3.7.A.1.b allows the torus (suppression pool) water level to be outside the limits for a maximum of 4 hours as a result of required operability testing of HPCI, RCIC, RHR, CS, and the Drywell-Torus Vacuum Relief System. The details of which Surveillances this allowance is provided for is proposed to be relocated to the Bases. The allowance in the Note to ITS SR 3.6.2.2.1 that the limit is not required to be met for 4 hours during Surveillances that cause the suppression pool water level to be outside the limit is adequate to ensure the allowance is taken only during planned testing. The specific details of the Operability Surveillance is not necessary to be in the Specification. As such, these details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the Technical Specifications.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 ITS 3.6.2.2 ACTION A has been added to CTS 3.7.A.1 for suppression pool water level outside of limits. Currently, no time is allowed to restore level unless required operability testing is being performed (CTS 3.7.A.1). An unanticipated change in the suppression pool level would require addressing the cause and aligning the appropriate system to raise or lower the pool level. These activities require some time to accomplish. The Completion Time of 2 hours is based on engineering judgement of the relative risks associated with: 1) the safety significance; 2) the probability of an event requiring the safety function of the system; and 3) the relative risks associated with the plant transient and the potential challenge to safety systems experienced by requiring a plant shutdown. Upon further review and discussion with the NRC staff during the development of NUREG-1433, a 2 hour Completion Time was determined to be appropriate.

L2 CTS 3.7.A.8 requires the reactor to be in the cold condition within 24 hours if the requirements of Specification 3.7.A.1 cannot be met. ITS 3.6.2.2 ACTION A allows 2 hours to restore suppression pool water level

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 (continued)

to within limits, however this change is addressed in L1. ITS 3.6.2.2 Required Action B.2, extends the time allowed for the plant to reduce temperature to be in MODE 4, from 24 hours to 36 hours if the Required Action and associated Completion Time of ITS 3.6.2.2 ACTION A (L1) is not met. However, ITS 3.6.2.2 Required Action B.1 requires the plant to be in MODE 3 in 12 hours (M1). This change is less restrictive because it extends the time for the plant to be in MODE 4 from 24 hours to 36. The allowed Completion Times in Required Actions B.1 and B.2 are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The consequences of an accident are not significantly increased because ITS 3.6.2.2 Required Action B.1 will require the plant be placed in MODE 3 within 12 hours once the determination is made that the Required Action or Completion Time cannot be satisfied. This change reduces the time the reactor would be allowed to continue to operate once the condition is identified. The consequences of an accident are significantly reduced when the reactor is shutdown and a controlled cooldown is already in progress. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change will allow 2 hours to restore suppression pool level when it is found outside of limits. The suppression pool is not assumed to be an initiator of any previously analyzed accident. The role of the suppression pool is in the mitigation of accident consequences. The proposed change will allow temporary operation when suppression pool level is not within limits. However, because the only change is in the allowed outage time, the consequences of an event that may occur during the proposed outage time will be the same as those with the current requirements. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The change provides a Completion Time of 2 hours when suppression pool level is not within required limits. The proposed Completion Time is acceptable based on the small probability of an event requiring the unavailable capabilities and the desire to minimize plant transients. The proposed Completion Time will provide sufficient time to attempt restoration of the suppression pool water level without placing the plant in a shutdown transient. The exposure of the plant to the small probability of an event requiring the suppression pool level to be within required limits during the 2 hour Completion Time is

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

3. (continued)

insignificant and offset by the benefit of avoiding an unnecessary plant shutdown transient. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change modifies the Completion Times for Required Actions when a Required Action and associated Completion Time specified in the Technical Specifications cannot be met. These Required Actions and Completion Times are intended to require a plant shutdown whenever the full complement of safety equipment necessary to prevent or mitigate the consequences of an accident are not available or parameters are outside limits. The proposed change will require that the reactor be in MODE 3 within 12 hours (M1) and MODE 4 within 36 hours whenever a Required Action and associated Completion Time cannot be met. These shutdown Completion Times are not assumed to be the initiator of any analyzed accident. The proposed change does not increase the probability of an accident because the change still requires that the plant be shutdown (MODE 3) but allows for a more controlled evolution, which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. The proposed change does not increase the consequences of an accident because of the benefits gained from allowing a more controlled shutdown and cooldown and the very low probability of an event occurring during the controlled shutdown. In addition, the consequences of an accident occurring during the proposed shutdown Completion Times are the same as the consequences of an accident occurring during the existing shutdown Completion Times. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   This change will not physically alter the plant (no new or different types of equipment will be installed). The changes in methods governing normal plant operation are consistent with the current safety analysis assumptions. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

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

The proposed change modifies the Completion Times for Required Actions when a Required Action and associated Completion Time specified in the Technical Specifications cannot be met. These Required Actions and Completion Times are intended to require a plant shutdown whenever the full complement of safety equipment necessary to prevent or mitigate the consequences of an accident are not available or parameters are outside of limits. The proposed change will require that the reactor be in MODE 3 within 12 hours (M1) and in MODE 4 within 36 hours whenever a Required Action and associated Completion Time cannot be met. The increased time allowed to reach MODE 3 is acceptable based on the small probability of an event requiring the inoperable Technical Specification component to function or parameters to be within limits during this period and the desire to reduce challenges to safety systems and thermal stress on components. The margin of safety is not reduced because the change still requires that the plant be shutdown, but in a more controlled manner, which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. Therefore, this change does not involve a significant reduction in a margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.2.2 Suppression Pool Water Level

LCO 3.6.2.2 Suppression pool water level shall be ≥ 13.88 ft 2 inches and ≤ 14 ft 6 inches.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool water level not within limits.	A.1 Restore suppression pool water level to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	AND	
	B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.2.1 Verify suppression pool water level is within limits.	24 hours

Not required to be met for up to 4 hours during Surveillances that cause suppression pool water level to be outside the limit.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The Note to ITS SR 3.6.2.2.1 has been added in accordance with the current allowances in CTS 3.7.A.1.b. This additional allowance is needed since the suppression pool level band is less than 2 inches.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

None

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

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IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.2 Suppression Pool Water Level

BASES

BACKGROUND

The suppression chamber is a toroidal shaped, steel pressure vessel containing a volume of water called the suppression pool. The suppression pool is designed to absorb the energy associated with decay heat and sensible heat released during a reactor blowdown from safety/relief valve (S/RV) discharges or from a Design Basis Accident (DBA). The suppression pool must quench all the steam released through the downcomer lines during a loss of coolant accident (LOCA). This is the essential mitigative feature of a pressure suppression containment, which ensures that the peak containment pressure is maintained below the maximum allowable pressure for DBAs (62# psig). The suppression pool must also condense steam from the steam exhaust lines in the turbine driven systems (i.e., High Pressure Coolant Injection (HPCI) System and Reactor Core Isolation Cooling (RCIC) System) and provides the main emergency water supply source for the reactor vessel. The suppression pool volume ranges between 87,300 ft^3 at the low water level limit of 12 ft 7 inches and 90,550 ft^3 at the high water level limit of 13 ft 6 inches.

If the suppression pool water level is too low, an insufficient amount of water would be available to adequately condense the steam from the S/RV quenchers, vents, or HPCI and RCIC turbine exhaust lines. Low suppression pool water level could also result in an inadequate emergency makeup water source to the Emergency Core Cooling System. The lower volume would also absorb less steam energy before heating up excessively. Therefore, a minimum suppression pool water level is specified.

If the suppression pool water level is too high, it could result in excessive clearing loads from S/RV discharges and excessive pool swell loads during a DBA LOCA. Therefore, a maximum pool water level is specified. This LCO specifies an acceptable range to prevent the suppression pool water level from being either too high or too low.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

Initial suppression pool water level affects suppression pool temperature response calculations, calculated drywell pressure during vent clearing for a DBA, calculated pool swell loads for a DBA LOCA, and calculated loads due to S/RV discharges. Suppression pool water level must be maintained within the limits specified so that the safety analysis of Reference 1 remains valid.

Suppression pool water level satisfies Criteria 2 and 3 of ~~the NRC Policy Statement~~.

LCO

A limit that suppression pool water level be ≥ [12 ft 2 inches] and ≤ [ft 6 inches] is required to ensure that the primary containment conditions assumed for the safety analyses are met. Either the high or low water level limits were used in the safety analyses, depending upon which is more conservative for a particular calculation.

APPLICABILITY

In MODES 1, 2, and 3, a DBA would cause significant loads on the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. The requirements for maintaining suppression pool water level within limits in MODE 4 or 5 is addressed in LCO 3.5.2, "ECCS-Shutdown."

ACTIONS

A.1

With suppression pool water level outside the limits, the conditions assumed for the safety analyses are not met. If water level is below the minimum level, the pressure suppression function still exists as long as ~~main vents~~ are covered, HPCI and RCIC turbine exhausts are covered, and S/RV quenchers are covered. If suppression pool water level is above the maximum level, protection against overpressurization still exists due to the margin in the peak containment pressure analysis and the capability of the ~~Drywell~~ Spray System. Therefore, continued operation for a

(continued)

BASES

ACTIONS

A.1 (continued)

limited time is allowed. The 2 hour Completion Time is sufficient to restore suppression pool water level to within limits. Also, it takes into account the low probability of an event impacting the suppression pool water level occurring during this interval.

B.1 and B.2

If suppression pool water level cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.2.2.1

Verification of the suppression pool water level is to ensure that the required limits are satisfied. The 24 hour Frequency of this SR was developed considering operating experience related to trending variations in suppression pool water level and water level instrument drift during the applicable MODES and to assessing the proximity to the specified LCO level limits. Furthermore, the 24 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool water level condition.

REFERENCES

1. UFSAR, Section 6.2.

Insert SR 3.6.2.2.1

CLB1

INSERT SR 3.6.2.2

The SR is modified by a note which states that the SR is not required to be met for up to four hours during Surveillances that cause suppression pool water level to be outside of limits. These Surveillances include required OPERABILITY testing of the High Pressure Core Injection System, the Reactor Core Isolation Cooling System, the suppression chamber-to-drywell vacuum breakers, the Core Spray System and the Residual Heat Removal System. The 4 hour allowance is adequate to perform the Surveillances and to restore the suppression pool water level to within limits.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The Note to IST SR 3.6.2.2.1 has been added in accordance with the current allowances in CTS 3.7.A.1.b. This additional allowance is needed since the suppression pool level band is less than 2 inches. The Bases have been modified to reflect this change.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA2 A typographical error has been corrected.

PA3 The Bases have been revised for enhanced clarity or to be consistent with other places in the Bases.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DB2 The Bases have been revised to more accurately reflect the basis for the 24 hour Frequency of SR 3.6.2.2.1.

DB3 The brackets have been removed and the proper plant specific reference has been provided.

DB4 Changes have been made (additions, deletions and/or changes) to reflect the plant specific Reference.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases references to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.2

Suppression Pool Water Level

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.2.2 Suppression Pool Water Level

LCO 3.6.2.2 Suppression pool water level shall be ≥ 13.88 ft and ≤ 14 ft.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool water level not within limits.	A.1 Restore suppression pool water level to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.2.1	----------NOTE---------- Not required to be met for up to 4 hours during Surveillances that cause suppression pool water level to be outside the limit. ---------- Verify suppression pool water level is within limits.	24 hours

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.2 Suppression Pool Water Level

BASES

BACKGROUND

The suppression chamber is a toroidal shaped, steel pressure vessel containing a volume of water called the suppression pool. The suppression pool is designed to absorb the energy associated with decay heat and sensible heat released during a reactor blowdown from safety/relief valve (S/RV) discharges or from a Design Basis Accident (DBA). The suppression pool must quench all the steam released through the Mark I Vent System downcomer lines during a loss of coolant accident (LOCA). This is the essential mitigative feature of a pressure suppression containment, which ensures that the peak containment pressure is maintained below the maximum allowable pressure for DBAs (62 psig). The suppression pool must also condense steam from the steam exhaust lines in the turbine driven systems (i.e., High Pressure Coolant Injection (HPCI) System and Reactor Core Isolation Cooling (RCIC) System) and provides the main emergency water supply source for the reactor vessel. The suppression pool volume ranges between approximately 105,900 ft^3 at the low water level limit of 13.88 ft and 107,400 ft^3 at the high water level limit of 14 ft.

If the suppression pool water level is too low, an insufficient amount of water would be available to adequately condense the steam from the S/RV quenchers, drywell vents, or HPCI and RCIC turbine exhaust lines. Low suppression pool water level could also result in an inadequate emergency makeup water source to the Emergency Core Cooling System. The lower volume would also absorb less steam energy before heating up excessively. Therefore, a minimum suppression pool water level is specified.

If the suppression pool water level is too high, it could result in excessive clearing loads from S/RV discharges and excessive pool swell loads during a DBA LOCA. Therefore, a maximum pool water level is specified. This LCO specifies an acceptable range to prevent the suppression pool water level from being either too high or too low.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

Initial suppression pool water level affects suppression pool temperature response calculations, calculated drywell pressure during vent clearing for a DBA, calculated pool swell loads for a DBA LOCA, and calculated loads due to S/RV discharges. Suppression pool water level must be maintained within the limits specified so that the safety analysis of References 1 and 2 remain valid.

Suppression pool water level satisfies Criteria 2 and 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

LCO

A limit that suppression pool water level be ≥ 13.88 ft and ≤ 14 ft is required to ensure that the primary containment conditions assumed for the safety analyses are met. Either the high or low water level limits were used in the safety analyses, depending upon which is more conservative for a particular calculation.

APPLICABILITY

In MODES 1, 2, and 3, a DBA would cause significant loads on the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. The requirement for maintaining suppression pool water level within limits in MODE 4 or 5 is addressed in LCO 3.5.2, "ECCS-Shutdown."

ACTIONS

A.1

With suppression pool water level outside the limits, the conditions assumed for the safety analyses are not met. If water level is below the minimum level, the pressure suppression function still exists as long as the vent system downcomer lines are covered, HPCI and RCIC turbine exhausts are covered, and S/RV quenchers are covered. If suppression pool water level is above the maximum level, protection against overpressurization still exists due to the margin in the peak containment pressure analysis and the capability of the Residual Heat Removal Containment Spray System. Therefore, continued operation for a limited time is

(continued)

BASES

ACTIONS

A.1 (continued)

allowed. The 2 hour Completion Time is sufficient to restore suppression pool water level to within limits. Also, it takes into account the low probability of an event requiring the suppression pool water level to be within limits occurring during this interval.

B.1 and B.2

If suppression pool water level cannot be restored to within limits within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.2.2.1

Verification of the suppression pool water level is to ensure that the required limits are satisfied. The 24 hour Frequency has been shown to be acceptable based on operating experience. Furthermore, the 24 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool water level condition.

The SR is modified by a note which states that the SR is not required to be met up to four hours during Surveillances that cause suppression pool water level to be outside of limits. These Surveillances include required operability testing of the High Pressure Core Injection System, the Reactor Core Isolation Cooling System, the suppression chamber-to-drywell vacuum breakers, the Core Spray System and the Residual Heat Removal System. The 4 hour allowance is adequate to perform the Surveillances and to restore the suppression pool water level to within limits.

(continued)

BASES (continued)

REFERENCES

1. UFSAR, Section 14.6.1.3.3.

2. GE-NE-T23-0737-01, James A. FitzPatrick Nuclear Power Plant Higher Service Water Temperature Analysis, August 1996.

3. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.6.2.3

A1

See ITS: 3.5.1

3.5 (cont'd)

5. All recirculation pump discharge valves shall be operable prior to reactor startup (or closed if permitted elsewhere in these specifications).

6. If the requirements of 3.5.A cannot be met, the reactor shall be placed in the cold condition within 24 hrs.

B. (RHR Suppression Pool Cooling) Containment Cooling Mode (of the RHR System)

LA1

[LCO 3.6.2.3] A1. Both subsystems of the containment cooling mode, each including two RHR and two RHRSW pumps, shall be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolant temperature ≥212°F except as specified below.

L2

[Applicability] MODES 1, 2 and 3

4.5 (cont'd)

5. All recirculation pump discharge valves shall be tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.

B. Containment Cooling Mode (of the RHR System)

A1

1. Subsystems of the containment cooling mode shall be demonstrated operable by performing:

M1

Item		Frequency
a.	a pump operability and flow rate test on the RHR pumps.	Per Surveillance Requirement 4.5.A.3
b.	an operability test of the RHR containment cooling mode motor operated valves.	In accordance with the Inservice Testing Program
c.	an operability test on the RHRSW pumps and associated motor operated valves.	In accordance with the Inservice Testing Program
d.	a flow rate test verifying a flow rate of 4000 gpm for each RHRSW pump and a total flow rate of 8000 gpm for two RHRSW pumps operating in parallel.	In accordance with the Inservice Testing Program

[SR 3.6.2.3.2]

LA2

See ITS: 3.7.1

Specification 3.6.2.3

3.5 (cont'd)

4.5 (cont'd)

	Item	Frequency
[SR 3.6.2.3.1] e.	a verification that each valve (manual, power operated, or automatic) in the flowpath that is not locked, sealed or otherwise secured in position, is in the correct position	Once per 31 Days
f.	an air test shall be performed on the containment spray headers and nozzles.	Once per 5 Years

A1

A2

or can be aligned to the correct position

See ITS 3.6.19

See ITS 3.7.1

2. Should one RHRSW pump of the components required in 3.5.B.1 above be made or found inoperable, continued reactor operation is permissible only during the succeeding 30 days provided that during such 30 days all remaining components of the containment cooling mode subsystems are operable.

2. When it is determined that one RHRSW pump of the components required in 3.5.B.1 above is inoperable, the remaining components of the containment cooling mode subsystems shall be verified to be operable immediately and daily thereafter.

3. When one containment cooling subsystem becomes inoperable, the redundant containment cooling subsystem shall be verified to be operable immediately and daily thereafter. When one RHRSW pump in each subsystem becomes inoperable, the remaining components of the containment cooling subsystems shall be verified to be operable immediately and daily thereafter.

A3

RAI 3.6.2.3-3

CTS Amend 259

3. Should one of the containment cooling subsystems (RHR Suppression Pool) become inoperable or should one RHRSW pump in each subsystem become inoperable, continued reactor operation is permissible for a period not to exceed 7 days.*

[ACTION A]

See ITS 3.7.1

L4

add ACTION B

4. If the requirements of 3.5.B.2 or 3.5.B.3 cannot be met, the reactor shall be placed in a cold condition within 24 hr.

[ACTION C]

M2

MODE 3 within 12 hours

36

5. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.B above.

L3

See ITS 3.10.8

*During the installation of modification 99-095 to the "A" RHRSW strainer, continued reactor operation is permissible for a period not to exceed 11 days.

See ITS 3.7.1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted that do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4", Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 Additional words "or can be aligned to the correct position" have been added to CTS 4.5.B.1.e for clarity. The required lineup for ECCS OPERABILITY in CTS 4.5.A.1.c requires the RHR System to be in a lineup other than that necessary to perform the containment cooling function required by CTS 3/4.5.B. In addition, the suppression pool cooling function is manually actuated (requiring repositioning of valves and starting of the RHR pump by the operator). In current Technical Specifications, this is recognized and interpreted that "in the correct position" allows the valves to be in a non-accident position provided they can be realigned to the correct position. In the proposed Specifications, the words "in the correct position" mean that the valves must be in the accident position, unless they can be automatically aligned on an accident signal. If so, then they can be in the non-accident position. Thus, for the containment cooling function and other manually actuated systems, the additional words "or can be aligned to the correct position" have been added to clarify that it is permissible for this systems' valves to be in the non-accident position and still be considered OPERABLE. Since this is the current requirement, this change is considered administrative.

A3 CTS 4.5.B.3 requires the redundant containment cooling subsystem to be verified to be operable immediately and daily thereafter when one containment cooling subsystem becomes inoperable. This explicit requirement is not retained in ITS 3.6.2.3. These verifications are an implicit part of using Technical Specifications (CTS or ITS) and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. In addition, plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical

RAI 3.6.2.3-3

JAF/3.6.2.3-3

ADMINISTRATIVE CHANGES

A3 (continued)

Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify the Operability of the redundant subsystem is considered to be unnecessary for ensuring compliance with the applicable Technical Specification actions.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 4.5.B.1.a requires the pump operability and flow rate test on the RHR pumps to be performed at a Frequency consistent with CTS 4.5.A.3 (Inservice Testing Program). ITS SR 3.6.2.3.2 requires the verification that each required RHR pump to develop a flow rate ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode. The proposed Frequency is consistent with the Inservice Testing Program. This change is considered more restrictive since a specific flow rate and flow path is specified. The test must be performed aligning the system in the suppression pool cooling mode of operation (i.e., including the RHR heat exchanger) instead of taking credit for a test performed to satisfy an independent function (ECCS flow requirements). This change is necessary to ensure the containment analysis can be satisfied.

M2 CTS 3.5.B.4 requires the reactor be in a cold shutdown condition within 24 hours when the actions of CTS 3.5.B.3 cannot be met for one inoperable RHR containment cooling subsystem. If two RHR containment cooling subsystems are inoperable entry into CTS 3.0.C is required and the plant must be in COLD SHUTDOWN in 24 hours consistent with the time in CTS 3.5.B.4. A new ACTION (ITS 3.6.2.3 ACTION B) has been added which allows 8 hours to restore one RHR suppression pool cooling subsystem to operable status when both subsystems are found to be inoperable, however this change is addressed in L4. ITS 3.6.2.3 Required Action C.1 requires the plant to be in MODE 3 in 12 hours if the Required Action and associated Completion Time of Condition A or B

TECHNICAL CHANGES - MORE RESTRICTIVE

M2 (continued)

is not met for one or two RHR suppression pool cooling subsystems, respectively. In addition, ITS 3.6.2.3 Required Action C.2 has extended the time to reach cold condition (MODE 4) to 36 hours (L3). This change is considered more restrictive since a specific time to reach an interim condition has been specified (MODE 3 in 12 hours). The allowed Completion Times in Required Actions C.1 and C.2 are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. However, the 12 hour Completion Time ensures timely action is taken to place the plant in a shutdown condition (MODE 3). The consequences of any design bases event is significantly reduced when plant is shutdown. This change is consistent with NUREG-1433, Revision 1.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 The details in CTS 3.5.B.1 concerning the number of pumps required in each containment cooling subsystem (i.e., two RHR pumps (L2)) is proposed to be relocated to the Bases. The requirement in the proposed LCO that two RHR suppression pool cooling subsystems must be OPERABLE and the definition of OPERABILITY suffices. Therefore, this detail is not required to be included in the ITS to provide adequate protection of the public health and safety. Changes to the relocated requirements in the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the Technical Specifications.

LA2 The inservice testing requirement in CTS 4.5.B.1.b for the RHR containment cooling mode motor operated valves is proposed to be relocated to the IST Program. This testing is required to ensure the RHR containment cooling mode motor operated valves are Operable in order to perform their intended function. However, the IST Program, required by 10 CFR 50.55a, provides requirements for the testing of all ASME Code Class 1, 2, and 3 pumps and valves in accordance with Section XI of the ASME Code. The IST Program and implementing procedures ensure compliance with 10 CFR 50.55a, which is required by the JAFNPP Operating License. These controls are adequate to ensure the required testing to verify Operability is performed. Therefore, this detail is not required to be included in the ITS to provide adequate protection of the public health and safety. Changes to the relocated requirements in the IST Program will be controlled by the provisions of 10 CFR 50.59.

DISCUSSION OF CHANGES
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

RAI 3.6.2.3-3

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 Not used.

L2 CTS 3.5.B.1 requires two Residual Heat Removal (RHR) pumps to be Operable in each containment cooling mode subsystem. ITS 3.6.2.3 will require both RHR suppression pool cooling subsystems to be Operable but as indicated in the Bases only one pump is required in each RHR suppression pool cooling subsystem.

The containment analysis does not credit both RHR pumps in each subsystem. In order to satisfy the safety analysis, one RHR pump and two RHR service water pumps are required to function as indicated in UFSAR Section 14.6.1.3.3. In the condition where one RHR service water pump is inoperable in each subsystem the containment safety function can still be met as long as one RHR pump and one RHR service water pump is Operable in each subsystem. The requirements of the RHR Service Water System are specified in ITS 3.7.1, "RHR Service Water (RHRSW) System". CTS 3.5.B.3 and ITS 3.7.1 ACTION B allow one RHR Service Water pump to be inoperable in each subsystem for 7 days. In the CTS, if any RHR pump is inoperable during this time period the default action CTS 3.5.B.4 or CTS 3.0.C must be entered and the reactor must be in cold conditions in 24 hours. In the ITS, the 7 day period is permitted even with one RHR pump inoperable since the safety function can be met. Therefore this change is less restrictive but acceptable since the safety analysis can be met.

L3 CTS 3.5.B.4 requires the reactor be in a cold shutdown condition within 24 hours when the actions of CTS 3.5.B.3 cannot be met for one inoperable RHR containment cooling subsystem. If two RHR containment cooling subsystems are inoperable entry into CTS 3.0.C is required and the plant must be in COLD SHUTDOWN in 24 hours consistent with the time in CTS 3.5.B.4. A new ACTION (ITS 3.6.2.3 ACTION B) has been added which allows 8 hours to restore one RHR suppression pool cooling subsystem to operable status when both subsystems are found to be inoperable, however this change is addressed in L4.

The proposed requirement, ITS 3.6.2.3, Required Action C.2, extends the time allowed for the plant to be in MODE 4, from 24 hours to 36 hours when the Required Action and associated Completion Time of ACTION A or B are not met. However, ITS 3.6.2.3 Required Action C.1 requires the plant to be in MODE 3 in 12 hours (M2). This change is less restrictive because it extends the time for the plant to be in MODE 4 from 24 hours

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 (continued)

to 36. The allowed Completion Times in Required Actions C.1 and C.2 are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The consequences of an accident are not significantly increased because ITS 3.6.2.3, Required Action C.1 will require the plant be placed in MODE 3 within 12 hours. This change reduces the time the reactor would be allowed to continue to operate under the conditions specified above. The consequences of a LOCA are significantly mitigated when the reactor is shutdown and a controlled cooldown is already in progress. This change is consistent with NUREG-1433, Revision 1.

L4 A new action has been added to the current requirements in CTS 3.5.B.3 (ITS 3.6.2.3 ACTION B) for two RHR suppression pool cooling subsystems inoperable. Currently this requirement will require entry in CTS 3.0.C and the reactor must be in COLD SHUTDOWN within 24 hours. ITS 3.6.2.3 ACTION B allows 8 hours when two RHR suppression pool cooling subsystems are inoperable. If this cannot be met ITS 3.6.2.3 ACTION C must be entered and a plant shutdown must commence (see L3 and M2). The proposed change is necessary since it allows a short time to restore equipment to OPERABLE status and avoid a shutdown transient which will require the use of the RHR suppression pool cooling mode. The proposed change is acceptable for the following reasons: 1) the probability of an accident is not increased because RHR suppression pool cooling is not an initiator of any accident; 2) the consequences of an event are the same in the 8 hour period as they are without the 8 hour period; 3) no new accident is possible because no physical changes have occurred in the plant nor have any procedures governing plant operation been changed and; 4) the time allowed to restore one RHR suppression pool cooling subsystem to OPERABLE status is acceptable based on the small probability of an event requiring the inoperable Technical Specification component to function during this period and the desire to reduce challenges to safety systems and thermal stress on components. Therefore, this change does not involve a significant reduction in a margin of a safety. This change is consistent with NUREG-1433, Revision 1, as modified by TSTF-230, Revision 1.

RAI 3.6.2.3-4/TSTF-230, R1

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

RAI 3.6.2.3-3

L1 CHANGE

Not used.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change reduces the required number of Residual Heat Removal (RHR) pumps in each RHR suppression pool cooling subsystem from two to one. The RHR pumps are not considered to be initiators of any accident. Therefore, this change does not significantly increase the probability of an accident previously evaluated. The containment analysis assumes only one RHR pump is operating in the suppression pool cooling mode of operation. Therefore, the safety analysis can be met even with a single failure in one RHR suppression pool cooling subsystem. The RHR pumps are required to remain OPERABLE to support the requirements of ITS 3.5.1, "ECCS-Operating." If one or two RHR pumps are inoperable in one subsystem, the ACTIONS of ITS 3.5.1 will only permit operation for 7 days which is consistent with the requirements of current requirements in CTS 3.5.B.3. Since the consequences of an accident are bounded by the current containment analysis and since Operability requirements still exists in the Technical Specification for RHR pumps, this change does not involve a significant increase in the consequences of an accident previously evaluated.

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

   The proposed change reduces the required number of Residual Heat Removal (RHR) pumps in each RHR suppression pool cooling subsystem from two to one. ITS 3.5.1 will continue to require both pumps in each subsystem to remain OPERABLE during MODES 1, 2 and 3. The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE (continued)

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

The proposed change reduces the required number of Residual Heat Removal (RHR) pumps in each RHR suppression pool cooling subsystem from two to one. ITS 3.5.1 will continue to require both pumps in each subsystem to remain OPERABLE during MODES 1; 2 and 3. The containment safety analysis can be met at all times with one RHR pump OPERABLE in each subsystem. Even with a single failure one RHR suppression pool cooling subsystem has the capacity to provide the required containment cooling. Since the consequences of an accident are bounded by the current containment analysis and since Operability requirements still exist in the Technical Specification for all four RHR pumps, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not increase the probability of an accident because the change extends the time to Cold Shutdown from 24 hours to 36 hours when the Required Actions or Completion Times associated with an inoperable RHR subsystem cannot be satisfied. Shutdown Completion Times are not assumed in the initiation of any analyzed event. The change will not allow continuous operation with an inoperable RHR subsystem. The consequences of an accident are not increased because LCO 3.6.2.3 Required Action C.1 will require that the plant be placed in MODE 3 within 12 hours once the determination is made that the Required Actions or Completion Time associated with an inoperable RHR Suppression Pool Cooling subsystem cannot be satisfied. This change reduces the time the reactor would be allowed to continue to operate once the condition is identified. The consequences of a LOCA are significantly reduced when the reactor is shutdown and a controlled cooldown is already in progress. In addition, the consequences of an event occurring during the proposed shutdown Completion Time are the same as the consequences of an event occurring during the existing shutdown Completion Time. Therefore, the change does not involve a significant increase in the probability or consequences of an event previously evaluated.

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

   The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. The change increases the time allowed to reach Cold Shutdown from 24 hours to 36 hours. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L3 CHANGE

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

The change extends the time allowed to reach Cold Shutdown from 24 hours to 36 hours when the Required Actions or Completion Times associated with an inoperable RHR subsystem cannot be satisfied. There is not a significant reduction in the margin of safety because LCO 3.6.2.3 Required Action C.1 will require that the plant be placed in MODE 3 within 12 hours once the determination is made that the Required Actions or Completion Times associated with an inoperable RHR subsystem cannot be satisfied. This concurrent change reduces the time the reactor would be allowed to continue to operate once the condition is identified. The consequences of a LOCA are significantly reduced when the reactor is shutdown and a controlled cooldown is already in progress. In addition, this change provides the benefit of a reduced potential for a plant event that could challenge safety systems by providing additional time to reduce pressure in a controlled and orderly manner. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change adds an additional condition for two inoperable RHR suppression pool cooling subsystems which allows 8 hours to restore one RHR suppression pool cooling subsystem to OPERABLE status. The probability of an accident is not increased because RHR suppression pool cooling is not an initiator of any accident previously evaluated. The RHR suppression pool cooling system is designed to mitigate the consequences of an accident. With both subsystems inoperable and if an accident were to occur the applicable safety analyses may not be met. However, the time allowed to restore one RHR suppression pool cooling subsystem to OPERABLE status is acceptable based on the small probability of an event requiring the inoperable Technical Specification component to function during this period and the desire to reduce challenges to safety systems and thermal stress on components. In addition, the consequences of an event are the same in the 8 hour period as they are without the 8 hour period, therefore the consequences of an accident will be bounded by the current requirements. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

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

   The proposed change adds an additional condition for two inoperable RHR suppression pool cooling subsystems which allows 8 hours to restore one RHR suppression pool cooling subsystem to OPERABLE status. The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.3 - RESIDUAL HEAT REMOVAL (RHR)
SUPPRESSION POOL COOLING

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L4 CHANGE

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

The proposed change adds an additional condition for two inoperable RHR suppression pool cooling subsystems which allows 8 hours to restore one RHR suppression pool cooling subsystem to OPERABLE status. The RHR suppression pool cooling system is designed to mitigate the consequences of an accident. With both subsystems inoperable and if an accident were to occur the applicable safety analyses may not be met. However, the time allowed to restore one RHR suppression pool cooling subsystem to OPERABLE status is acceptable based on the small probability of an event requiring the inoperable Technical Specification component to function during this period and the desire to reduce challenges to safety systems and thermal stress on components. Therefore, this change does not involve a significant reduction in the margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

[3.5.B.1] LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

[3.5.B.1] APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[3.5.B.3] A. One RHR suppression pool cooling subsystem inoperable.	A.1 Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days
[3.5.B.4] [M2] [L3] B. Required Action and associated Completion Time of Condition A not met. C TAI OR TAI Two RHR suppression pool cooling subsystems inoperable.	B.1 Be in MODE 3. AND C TAI	12 hours
	B.2 Be in MODE 4.	36 hours
[L4] B. Two RHR suppression pool cooling subsystems inoperable.	B.1 Restore one RHR suppression pool cooling subsystem to OPERABLE status. TAI	8 hours

(RAI-3.6.2.3-4/TSTF-230, R1)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify each required RHR pump develops a flow rate ≥ [7700] gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program or 92 days

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.2.3 - RHR SUPPRESSION POOL COOLING

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The bracketed Frequency of SR 3.6.2.3.2 is chosen to be in accordance with the allowances in CTS 4.5.B.1.a (4.5.A.3).

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 A typographical error has been corrected.

PA2 The word "required" has been added to ITS SR 3.6.2.3.2 since all RHR pumps are not required to satisfy this Specification.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

RAI 3.6.2.3-4

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler 230, Revision 1, have been incorporated into the revised Improved Technical Specifications.

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

RAI 3.6.2.3-4/ TSTF-230, R1

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 Not used.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

BASES

BACKGROUND

Following a Design Basis Accident (DBA), the RHR Suppression Pool Cooling System removes heat from the suppression pool. The suppression pool is designed to absorb the sudden input of heat from the primary system. In the long term, the pool continues to absorb residual heat generated by fuel in the reactor core. Some means must be provided to remove heat from the suppression pool so that the temperature inside the primary containment remains within design limits. This function is provided by two redundant RHR suppression pool cooling subsystems. The purpose of this LCO is to ensure that both subsystems are OPERABLE in applicable MODES.

Each RHR subsystem contains two pumps and one heat exchanger and is manually initiated and independently controlled. The two subsystems perform the suppression pool cooling function by circulating water from the suppression pool through the RHR heat exchangers and returning it to the suppression pool. RHR service water, circulating through the tube side of the heat exchangers, exchanges heat with the suppression pool water and discharges this heat to the external heat sink.

The heat removal capability of one RHR pump in one subsystem is sufficient to meet the overall DBA pool cooling requirement for loss of coolant accidents (LOCAs) and transient events such as a turbine trip or stuck open safety/relief valve (S/RV). S/RV leakage and high pressure core injection and Reactor Core Isolation Cooling System testing increase suppression pool temperature more slowly. The RHR Suppression Pool Cooling System is also used to lower the suppression pool water bulk temperature following such events.

INSERT BKGD

APPLICABLE SAFETY ANALYSES

Reference 1 contains the results of analyses used to predict primary containment pressure and temperature following large and small break LOCAs. The intent of the analyses is to demonstrate that the heat removal capacity of the RHR Suppression Pool Cooling System is adequate to maintain the primary containment conditions within design limits. The

Insert ASA

(continued)

DB 1

INSERT BKGD

The RHR Suppression Pool Cooling System also ensures adequate net positive suction head (NPSH) is available for the Emergency Core Cooling System pumps.

DB1

INSERT ASA

Reference 2 and 3 contain the results of analyses used to predict local and bulk suppression pool temperatures following certain events including small break LOCAs and a stuck open S/RV.

edit

BASES

APPLICABLE SAFETY ANALYSES (continued)

suppression pool temperature is calculated to remain below the design limit.

The RHR Suppression Pool Cooling System satisfies Criterion 3 of ~~the NRC Policy Statement~~ 10 CFR 50.36(c)(2)(ii) (Ref. 4).

LCO

~~During~~ Following a DBA, a minimum of one RHR suppression pool cooling subsystem is required to maintain the primary containment peak pressure and temperature below design limits (Ref. 3). To ensure that these requirements are met, two RHR suppression pool cooling subsystems must be OPERABLE with power from two safety related ~~independent~~ redundant power supplies. Therefore, in the event of an accident, at least one subsystem is OPERABLE assuming the worst case single active component failure. An RHR suppression pool cooling subsystem is OPERABLE when one of the pumps, the heat exchanger, and associated piping, valves, instrumentation, and controls are OPERABLE.

Insert LCO

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment and cause a heatup and pressurization of primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the RHR Suppression Pool Cooling System is not required to be OPERABLE in MODE 4 or 5.

ACTIONS

A.1

With one RHR suppression pool cooling subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining RHR suppression pool cooling subsystem is adequate to perform the primary containment cooling function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment cooling capability. The 7 day Completion Time is acceptable in light of the redundant RHR suppression pool active component

RAI 3.6.2.3-6

(continued)

Revision E

PA2

INSERT LCO

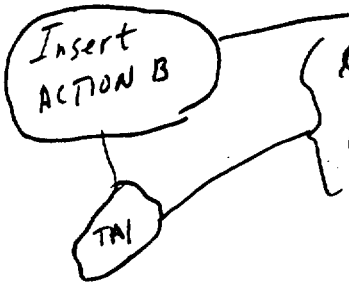
An RHR suppression pool cooling subsystem may be considered OPERABLE during alignment and operation for decay heat removal when below the actual RHR shutdown cooling permissive pressure in MODE 3, if capable of being manually realigned (remote or local) to the suppression pool cooling mode and is not otherwise inoperable. Alignment and operation for decay heat removal includes the period when the required RHR pump is not operating or when the system is being realigned from or to the RHR shutdown cooling mode.

BASES

ACTIONS

A.1 (continued)

cooling capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.



C

~~B.1 and B.2~~ any

If ~~the~~ Required Action and associated Completion Time of Condition A cannot be met within the required Completion Time or if ~~two~~ RHR suppression pool cooling subsystems are inoperable, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

RAI 3.6.2.3-4
TSTF-230, R1

SURVEILLANCE REQUIREMENTS

SR 3.6.2.3.1

Verifying the correct alignment for manual, power operated, and automatic valves in the RHR suppression pool cooling mode flow path provides assurance that the proper flow path exists for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve is also allowed to be in the nonaccident position provided it can be aligned to the accident position within the time assumed in the accident analysis. This is acceptable since the RHR suppression pool cooling mode is manually initiated. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The Frequency of 31 days is justified because the valves are operated under procedural control, improper valve position would affect only a single subsystem, the probability of an event requiring initiation of the system is low, and the subsystem is a manually initiated system. This Frequency

PA3

(continued)

Revision E

INSERT ACTION B

B.1

With two RHR suppression pool cooling subsystems inoperable, one subsystem must be restored to OPERABLE status within 8 hours. In this condition, there is a substantial loss of the primary containment pressure and temperature mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and the potential avoidance of a plant shutdown transient that could result in the need for the RHR suppression pool cooling subsystems to operate.

RAI 3.6.2.3-4/TSTF-230, R1

Insert Page B 3.6-69
Revision E

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.2.3.1 (continued)

has been shown to be acceptable based on operating experience.

SR 3.6.2.3.2

Verifying that each RHR pump develops a flow rate ≥ [7700] gpm while operating in the suppression pool cooling mode with flow through the associated heat exchanger ensures that pump performance has not degraded during the cycle. Flow is a normal test of centrifugal pump performance required by ASME Code, Section XI (Ref. 2). This test confirms one point on the pump design curve, and the results are indicative of overall performance. Such inservice ~~inspections~~ tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program [or 92 days].

REFERENCES

1. [4] FSAR, Section [6.2].

2. ASME, Boiler and Pressure Vessel Code, Section XI.

INSERT REF

Revision E

DB1 X1

INSERT REF

2. GE-NE-T23-0737-01, James A. FitzPatrick Nuclear Power Plant Higher Service Water Temperature Analysis, August 1996. DB1

3. NEDC-24361-P, James. A FitzPatrick Nuclear Power Plant Suppression Pool Temperature Response, August 1981.

4. 10 CFR 50.36 (c)(2)(ii). X1

Insert Page B 3.6.70

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.3 - RHR SUPPRESSION POOL COOLING

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The bracketed Frequency of SR 3.6.2.3.2 is chosen to be in accordance with the allowances in CTS 4.5.B.1.a (4.5.A.3).

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA2 The Bases have been revised for enhanced clarity or to be consistent with other places in the Bases.

PA3 The Bases have been revised to correct a typographical error.

PA4 The word "required" has been added to ITS SR 3.6.3.2.2 Bases to make the Bases consistent with the SR and since all RHR pumps are not required to satisfy this SR.

RAI 3.6.2.3-1

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific design analysis. References have been renumbered where applicable.

DB2 The brackets have been removed and the proper plant specific value has been provided.

DB3 The brackets have been removed and the proper plant specific reference has been included.

RAI 3.6.2.3-4

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

TA1 The changes presented in Technical Specification Task Force (TSTF) Technical Specification Change Traveler 230, Revision 1, have been incorporated into the revised Improved Technical Specifications.

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.3 - RHR SUPPRESSION POOL COOLING

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases references to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995.

X2 ACTION B has been added to establish Required Actions when two RHR suppression pool cooling subsystems are inoperable. ACTION B allows 8 hours when two RHR suppression pool cooling subsystems are inoperable, whereas NUREG-1433 requires a shutdown. The proposed change is acceptable for the following reasons: 1) the probability of an accident is not increased because RHR suppression pool cooling is not an initiator of any accident; 2) the consequences of an event are the same in the 8 hour period as they are without the 8 hour period; 3) no new accident is possible because no physical changes have occurred in the plant nor have any procedures governing plant operation been changed and; 4) the time allowed to restore one RHR suppression pool cooling subsystem to OPERABLE status is acceptable based on the small probability of an event requiring the inoperable Technical Specification component to function during this period and the desire to reduce challenges to safety systems and thermal stress on components. Therefore this change does not involve a significant reduction in a margin of a safety. The NUREG-1433, Revision 1, Specification 3.6.2.3 ACTION B has been modified and renumbered to reflect the addition of the proposed ITS 3.6.2.3 ACTION B. The appropriate changes to the Bases have been made to reflect this change.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.3

Residual Heat Removal (RHR) Suppression Pool Cooling

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1	Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days
B. Two RHR suppression pool cooling subsystems inoperable.	B.1	Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	12 hours
	AND		
	C.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify each required RHR pump develops a flow rate ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

BASES

BACKGROUND

Following a Design Basis Accident (DBA), the RHR Suppression Pool Cooling System removes heat from the suppression pool. The suppression pool is designed to absorb the sudden input of heat from the primary system. In the long term, the pool continues to absorb residual heat generated by fuel in the reactor core. Some means must be provided to remove heat from the suppression pool so that the temperature inside the primary containment remains within design limits. This function is provided by two redundant RHR suppression pool cooling subsystems. The purpose of this LCO is to ensure that both subsystems are OPERABLE in applicable MODES.

Each RHR suppression pool cooling subsystem (loop) contains two pumps and one heat exchanger and is manually initiated and independently controlled. The two loops perform the suppression pool cooling function by circulating water from the suppression pool through the RHR heat exchangers and returning it to the suppression pool. RHR service water, circulating through the tube side of the heat exchangers, exchanges heat with the suppression pool water and discharges this heat to the ultimate heat sink.

The heat removal capability of one RHR pump is sufficient to meet the overall DBA pool cooling requirement for loss of coolant accidents (LOCAs) and transient events such as a turbine trip or stuck open safety/relief valve (S/RV). S/RV leakage, High Pressure Coolant Injection System and Reactor Core Isolation Cooling System testing increase suppression pool temperature more slowly. The RHR Suppression Pool Cooling System is also used to lower the suppression pool water bulk temperature following such events. The RHR Suppression Pool Cooling System also ensures adequate net positive suction head (NPSH) is available for the Emergency Core Cooling System pumps.

APPLICABLE SAFETY ANALYSES

Reference 1 and 2 contain the results of analyses used to predict primary containment pressure and temperature following large and small break LOCAs. Reference 2 and 3 contain the results of analyses used to predict local and

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

bulk suppression pool temperatures following certain events including small break LOCAs and a stuck open S/RV. The analyses indicates that the heat removal capacity of the RHR Suppression Pool Cooling System is adequate to maintain the primary containment conditions within design limits. The suppression pool temperature is calculated to remain below the design limit.

The RHR Suppression Pool Cooling System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

LCO

Following a DBA, a minimum of one RHR suppression pool cooling subsystem is required to maintain the primary containment peak pressure and temperature below design limits (Ref. 2). To ensure that these requirements are met, two RHR suppression pool cooling subsystems must be OPERABLE with power from two safety related redundant power supplies. Therefore, in the event of an accident, at least one subsystem is OPERABLE assuming the worst case single active component failure. An RHR suppression pool cooling subsystem is OPERABLE when one of the pumps, the heat exchanger, and associated piping, valves, instrumentation, and controls are OPERABLE. An RHR suppression pool cooling subsystem may be considered OPERABLE during alignment and operation for decay heat removal when below the actual RHR shutdown cooling permissive pressure in MODE 3, if capable of being manually realigned (remote or local) to the suppression pool cooling mode and is not otherwise inoperable. Alignment and operation for decay heat removal includes the period when the required RHR pump is not operating or when the system is being realigned from or to the RHR shutdown cooling mode.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment and cause a heatup and pressurization of primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the RHR Suppression Pool Cooling System is not required to be OPERABLE in MODE 4 or 5.

(continued)

BASES (continued)

ACTIONS

A.1

With one RHR suppression pool cooling subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining RHR suppression pool cooling subsystem is adequate to perform the primary containment cooling function. However, the overall reliability is reduced because a single active component failure in the OPERABLE subsystem could result in reduced primary containment cooling capability. The 7 day Completion Time is acceptable in light of the redundant RHR suppression pool cooling capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

RAI 3.6.2.3-6

B.1

With two RHR suppression pool cooling subsystems inoperable, one subsystem must be restored to OPERABLE status within 8 hours. In this condition, there is a substantial loss of the primary containment pressure and temperature mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and the potential avoidance of a plant shutdown transient that could result in the need for the RHR suppression pool cooling subsystems to operate.

C.1 and C.2

If any Required Action and associated Completion Time cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

RAI 3.6.2.3-4/TSTF-230, R1

SURVEILLANCE REQUIREMENTS

SR 3.6.2.3.1

Verifying the correct alignment for manual, power operated, and automatic valves in the RHR suppression pool cooling

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.2.3.1 (continued)

mode flow path provides assurance that the proper flow path exists for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve is also allowed to be in the nonaccident position provided it can be aligned to the accident position within the time assumed in the accident analysis. This is acceptable since the RHR suppression pool cooling mode is manually initiated. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The Frequency of 31 days is justified because the valves are operated under procedural control, improper valve position would affect only a single subsystem, the probability of an event requiring initiation of the system is low, and the system is a manually initiated system. This Frequency has been shown to be acceptable based on operating experience.

RAI 3.6.2.3-1

SR 3.6.2.3.2

Verifying that each required RHR pump develops a flow rate ≥ 7700 gpm while operating in the suppression pool cooling mode with flow through the associated heat exchanger ensures that pump performance has not degraded during the cycle. Flow is a normal test of centrifugal pump performance required by ASME Code, Section XI (Ref. 4). This test confirms one point on the pump performance curve, and the results are indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

REFERENCES

1. UFSAR, Section 14.6.1.3.3.

(continued)

BASES

REFERENCES (continued)

2. GE-NE-T23-0737-01, James A. FitzPatrick Nuclear Power Plant Higher Service Water Temperature Analysis, August 1996.

3. NEDC-24361-P, James. A FitzPatrick Nuclear Power Plant Suppression Pool Temperature Response, August 1981.

4. 10 CFR 50.36 (c)(2)(ii).

5. ASME, Boiler and Pressure Vessel Code, Section XI.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

Specification 3.6.2.4

A1

3.7 (cont'd)

6. Oxygen Concentration

The primary containment oxygen concentration shall be maintained less than 4.0 volume percent while in the Run mode, except as specified in 3.7.A.6.a and 3.7.A.6.b below:

a. Primary containment oxygen concentration shall be less than 4.0 volume percent within 24 hours of exceeding 15% of rated thermal power during startup.

b. De-inerting may commence up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

c. If oxygen concentration is greater than or equal to 4.0 volume percent at any time while in the Run mode, except as specified in 3.7.A.6.a or 3.7.A.6.b above, restore oxygen concentration to less than 4.0 volume percent within 24 hours, otherwise reduce thermal power to less than or equal to 15% of rated within the next 8 hours.

[3.6.2.4] [7] Drywell-Torus (to-Suppression Chamber) Differential Pressure

[LCO 3.6.2.4]

a. Differential pressure between the drywell and torus shall be maintained at equal to or greater than 1.7 psid except as specified in (1) and (2) below:

4.7 (cont'd)

6. Oxygen Concentration

a. The primary containment oxygen concentration shall be verified to be within limits once each week. Instrument surveillances shall be performed as specified in Table 4.2-8.

See ITS: 3.6.3.1

[3.6.2.4] (to-Suppression chamber)

[7] Drywell-Torus Differential Pressure

[3.6.2.4.1]

a. The pressure differential between the drywell and torus shall be verified to be within limits once per (8) hours. Instrument surveillances shall be performed as specified in Table 4.2-8.

12 L1

A2

Page 1 of 3

Specification 3.6.2.4 (A1)

3.7 (Cont'd)

4.7 (Cont'd)

Applicability

(1) The drywell to torus differential pressure shall be established within 24 hours of exceeding 15% rated thermal power during startup. The differential pressure may be reduced to less than the limit up to 24 hours prior to reducing thermal power to less than 15% of rated before a plant shutdown.

Note to SR 3.6.2.4.1

(2) The differential pressure may be decreased to less than 1.7 psid for a maximum of four (4) hours during required operability testing of the HPCI, RCIC, and Suppression Chamber - Drywell Vacuum Breaker System (LA1)

ACTION A

(3) If 3.7.A.7.a above cannot be met, restore the differential pressure to within limits within eight hours or reduce thermal power to less than 15% of rated within the next 12 hours.

ACTION B

8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met the reactor shall be in the cold condition within 24 hours.

8. Not applicable.

see ITS:
3.6.1.1
3.6.1.2
3.6.1.3
3.6.1.6
3.6.1.7
3.6.2.1
3.6.2.2
and see CTS 3.7.A.3

RAI CTS 3.7.A.3-1

Specification 3.6.2.4 (A1)

TABLE 4.2-8 (cont'd)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR
ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Instrument Functional Test	Calibration Frequency	Instrument Check
15.	Core Spray Flow	N/A	R	D
16.	Core Spray Discharge Pressure	N/A	R	D
17.	LPCI (RHR) Flow	N/A	R	D
18.	RHR Service Water Flow	N/A	R	D
19.	Safety/Relief Valve Position Indicator (Primary and Secondary)	R	N/A	M
20.	Torus Water Level (narrow range)	N/A	R	D
21.	Drywell-Torus Differential Pressure	N/A	R	D (A2)

See ITS: 3.3.3.1

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted that do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4", Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 The reference in CTS 4.7.A.7 to surveillance requirements of Table 4.2-8 is being deleted since the ITS does not use cross references. The surveillances in current Table 4.2-8 and the proposed Surveillances in ITS 3.3.3.1 are adequate to ensure the instrumentation is functioning properly. Any changes to the current Surveillance Requirements in Table 4.2-8 are discussed in the Discussion of Changes for ITS 3.3.3.1, "Post Accident Monitoring Instrumentation." Since the removal of this cross reference does not change any technical requirements this change is considered administrative and is consistent with the format of NUREG-1433, Revision 1.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 CTS 3.7.A.7.a.(2) allows the differential pressure to be outside its limit for a maximum of 4 hours as a result of required operability testing of HPCI, RCIC, and the Suppresssion Chamber - Drywell Vacuum Breaker System. The details of which Surveillance Tests this allowance is provided for is proposed to be relocated to the Bases. The allowance in the Note to ITS SR 3.6.2.4.1 that the limit is not required to be met for 4 hours during Surveillances that cause the drywell-to-suppression chamber differential pressure to be outside the limit is adequate to ensure the allowance is taken only during planned testing. The specific details of the which Operability Surveillance is not necessary to be in the Specification. As such, these details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the Technical Specifications.

DISCUSSION OF CHANGES
ITS: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 The Frequency to monitor the drywell-to-suppression chamber differential pressure in CTS 4.7.A.7.a of once every 8 hours has been changed to once every 12 hours in accordance with NUREG-1433, Revision 1 (ITS SR 3.6.2.4.1). The 12 hour Frequency is adequate due to the slow differential pressure variations during operation and the availability of other indications in the control room, including alarms, to alert the operator to an abnormal pressure condition.

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The Frequency of once every 8 hours in CTS 4.7.A.7 has been changed to once every 12 hours in accordance with NUREG-1433, Revision 1 (ITS SR 3.6.2.4.1). The 12 hour Frequency is adequate due to the slow differential pressure variations during operation and the availability of other indications in the control room, including alarms, to alert the operator to an abnormal pressure condition. The drywell-to-suppression chamber differential pressure is not assumed to be an initiator of any previously analyzed accident. In addition, the proposed surveillance frequency is considered adequate to ensure the differential pressure is maintained within the limit. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The change provides an additional 4 hours between surveillances. The proposed Frequency is acceptable based on the small probability of an event requiring this differential pressure to be within limits and since there are additional instrumentation and alarms to advice the operators if this parameter were to exceed its limit. Therefore, this change does not involve a significant reduction in a margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

MARKUP OF NUREG-1433, REVISION 1
SPECIFICATION

3.6 CONTAINMENT SYSTEMS

3.6.2.8 Drywell-to-Suppression Chamber Differential Pressure

LCO 3.6.2.8 The drywell pressure shall be maintained ≥ 1.0 psid above the pressure of the suppression chamber.

[CTS 3.7.A.7.a]

APPLICABILITY: MODE 1 during the time period:

[CTS 3.7.A.7.a.1]

a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to

b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next scheduled reactor shutdown.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell-to-suppression chamber differential pressure not within limit. [CTS 3.7.A.7.a.3]	A.1 Restore differential pressure to within limit.	8 hours
B. Required Action and associated Completion Time not met. [CTS 3.7.A.7.a.3]	B.1 Reduce THERMAL POWER to ≤ 15% RTP.	12 hours

[3.7.A.7.a.2]

Insert Note

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.8.1 [CTS 4.7.A.7.a]	Verify drywell-to-suppression chamber differential pressure is within limit.	12 hours

Revision E

CLB2

INSERT NOTE

----------NOTE----------
Not required to be met for 4 hours during Surveillances that cause or require the drywell-to-suppression chamber differential pressure to be outside the limit.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The brackets have been removed and the proper plant specific value has been provided in accordance with CTS 3.7.A.7.a.1 and 3.7.A.7.a.3.

CLB2 The Note to ITS SR 3.6.2.4.1 has been added in accordance with CTS 3.7.A.7.a.2 to allow certain required Surveillances to be performed with the limit not met. This allowance is required to perform the test without requiring entry into the Actions.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 ISTS 3.6.2.5 has been renumbered to reflect deletion of ISTS 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray".

PA2 A typographical error has been corrected.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

MARKUP OF NUREG-1433, REVISION 1, BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.6 Drywell-to-Suppression Chamber Differential Pressure

BASES

BACKGROUND

The toroidal shaped suppression chamber, which contains the suppression pool, is connected to the drywell (part of the primary containment) by [eight] main vent pipes. The main vent pipes exhaust into a continuous vent header, from which [96] downcomer pipes extend into the suppression pool. The pipe exit [is] [41] ft below the minimum suppression pool water level required by LCO 3.6.2.2, "Suppression Pool Water Level." During a loss of coolant accident (LOCA), the increasing drywell pressure will force the waterleg in the downcomer pipes into the suppression pool at substantial velocities as the "blowdown" phase of the event begins. The length of the waterleg has a significant effect on the resultant primary containment pressures and loads.

APPLICABLE SAFETY ANALYSES

The purpose of maintaining the drywell at a slightly higher pressure with respect to the suppression chamber is to minimize the drywell pressure increase necessary to clear the downcomer pipes to commence condensation of steam in the suppression pool and to minimize the mass of the accelerated waterleg. This reduces the hydrodynamic loads on the torus during the LOCA blowdown. The required differential pressure results in a downcomer waterleg of [1.06] to [3.58] ft.

Initial drywell-to-suppression chamber differential pressure affects both the dynamic pool loads on the suppression chamber and the peak drywell pressure during downcomer pipe clearing during a Design Basis Accident LOCA. Drywell-to-suppression chamber differential pressure must be maintained within the specified limits so that the safety analysis remains valid.

Drywell-to-suppression chamber differential pressure satisfies Criterion 2 of the NRC Policy Statement.

LCO

A drywell-to-suppression chamber differential pressure limit of [1.50] psid is required to ensure that the containment

(continued)

BASES

LCO (continued)

conditions assumed in the safety analyses are met. A drywell-to-suppression chamber differential pressure of [1.8] psi corresponds to a downcomer water leg of [73.58] ft. Failure to maintain the required differential pressure could result in excessive forces on the suppression chamber due to higher water clearing loads from downcomer vents and higher pressure buildup in the drywell.

If suppression pool level is within the limits specified in LCO 3.6.2.2

APPLICABILITY

Drywell-to-suppression chamber differential pressure must be controlled when the primary containment is inert. The primary containment must be inert in MODE 1, since this is the condition with the highest probability for an event that could produce hydrogen. It is also the condition with the highest probability of an event that could impose large loads on the primary containment.

Inerting primary containment is an operational problem because it prevents primary containment access without an appropriate breathing apparatus. Therefore, the primary containment is inerted as late as possible in the [unit] startup and is de-inerted as soon as possible in the [unit] shutdown. As long as reactor power is < [15]% RTP, the probability of an event that generates hydrogen or excessive loads on primary containment occurring within the first [24] hours following a startup or within the last [24] hours prior to a shutdown is low enough that these "windows," with the primary containment not inerted, are also justified. The [24] hour time period is a reasonable amount time to allow plant personnel to perform inerting or de-inerting.

ACTIONS

A.1

If drywell-to-suppression chamber differential pressure is not within the limit, the conditions assumed in the safety analyses are not met and the differential pressure must be restored to within the limit within 8 hours. The 8 hour Completion Time provides sufficient time to restore differential pressure to within limit and takes into account the low probability of an event that would create excessive suppression chamber loads occurring during this time period.

(continued)

BASES

ACTIONS (continued)

B.1

If the differential pressure cannot be restored to within limits within the associated Completion Time, the plant must be placed in a MODE in which the LCO does not apply. This is done by reducing power to ≤ 15% RTP within 12 hours. The 12 hour Completion Time is reasonable, based on operating experience, to reduce reactor power from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.2.8.1

The drywell-to-suppression chamber differential pressure is regularly monitored to ensure that the required limits are satisfied. The 12 hour Frequency of this SR was developed based on operating experience relative to differential pressure variations and pressure instrument drift during applicable MODES and by assessing the proximity to the specified LCO differential pressure limit. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal pressure condition.

Insert SR 3.6.2.4.1

REFERENCES

None.

1. VFSAR, Section 5.2.3.3
2. 10 CFR 50.36 (c)(2)(ii)

CLB2

INSERT SR 3.6.2.4.1

The SR is modified by a Note which states that the SR is not required to be met up to four hours during Surveillances that cause or require drywell-to-suppression chamber differential pressure to be outside of limits. These Surveillances include required OPERABILITY testing of the High Pressure Coolant Injection System, the Reactor Core Isolation Cooling System, and the suppression chamber-to-drywell vacuum breakers. The 4 hour allowance is adequate to perform the Surveillances and to restore the drywell-to-suppression chamber differential pressure to within limits.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

JUSTIFICATION FOR DIFFERENCES (JFDs)
FROM NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The brackets have been removed and the proper plant specific value has been provided in accordance with CTS 3.7.A.7.a.1 and 3.7.A.7.a.3.

CLB2 The Note to ITS SR 3.6.2.4.1 has been added in accordance with CTS 3.7.A.7.a.2 to allow a certain required Surveillances to be performed with the limit not met. This allowance is required to perform the test without requiring entry into the Actions. The Bases has been revised to reflect this change.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature.

PA2 ISTS 3.6.2.5 has been renumbered to reflect deletion of ISTS 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray".

PA3 The Bases have been revised for enhanced clarity with no change in intent.

PA4 A typographical error has been corrected.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 The brackets have been removed and the proper plant specific value has been provided.

DB2 The brackets have been removed and the word "approximately" included since the value varies depending on suppression pool water level variations.

DB3 The proper Reference has been included.

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.2.4 - DRYWELL-TO-SUPPRESSION CHAMBER DIFFERENTIAL PRESSURE

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 NUREG-1433, Revision 1, Bases references to "the NRC Policy Statement" has been replaced with 10 CFR 50.36(c)(2)(ii), in accordance with 60 FR 36953 effective August 18, 1995.

X2 Changes (deletions) have been made to properly reflect the Bases for the surveillance Frequency of SR 3.6.2.4.1.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.2.4

Drywell-to-Suppression Chamber Differential Pressure

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Drywell-to-Suppression Chamber Differential Pressure

LCO 3.6.2.4 The drywell pressure shall be maintained ≥ 1.7 psi above the pressure of the suppression chamber.

APPLICABILITY: MODE 1 during the time period:

a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to

b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next scheduled reactor shutdown.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell-to-suppression chamber differential pressure not within limit.	A.1 Restore differential pressure to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to ≤ 15% RTP.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	----------NOTE---------- Not required to be met for 4 hours during Surveillances that cause or require the drywell-to-suppression chamber differential pressure to be outside the limit. ---------- Verify drywell-to-suppression chamber differential pressure is within limit.	12 hours

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2.4 Drywell-to-Suppression Chamber Differential Pressure

BASES

BACKGROUND

The toroidal shaped suppression chamber, which contains the suppression pool, is connected to the drywell (part of the primary containment) by eight drywell vent pipes. The drywell vent pipes exhaust into a continuous vent header, from which 96 downcomer pipes extend into the suppression pool. The downcomer pipe exits are approximately 4 ft below the minimum suppression pool water level required by LCO 3.6.2.2, "Suppression Pool Water Level." During a loss of coolant accident (LOCA), the increasing drywell pressure will force the waterleg in the downcomer pipes into the suppression pool at substantial velocities as the "blowdown" phase of the event begins. The length of the waterleg has a significant effect on the resultant primary containment pressures and loads.

APPLICABLE SAFETY ANALYSES

The purpose of maintaining the drywell at a slightly higher pressure with respect to the suppression chamber is to minimize the drywell pressure increase necessary to clear the downcomer pipes to commence condensation of steam in the suppression pool and to minimize the mass of the accelerated downcomer waterleg. This reduces the hydrodynamic loads on the torus during the LOCA blowdown (Ref. 1). The required differential pressure results in a downcomer waterleg of 0.36 to 0.49 ft.

Initial drywell-to-suppression chamber differential pressure affects both the dynamic pool loads on the suppression chamber and the peak drywell pressure during downcomer pipe clearing during a Design Basis LOCA. Drywell-to-suppression chamber differential pressure must be maintained within the specified limits so that the safety analysis remains valid.

Drywell-to-suppression chamber differential pressure satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii) (Ref. 2).

(continued)

BASES (continued)

LCO

A drywell-to-suppression chamber differential pressure limit of 1.7 psi is required to ensure that the containment conditions assumed in the safety analyses are met. A drywell-to-suppression chamber differential pressure of 1.7 psi corresponds to a downcomer water leg of 0.36 to 0.49 ft if suppression pool level is within the limits specified in LCO 3.6.2.2. Failure to maintain the required differential pressure could result in excessive forces on the suppression chamber due to higher water clearing loads from downcomer pipes and higher pressure buildup in the drywell.

APPLICABILITY

Drywell-to-suppression chamber differential pressure must be controlled when the primary containment is inert. The primary containment must be inert in MODE 1, since this is the condition with the highest probability for an event that could produce hydrogen. It is also the condition with the highest probability of an event that could impose large loads on the primary containment.

Inerting primary containment is an operational problem because it prevents primary containment access without an appropriate breathing apparatus. Therefore, the primary containment is inerted as late as possible in the plant startup and is de-inerted as soon as possible in the plant shutdown. As long as reactor power is < 15% RTP, the probability of an event that generates hydrogen or excessive loads on primary containment occurring within the first 24 hours following a startup or within the last 24 hours prior to a shutdown is low enough that these "windows," with the primary containment not inerted, are also justified. The 24 hour time period is a reasonable amount time to allow plant personnel to perform inerting or de-inerting.

ACTIONS

A.1

If drywell-to-suppression chamber differential pressure is not within the limit, the conditions assumed in the safety analyses are not met and the differential pressure must be restored to within the limit within 8 hours. The 8 hour Completion Time provides sufficient time to restore

(continued)

BASES

ACTIONS

A.1 (continued)

differential pressure to within limit and takes into account the low probability of an event that would create excessive suppression chamber loads occurring during this time period.

B.1

If the differential pressure cannot be restored to within limits within the associated Completion Time, the plant must be placed in a MODE in which the LCO does not apply. This is done by reducing power to ≤ 15% RTP within 12 hours. The 12 hour Completion Time is reasonable, based on operating experience, to reduce reactor power from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.2.4.1

The drywell-to-suppression chamber differential pressure is regularly monitored to ensure that the required limits are satisfied. The 12 hour Frequency of this SR was developed based on operating experience relative to differential pressure variations during applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal pressure condition.

The SR is modified by a Note which states that the SR is not required to be met up to four hours during Surveillances that cause or require drywell-to-suppression chamber differential pressure to be outside of limits. These Surveillances include required OPERABILITY testing of the High Pressure Coolant Injection System, the Reactor Core Isolation Cooling System, and the suppression chamber-to-drywell vacuum breakers. The 4 hour allowance is adequate to perform the Surveillances and to restore the drywell-to-suppression chamber differential pressure to within limits.

(continued)

BASES (continued)

REFERENCES

1. UFSAR, Section 5.2.3.3.

2. 10 CFR 50.36(c)(2)(ii).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 3.6.3.1

Primary Containment Oxygen Concentration

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

MARKUP OF NUREG-1433, REVISION 1, BASES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1, BASES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS) AND BASES